STUDENT SEMINARS



SRR & CVR GOVERNMENT DEGREE COLLEGE

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)



DEPARTMENT OF PHYSICS & ELECTRONICS

2021-22

II B.Sc (MPC)

STUDENT SEMINARS

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **B.MOUNIKA**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303220**

TOPIC : **MOD -16 ASYNCHRONOUS COUNTER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**

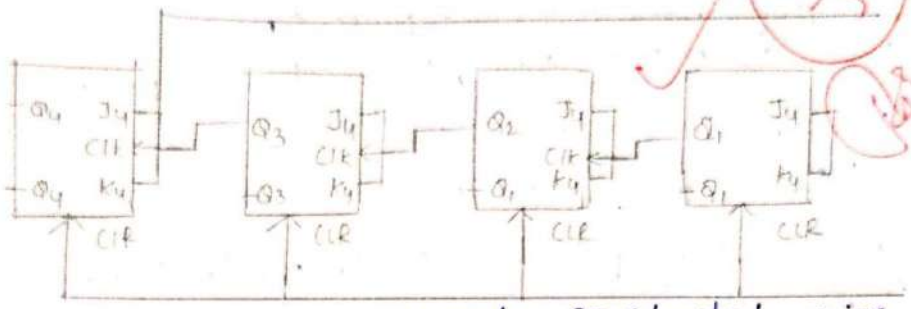


Electronics

Assignment

Name:- B. Mounika
Group:- B.Sc (MECS)
Roll No:- 21303220

4) Describe the mod-16 Asynchronous counter.



Mode-16 Asynchronous counter constructed using JK flipflop as shown in fig. It contains four JK flip flops and where inputs are connected in "Toggle mode". Toggle mode means both inputs are High(1). The clock pulse of the flip flop-1 Connected. The clock pulse of the flipflop-2 by output of the flip flop-1. Clock pulse of the flipflops 3 triggered by flip flop 2. 4th flipflop Triggered by output of the 3rd flip-flop. 4-3x flip flops are connected to else input

Initially CLR input is 0 then outputs of an flip-flops are 0. This is called Reset. Therefore $Q_4, Q_3, Q_2, Q_1 = 0000$

After giving the 2nd clock pulse output of the first flip-flop changes to '0' and '1'. Output of the 3rd & 4th flip flops does not Change.

$\therefore Q_4 = 0,\ Q_3 = 0,\ Q_2 = 1,\ Q_1 = 0.$

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Similarly, after 3rd clock pulse outputs are $Q_4=0$, $Q_3=0$, $Q_2=1$, $Q_1=1$. After 4th clock pulse o/ps are $Q_4=0$, $Q_3=1$, $Q_2=0$, $Q_1=0$

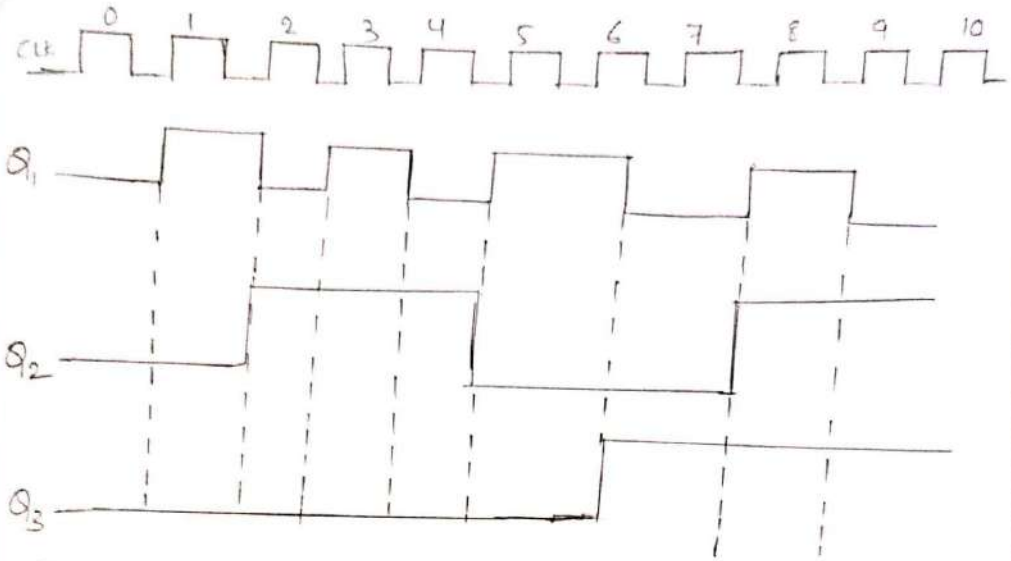
Similarly after 15th clock pulse o/ps are $Q_4=1$, $Q_3=1$, $Q_2=1$, $Q_1=1$ After 16th clock pulse all o/ps are remains zero (0).

$\therefore Q_4=0$, $Q_3=0$, $Q_2=0$, $Q_1=0$.

The counting procedure is shown in Table & timing diagram is shown in figure.

Clock pulse	Q_4	Q_3	Q_2	Q_1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	0	1	1	1
16	0	0	0	0

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Timing diagrams of Asynchronous counter [Mode-16]

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **Y.CHARMI**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303209**

TOPIC : **4-BIT SYNCHRONOUS COUNTER**

DATE OF SEMINAR : **26.08.2022**

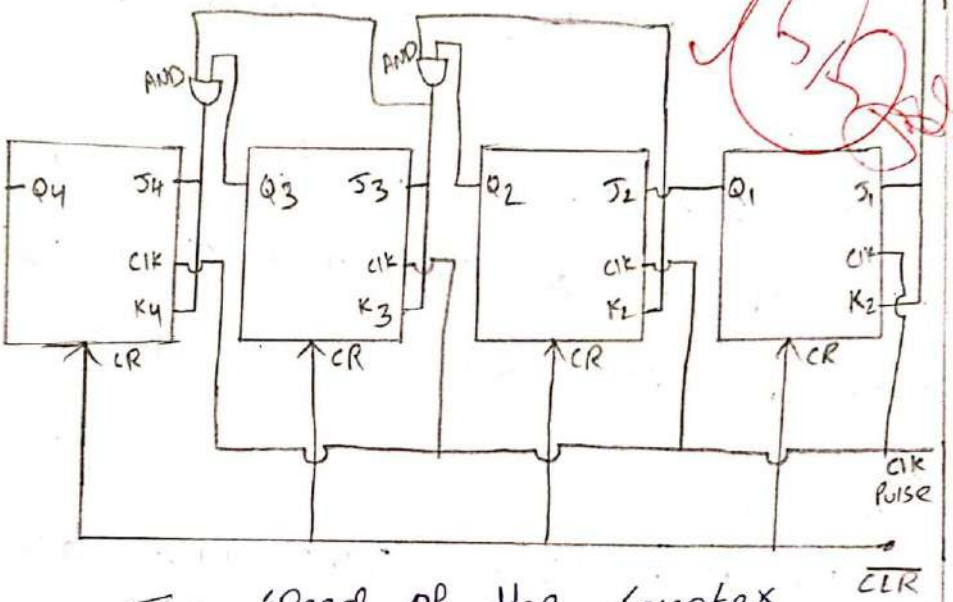
NAME OF THE LECTURER : **J.NAGESWARA RAO**



Y. CHARMI
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21303209

SEMINAR

4-bit synchronous counter (16-mod)



The speed of the counter depending on clock pulse frequency and propogation delay of the flip-flops In case of ripple counter's. The clock pulse is given to the 1st flip-flop only. If clock pulse given to all flip-flops at a time how's speed increases.

After second clock pulse the 1st flip-flop and 2nd Flip-Flop and in toggle mode so, output changes FF3 4 FF4 does NOT change.

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=0$

After 3rd clock pulse flip flop 1 only in toggle mode so $Q_1=1$, and remaining flip-flops does not change

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=1$

similarly after 15th clock pulse outputs are

$\therefore Q_4=1, Q_3=1, Q_2=1, Q_1=1$

After 16th clock pulse all flip-flops RESET to 0,0,0,0.

This type of counter is called synchronous counter.

4-bit (or) 16-mod synchronous counter using JK Flip-Flops as shown in the figure.

In which clock pulse is given to all flip-flops at a time and clear ($\overline{CLR}$) Pulse is also connected to all flip-flops.

The first flip-flop J & K inputs are connected through AND gates

If CLR (clear Pulse) sent the all the Flip-Flops are set to 0,0,0,0.

If 1st clock Pulse sent the flip-flop 1 output changes to '1'. due to toggle mode.

Remaining all outputs are '0'

$\therefore Q_4 = 0, Q_3 = 0, Q_2 = 0, Q_1 = 1$

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CLOCK PULSE	Q4	Q3	Q2	Q1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **P.OMESH DURGA RAM**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303204**

TOPIC : **HALF SUBTRACTOR**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**

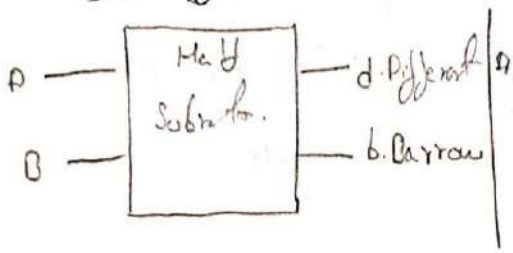


Seminor : Electronic Sem-II

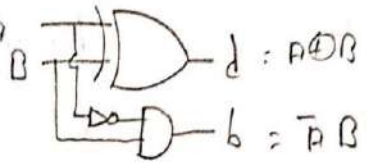
OMESH DURGA RAM.P
2130320, (HEC)S

Half Subractor

Block digram.



Circuit digram.



Truth table

Input		output	
A	B	Different	Barrow
0	0	0	0
0	1	1	1
1	0	1	0
1	1	0	0

A digital circuit is used to subract two bits is called Half Subractor. Half Subractor contains two inputs & two outputs. The two inputs are minuend A & Subtrahand B. It means the Subtrahand B is subtracted from Minuend A. The two output are "Difference (d)" & "Barrow (b)" taken in the next column. The

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Subtraction of two Binary bits for Half Subtractor or shown in table. when we observed the truth table "difference (D)" is output same as 'XOR' gate

the "Borrow (B)" for output is equal to the $\bar{A}B$. Therefore "difference (D)" = $\bar{A}B + B\bar{A}$

Borrow 'b' = $\bar{A}B$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **M.BHNU PRAKASH**

CLASS : **I B.SC (MECs)**

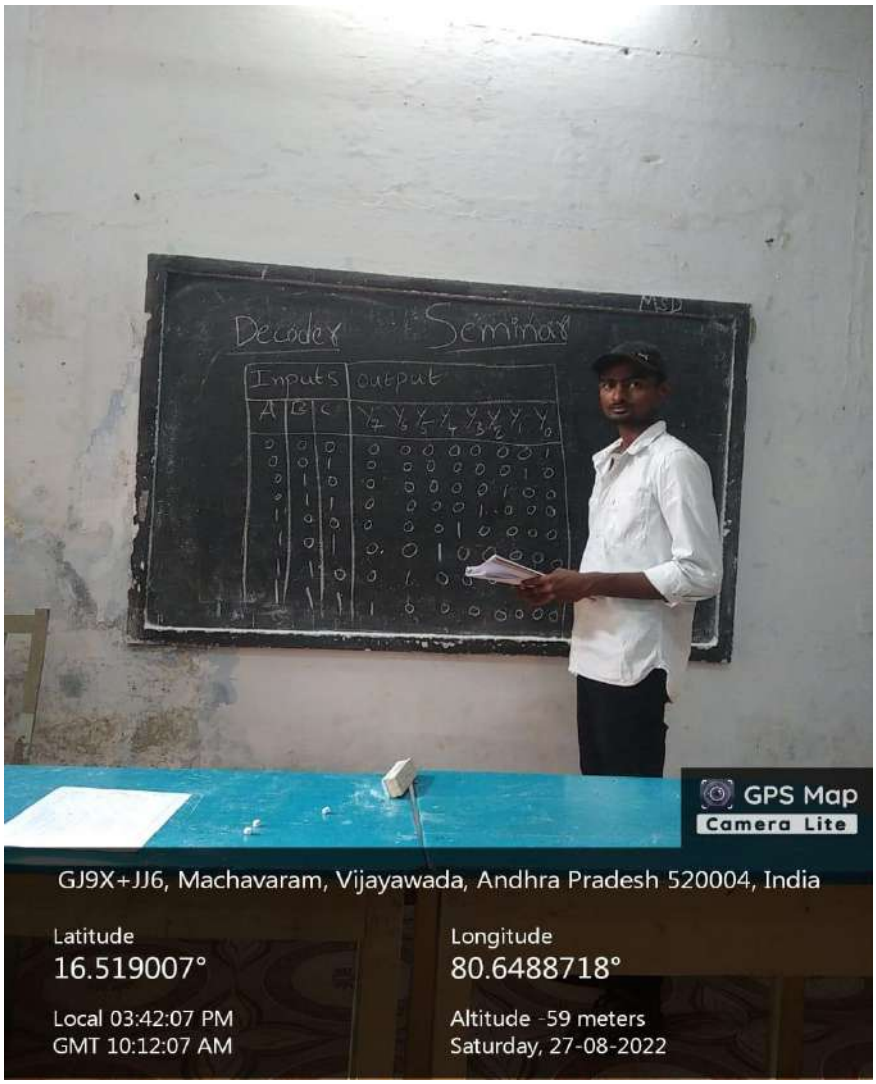
SEMESTER : **II SEMESTER**

Regd. No. : **21303218**

TOPIC : **DECODER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**

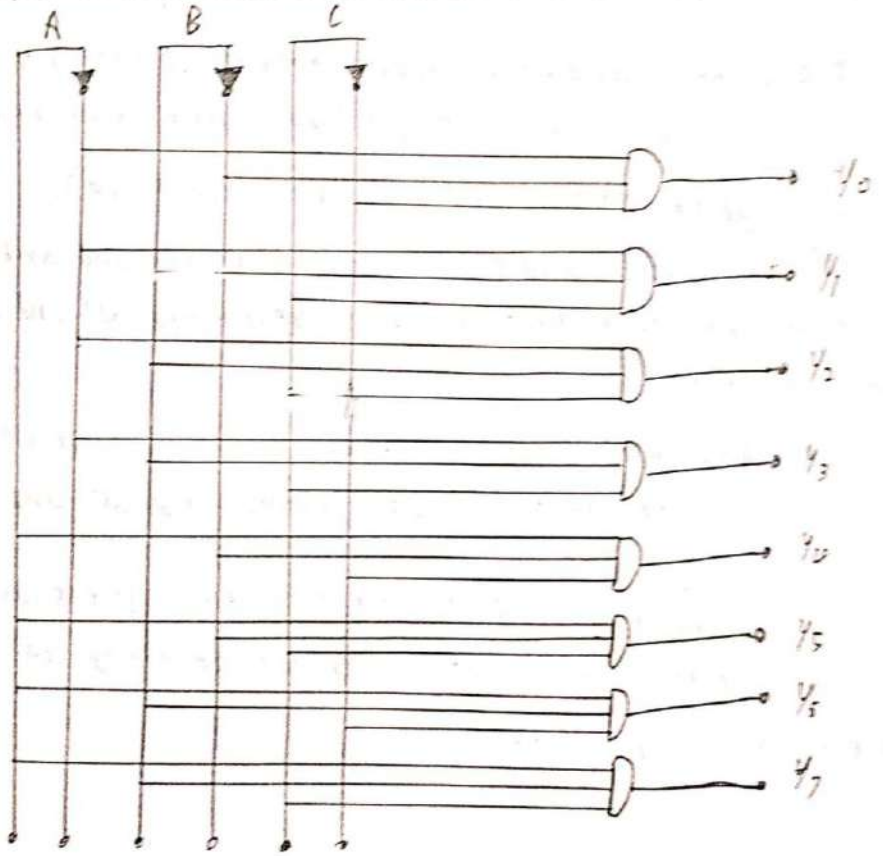


M. Bhanu prakash

SEMINAR

ADMSBD3218

Input			out puts							
A	B	C	Y_7	Y_6	Y_5	Y_4	Y_3	Y_2	Y_1	Y_0
0	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	1	0
0	1	0	0	0	0	0	0	1	0	0
0	1	1	0	0	0	0	1	0	0	0
1	0	0	0	0	0	1	0	0	0	0
1	0	1	0	0	1	0	0	0	0	0
1	1	0	0	1	0	0	0	0	0	0
1	1	1	1	0	0	0	0	0	0	0



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Decoder is an electronic circuit used two convert from binary number system into other number system sum as decimal octal, Hexa Decimal etc.

Decoder is exactly oposit to the encoder. decorder is a combinational logic circuit. If contains two inputs present 4 out puts If three inputs it contains 8 output (2^3). similarly for n inputs it contains 2^n out puts. 3x8. decoder circuit is shown in fig ②.

the truth table of the decoder is shown in Fig ① In which a, b, c inputs and $y_0, y_1, y_2, y_3, y_4, y_5, y_6, y_7$ are outputs

If A=0, B=0, and C=0 then output of the first and gate is high (1) because all inputs are five remaining all and geate are outputs in low state (0).

If A=0, B=0, and C=1 then the second and gate only in high state that is $y=1$. remaining all and gates in Low state.

If A=0, B=1 and C=0 then the third and gate is in high state that is $y_2=1$ remaining all and gates in 0 stats

Similary if A=1, B=1, and C=1 then the eight and is only in high state. that is $y_7=1$. remining all any gates are in 0 state.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **M.NARENDRA**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303203**

TOPIC : **4-BIT SYNCHRONOUS COUNTER**

DATE OF SEMINAR : **26.08.2022**

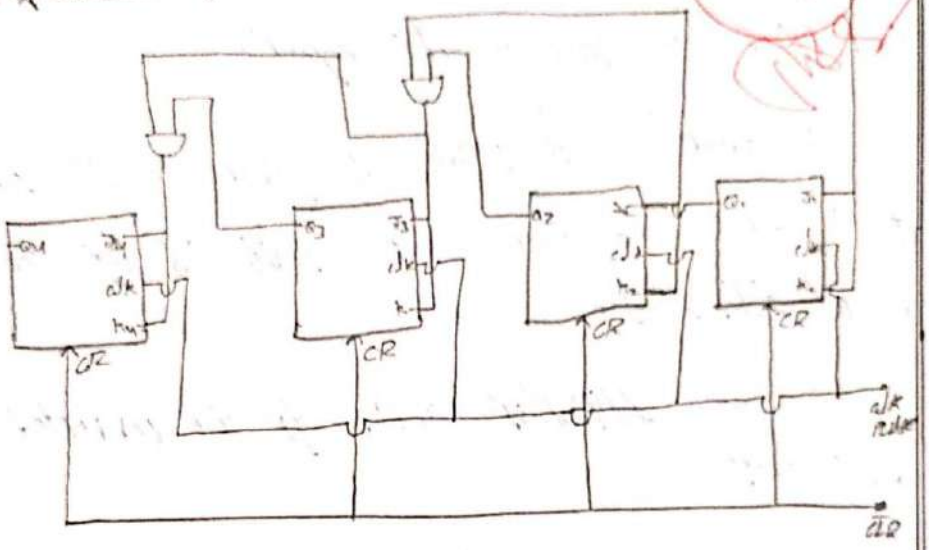
NAME OF THE LECTURER : **J.NAGESWARA RAO**



M. NARENDRA
B.Sc (MECs)
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Seminar

4-Bit synchronous counter (16-mod):-



The speed of the counter depending on clock pulse frequency and propagation delay of the flip flops. In case of ripple counters. The clock pulse is given to the 1st flip-flop only. If clock pulse given to all flip-flops at a time how's speed increased.

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After second clock pulse third flip-flop and 4th flip-flop are in toggle mode so, output change flip flops and flip flop is does not change

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=0$

After 5th clock pulse flip-flop 1 only in toggle mode so $Q_1=1$, and remaining flip-flops does not change.

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=1$

Similarly after 15th clock pulse out pulse are

$Q_4=1, Q_3=1, Q_2=1, Q_1=1$

After 16th clock pulse all flip flops RESET so 0,0,0,0.

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This type of counter is called synchronous counter. 4-bit (or) 16-mod synchronous counter using JK flip-flops as shown in the figure.

In which clock pulse is given to all flip-flops at a time and clear (CLR) pulse is also connected to all flip flops.

The first flip-flop Q4 is connected through AND gate.

If CLR (clear pulse) send the all the flip flop are reset to 0,0,0,0.

If 1st clock pulse sent the flip flop 1 output changes so J is set to toggle mode.

Remaining all outputs are '0'.

$\therefore Q_4=0,\ Q_3=0,\ Q_2=0,\ Q_1=1.$

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clock pulse	Q_4	Q_3	Q_2	Q_1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **Y.NITHISH**

CLASS : **I B.SC (MECs)**

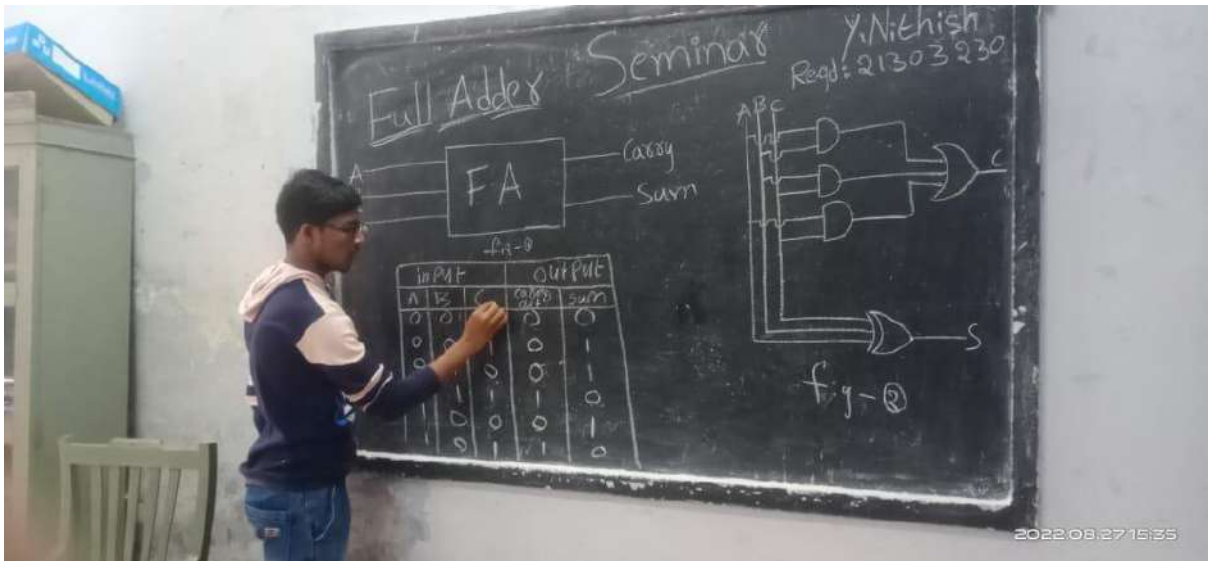
SEMESTER : **II SEMESTER**

Regd. No. : **21303230**

TOPIC : **FULL ADDER**

DATE OF SEMINAR : **28.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Y. Nithish
1BSc. MECs
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SEMINAR

Full Adder

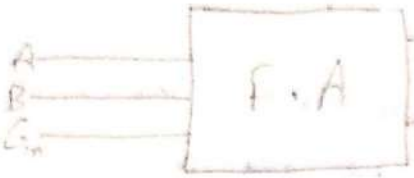


fig - ①

Truth table :-

Inputs			outputs	
A	B	Cin	Cout	Sum
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1

The half adder can add 2 bits only in the right most column. But half adder cannot add 3 bits available in the next column. Because there is no 3rd input in the half adder. A digital circuit constructed to add 3 bits is called full adder.

As shown in the fig - ① full adder circuit containing 3 inputs and 2 outputs. In three inputs, the 3rd input is used for Carry in. In 2

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outputs, the 1st output gives Carry & 2nd output gives Sum. The truth table of the full adder is as shown in table.

when we observe the truth table Carry out $C = AB + BC + CA$ and Sum $S = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}\bar{C} + ABC$

The full adder can we Constructed using AND gate, OR gate & Ex-OR gate as shown in fig ②

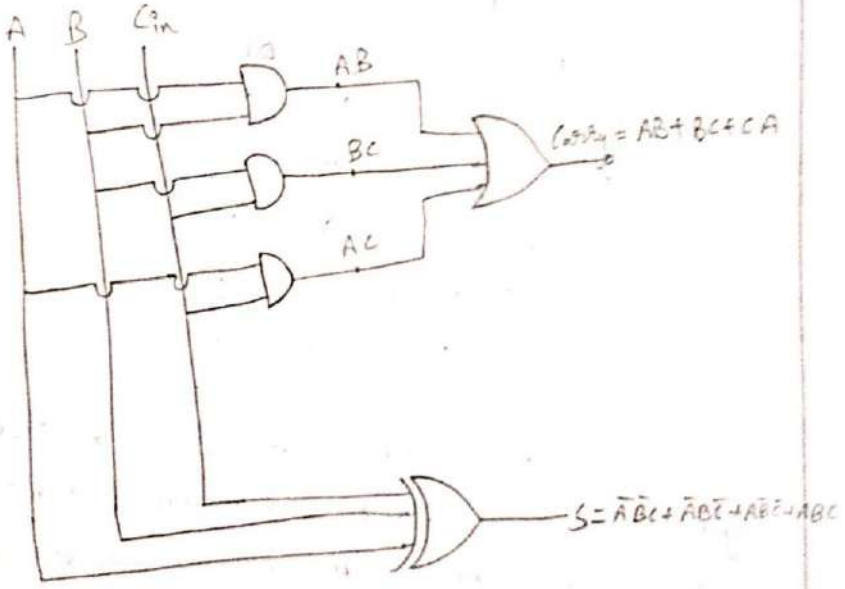


fig ②

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STUDENT SEMINAR

NAME OF THE STUDENT : **B.SRINU**

CLASS : **I B.SC (MECs)**

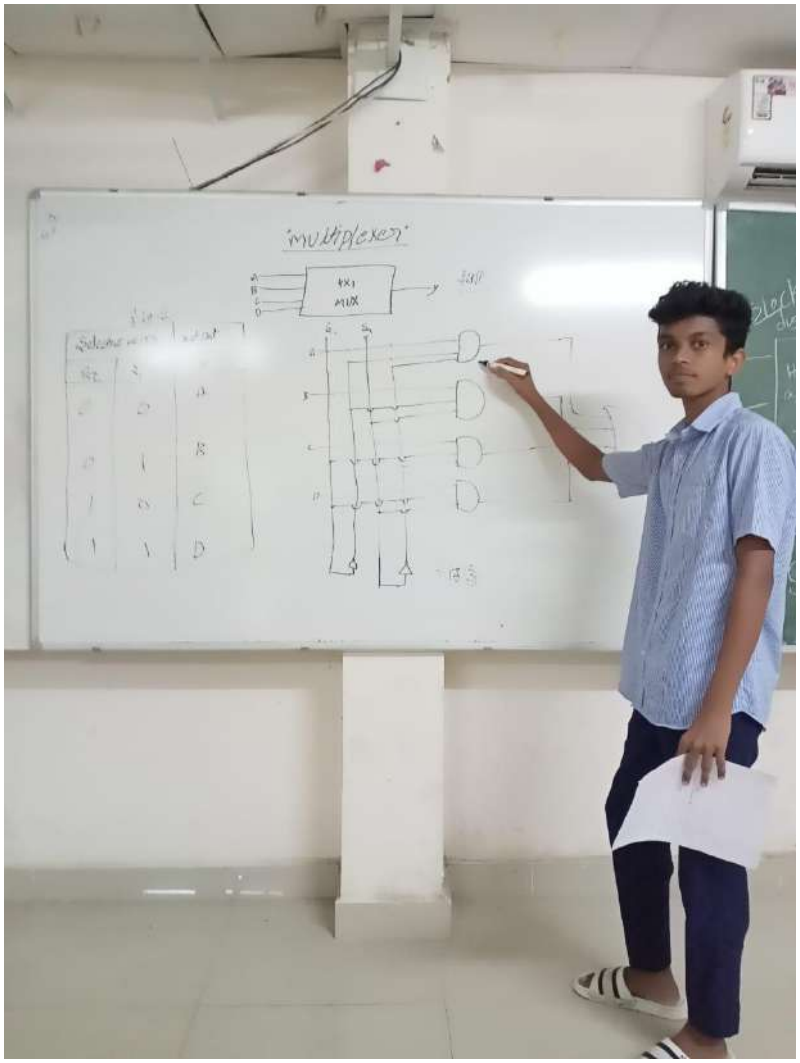
SEMESTER : **II SEMESTER**

Regd. No. : **21303227**

TOPIC : **HALF ADDER**

DATE OF SEMINAR : **28.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



B. Srinu
V. Siva nageswara Rao
213027.

seminar

Half adder

A digital circuit which can add two bits only is called Half adder. The the half adder contains two inputs and two outputs

out puts are carry (c) and sum (s)

The block diagram of the half adder is shown in fig ①

The truth table of the table half adder is shown in table

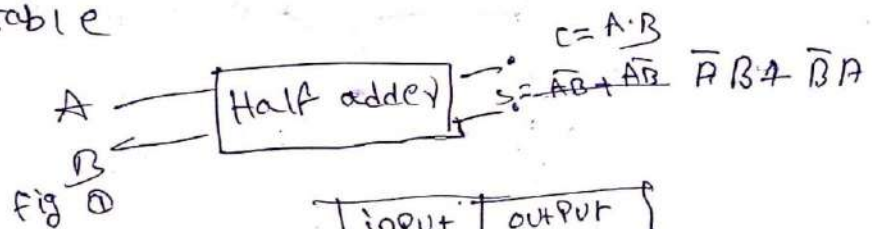


fig ①

input		output	
A	B	C	S
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

When observe the truth table of the half adder two carry (c) colum out put is 1 when both in put are 1 state it mean AND gate is capable to show carry (c)

The out put sum (s) one state only both the in puts diffrent This the out put of the Ex-OR gate diffrens This the out put of the Ex-OR gate so the action of the sum made by X-OR gate.

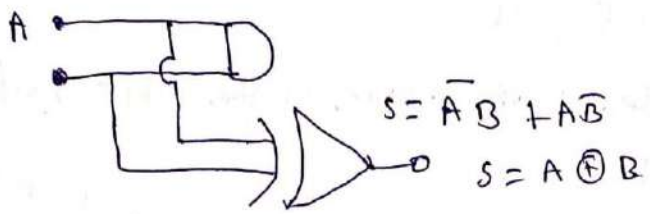
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By the combination And gate and x-or gate,

fig (2) $\therefore$ carry $(C) = A.B$

sum $(S) = \bar{A}B + A\bar{B}$

(or) $S = A \oplus B$ (or) $(A+B)\overline{AB}$.



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STUDENT SEMINAR

NAME OF THE STUDENT **: K.RAMU**

CLASS **: I B.SC (MECs)**

SEMESTER **: II SEMESTER**

Regd. No. **: 21303222**

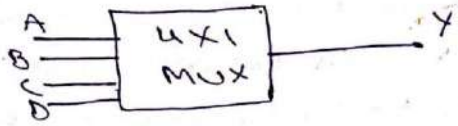
TOPIC **: MULTIPLEXER**

DATE OF SEMINAR **: 28.08.2022**

NAME OF THE LECTURER **: J.NAGESWARA RAO**

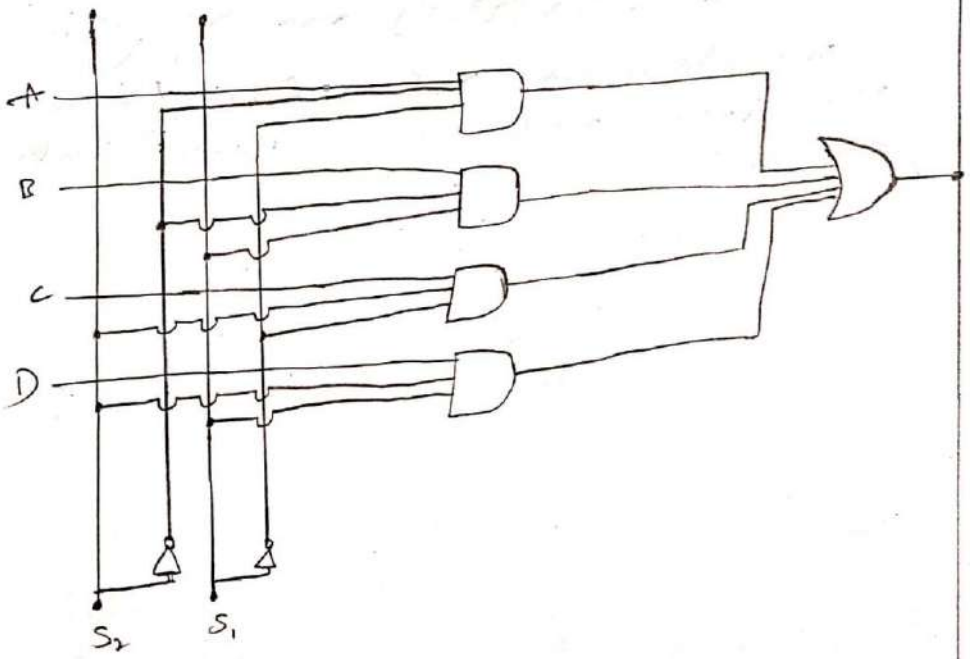
Seminar

Multiplexer:-



Selective wires		OUTPUT
S_2	S_1	Y
0	0	A
0	1	B
1	0	C
1	1	D

fig ①



Multiplexer:-

The block diagram of the multiplexer is shown in fig ①.

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The data selected from input lines depending on the selection wires S_1 and S_2 in case of 4X1 Multiplexer. If A, B, C and D are inputs to send into output. The truth table is as shown in fig ①.

The electric circuit designed for 4X1 Multiplexer is as shown in fig ②.

If $S_1=0$ and $S_2=0$ then input A only reflex at the output Y. Remaining all inputs are improve at three 3 AND gates.

If $S_1=0$ and $S_2=1$ the input C present at output Y. If $S_1=1$ & $S_2=1$ the input D present at output Y. If there are 8 input lines, 3 selections wires are S_1, S_2 and S_3 $[2^3=8]$ are required.

If there are ~~n~~ (input) selection wires the data may select from 2^n input lines.

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STUDENT SEMINAR

NAME OF THE STUDENT : **SK.DAVOOD**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303217**

TOPIC : **ROM**

DATE OF SEMINAR : **29.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Sk. Davood.
1st Bsc. (MEcs)
Electronics

Regd No: 21303217

Seminor
ROM

*Working of ROM

ROM is sustained by a small, long-life battery in the computer. It contains two basic components :-

① The ~~decter~~ decoder and
② OR logic gater

In ROM, the decoder receives input in binary form, the out put will be the decimal equivalent. The OR gates in ROM use the decoder decimal out put as their input.

ROM Performs like a disk array. It contains a grid of rows and columns that are used to turn the system on and off every element of the array correlates with a specific memory element on the ROM chip. A diode is used to connect the corrypond-ing elements.

When a request is received, the address input is used to find the specific

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Elet

* Internal structure of ROM:-

The internal structure comprises two basic components: decter and OR gates. A decoder is a circuit that decodes the binary from to a decimal form. So, the input is in binary form, and the out put is its decimal equivalent. All the OR gates present in the ROM will have out puts of the decoder as their out put. Let us take an example of 64 x 4 ROM. The structure is shown in following image.

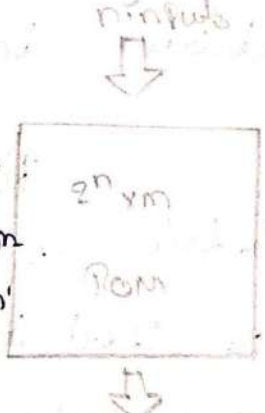
The access times is the time taken to latch the required memory location and carry out the read / write operation. In the modern computer, since nondestructive memories are used, the read time and the write time is equals. In destructive memories, the read time greater than the write time as every read involves a write also.

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The value that is read from the ROM should match the contents of the chosen array element.

* Block diagram of ROM

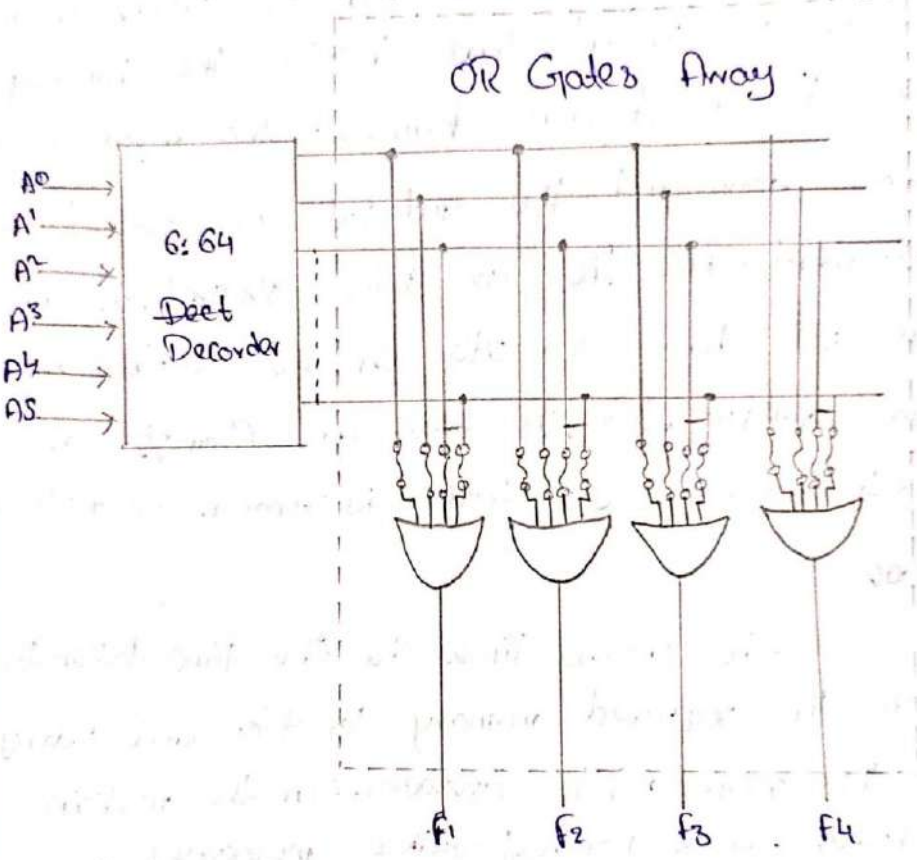
The block of ROM has 'n' input lines and 'm' output lines. Each bit combination of input variables is known as an address. Each bit combination that comes out through output lines is called a word. The number of bits per word is equal to no. of output lines, m.



The address of a binary number refers to one of the addresses of n variables. So, the number of possible addresses with n input variables is 2^n.

An output word has unique address and as there are 2^n distinct addresses in a ROM, there are 2^n separate words in the ROM. The words on the output lines at a given time depends on the address value applied to the input lines.

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STUDENT SEMINAR

NAME OF THE STUDENT : **G.MOHAN BABU**

CLASS : **I B.SC (MECs)**

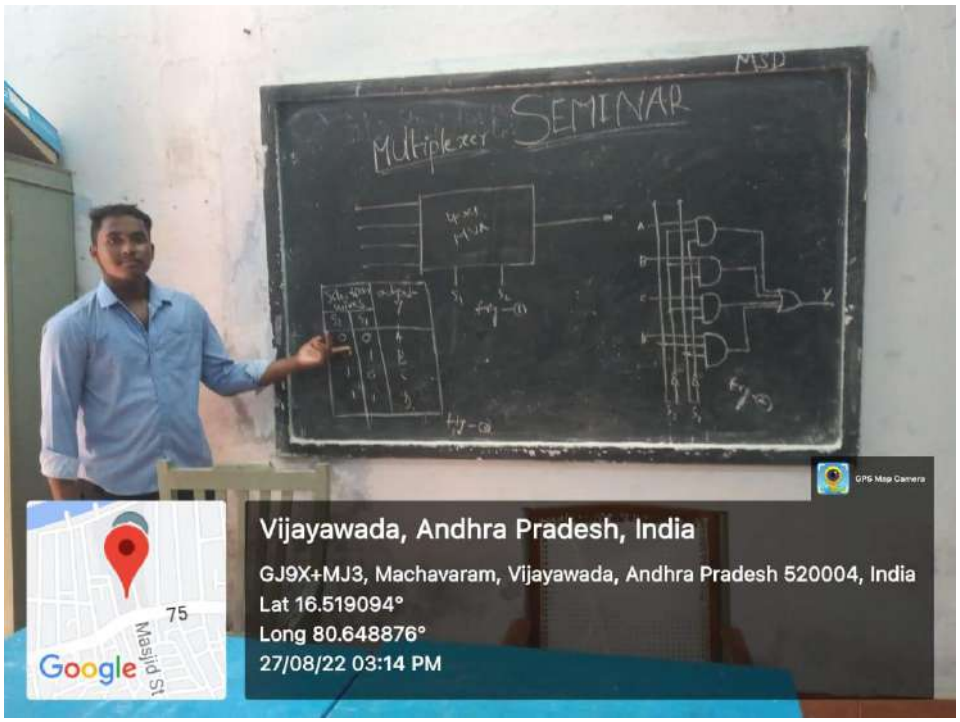
SEMESTER : **II SEMESTER**

Regd. No. : **21303221**

TOPIC : **MULTIPLEXER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Eletronics.

SEMINAR.

G. Mohan Babu
group r B.Sc [MECs]
Reg no: 2130322 1

Multiplexer

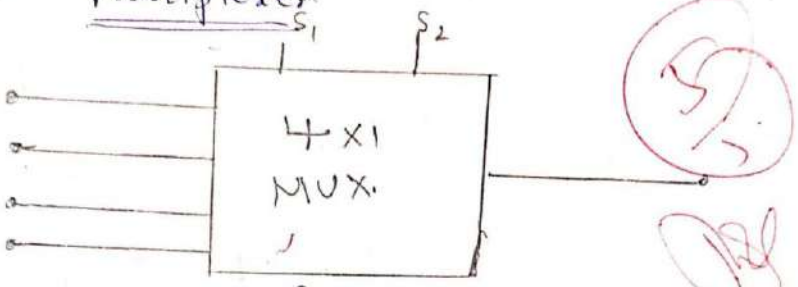


fig ①

Selection wires		output Y
S_2	S_1	
0	0	A
0	1	B
1	0	C
1	1	D.

fig-③

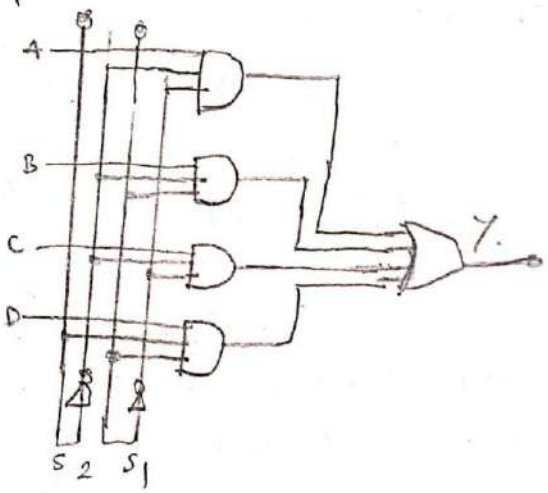


fig ②

Multiplexer is an eletronic circuit to send data from number of line into a single line.

for example the data is sending from 4 lines into 1 line is called sending from multiplexer it's shown in figure ①

The data selected from input lines depending on the selection wise S_1 & S_2 is base of 4x1 multiplexer

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→ If A, B, C, D are input to send into output y the truth table is as shown in figure ②

→ The electronic circuit diagram for 4x1 multiplexer is as shown in figure ③

→ if $S_1 = 0$ and $S_2 = 0$ then input A only reflects at the output y

→ removing all inputs are in active at three AND gates

→ if $S_1 = 1$, $S_2 = 0$ the input B present at output y.

→ If $S_1 = 0$, and $S_1 = 1$ the input C present at output y

→ If $S_1 = 1$, and $S_2 = 1$ the input D present at output y.

if the are 8 input lines 3 selection wise S_1, S_2, S_3 ($2^3 = 8$) are required

If there n selection wise the data may select from 2^n lines

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **Y.ANIL KUMAR REDDY**

CLASS : **I B.SC (MECs)**

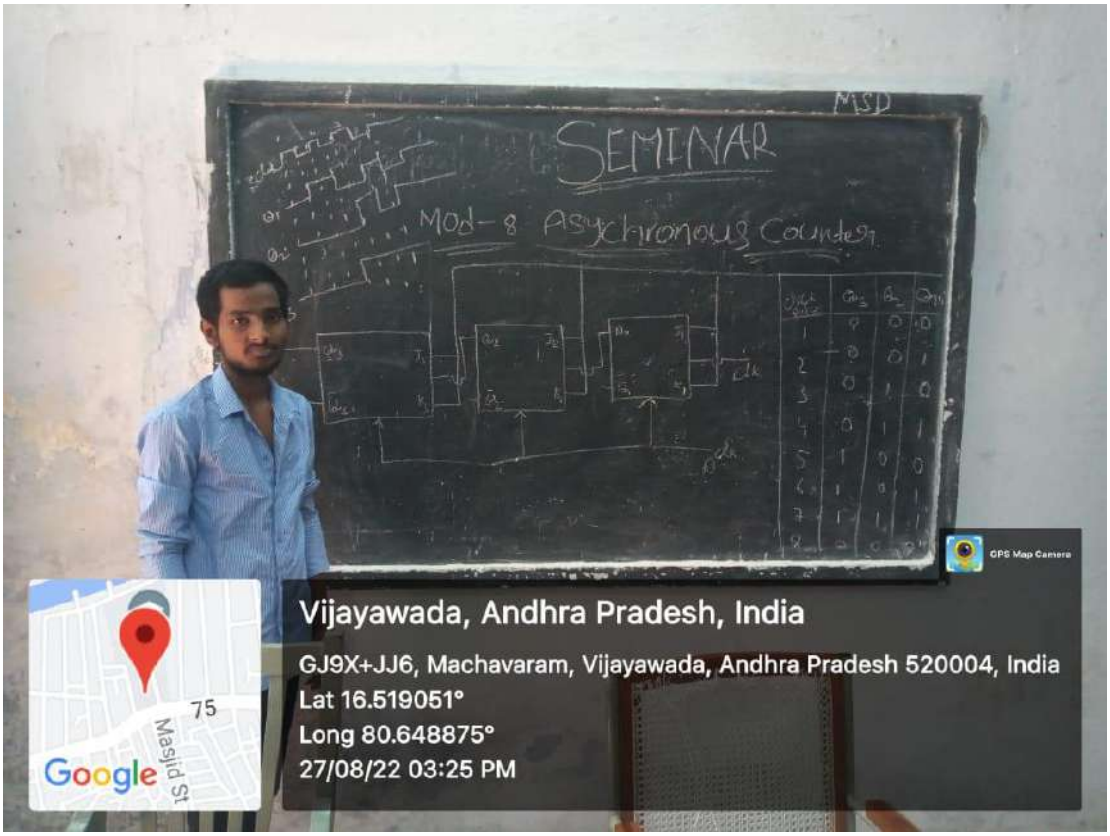
SEMESTER : **II SEMESTER**

Regd. No. : **21303202**

TOPIC : **MOD-8 ASYNCHRONOUS COUNTER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



electronic

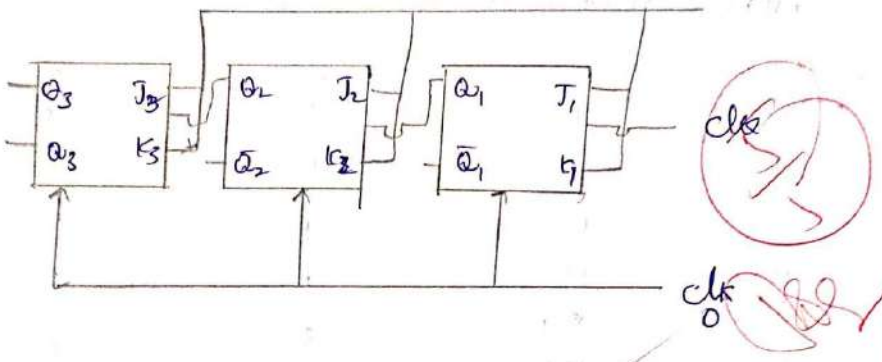
21303202

SEMINAR

B.Sc (MECS)

Y. ANIL KUMAR REDDY

Mod – 8 Asychronous Counter :-



Modular (Mode) of the counter means the counter can count how may number. In case of 8 mode counter requires, 3 flip flops ($2^3 = 8$). In case of 16 mode counter, 16 number it requires 4 flip flop ($2^4 = 16$). we can construct 5 mode, 10 mode, 15 mode counter, by doing modifications in the counter.

Each mode ripple counter using 3 JK flip flop connected in toggle mode. 1 (state) the second flip-flop triggered by the output of the second flip flop. If all flip flop are connected are 0. This called Reset position.

$\therefore Q_3 = 0, Q_2 = 0, Q_1 = 0$

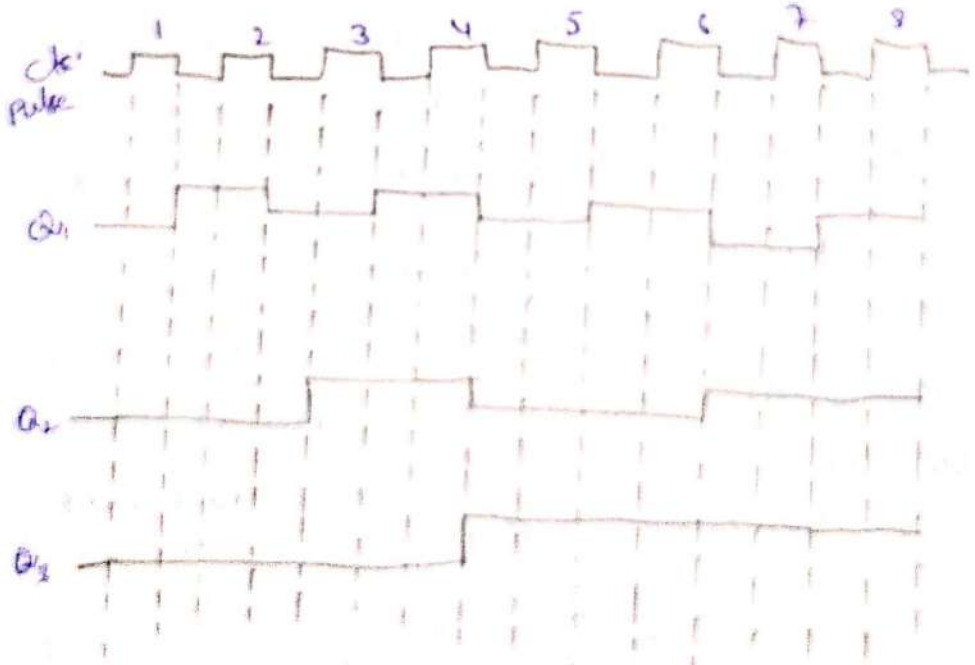
If 1st clock pulse given due to the toggle mode output of the 1st flip flop and third same position.

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$\therefore Q_3 = 0, \quad Q_2 = 0, Q_1 = 1$

Similarly after each clock pulse output of the flip flops changes as shown in table. 3 mode ripple counter is shown in fig 1

clock pulse	Q_1	Q_2	Q_3
1	0	0	0
2	0	0	1
3	0	1	0
4	0	1	1
5	1	0	0
6	1	0	1
7	1	1	1
8	0	0	0



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STUDENT SEMINAR

NAME OF THE STUDENT : **R.MAHESH BABU**

CLASS : **I B.SC (MECs)**

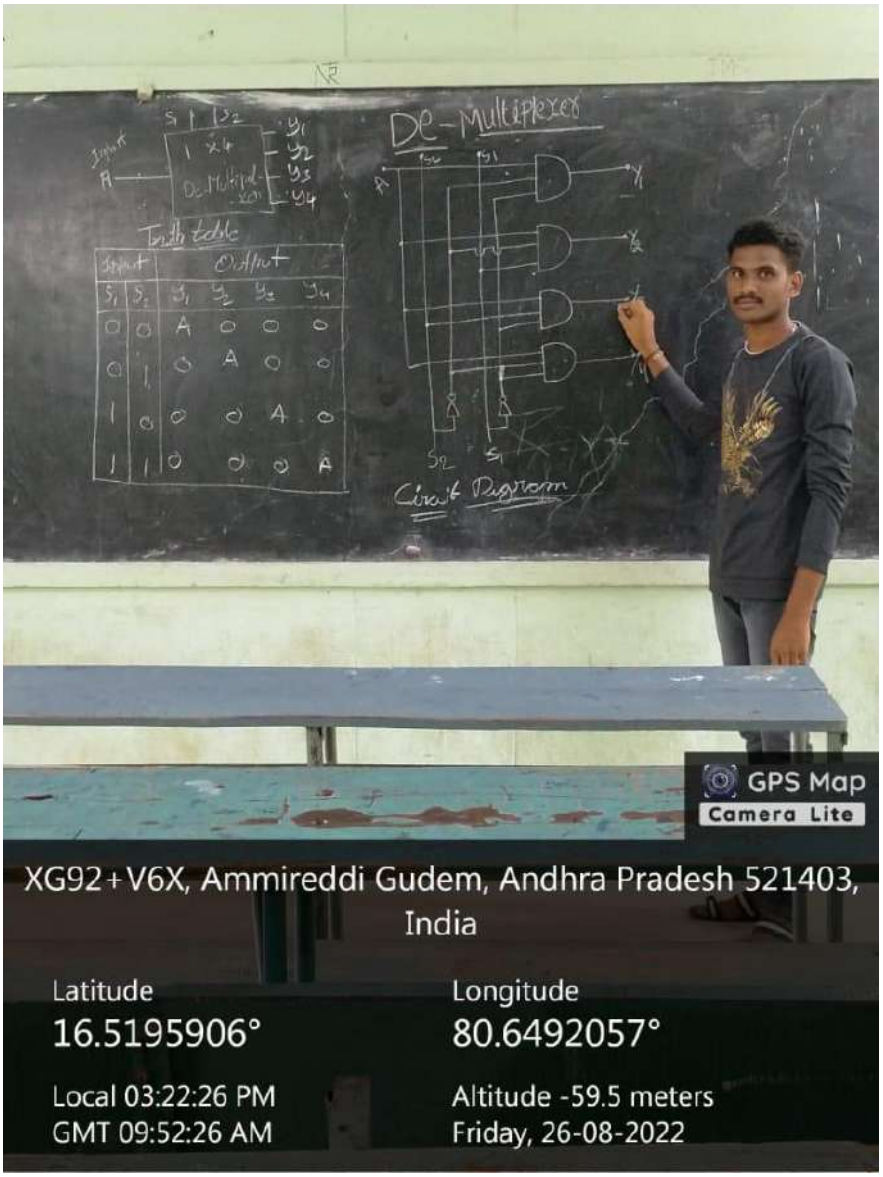
SEMESTER : **II SEMESTER**

Regd. No. : **21303219**

TOPIC : **DE MULTIPLEXER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar

Name :- RAVURI MAHESH BABU
group :- 1st year 2nd sem [MECS] B.Sc
Reg no :- 21303219
Subject :- Electronics

1. Briefly Explain De-multiplexer ?

Ans :-

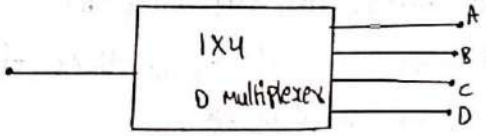


fig ①

S_2	S_1	Y_1	Y_2	Y_3	Y_4
0	0	A	0	0	0
0	1	0	A	0	0
1	0	0	0	A	0
1	1	0	0	0	A

fig - ②

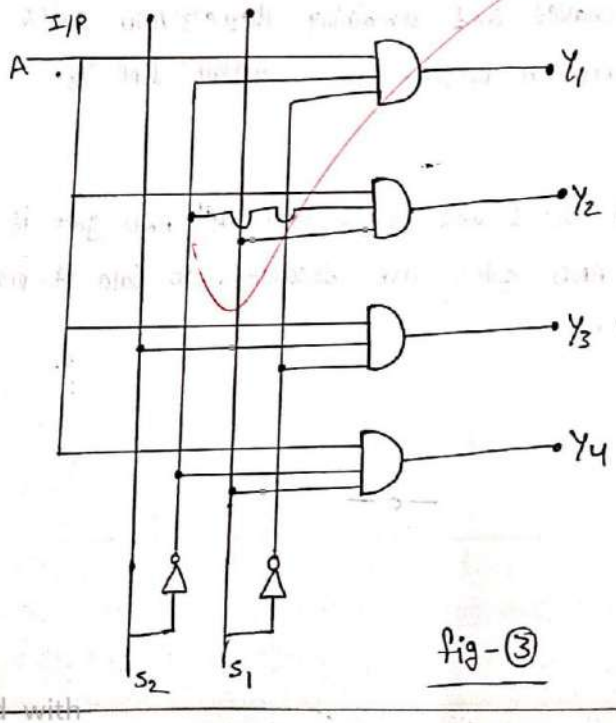


fig - ③

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De multiplexer is the opposit of the multiplexer. In which the data can be transfor from the input line into any one of the 'n' output lines. Fig ① shows the int symbol of the 1×4 De multiplexer. If there are four output lines then two selecting wires are required two transfor the data. If there are '8' output lines we required '3' selecting wires. similarly using 'n' selecting wires the data can transfor two 2^n output lines. The truth table of the De-multiplexer is as shown in fig ②.

The digital circuit of De-multiplexer using logic gates is as shown in fig ③. If $S_1=0$ and $S_2=0$ then 1st AND gate is enable and remaining '3' AND gates are desabled. so input 'A' passes through output wire Y_2. If $S_1=0$ and $S_2=1$ than 3rd AND gate is enabled and remaining theree '3' AND gates are desabled. so data 'A' passes through output line Y_3.

If $S_1=1$ and $S_2=1$ then 4th AND gate is enabled remaining '3' AND gates are desabled. So data A passes through output line Y_4.

—o—

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STUDENT SEMINAR

NAME OF THE STUDENT : **M.CHANDRA SEKHAR**

CLASS : **I B.SC (MECs)**

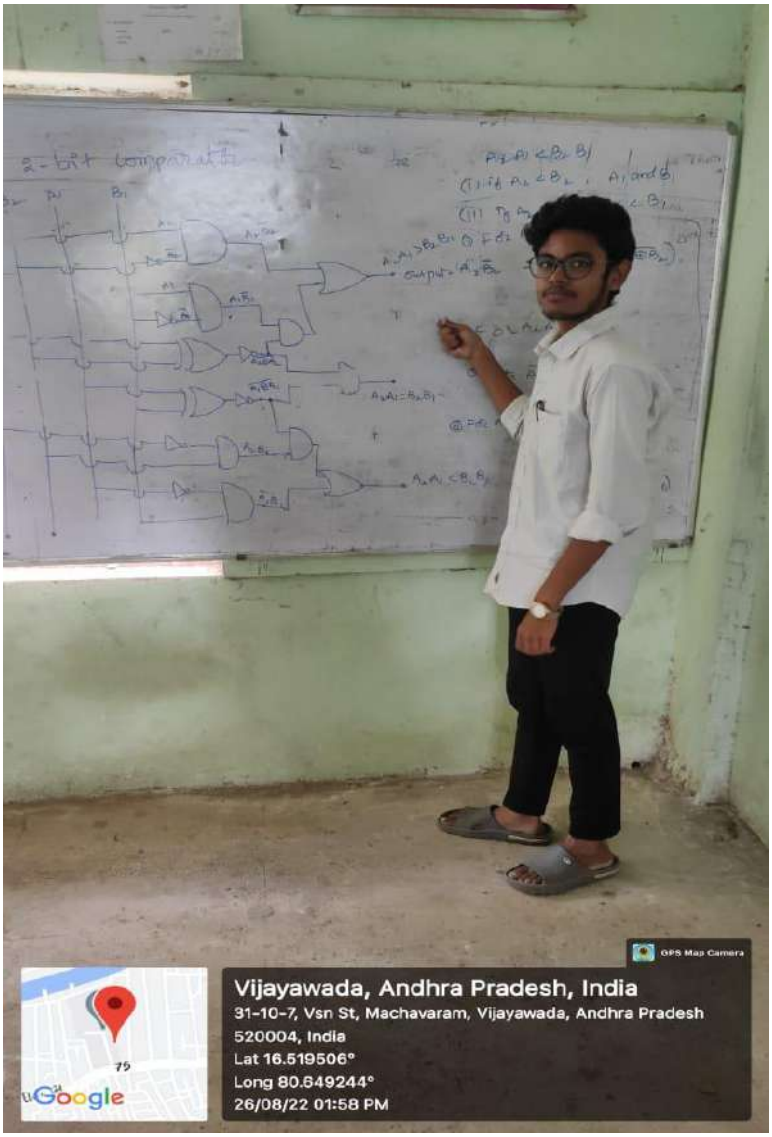
SEMESTER : **II SEMESTER**

Regd. No. : **21303207**

TOPIC : **BINARY COMPARATOR**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Electronic's Seminar

Name :- M.Chandra Sekhar
Group :- I - BSc [MECs]
Subject :- Electronics
Reg. NO :- 21303207

Magnitude Comparator (or) Binary Comparator

A logic circuit that compare two binary numbers is called comparator. If A and B are two binary numbers, than we can compare 3 conditions such as A>B (or) A=B (or) A<B.

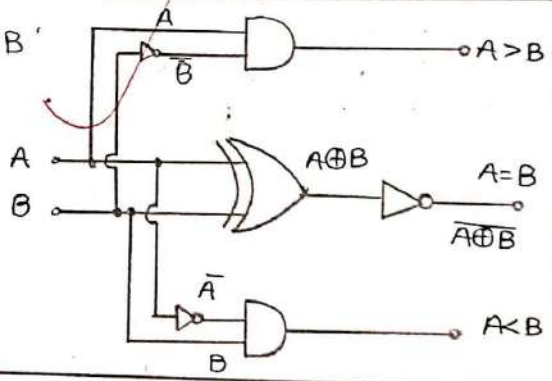
The truth table of the 1 bit Comparator is as shown in table. The logical circuit diagram of the 1-bit comparator is as shown in fig.

INPUTS		OUTPUTS		
A	B	A>B	A=B	A<B
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0

If A>B the output is $A.\bar{B}$

If A=B the output is $\overline{A \oplus B}$ (or) $\bar{A}B + A\bar{B}$

If A<B the output is $\bar{A}.B$



2- bit Comparator

INPUTS		OUTPUTS		
A_2B_2	A_1B_1	$A_2A_1 > B_2B_1$	$A_2A_1 = B_2B_1$	$A_2A_1 < B_2B_1$
$A_2 > B_2$	X X	1	0	0
$A_2 = B_2$	$A_1 > B_2$	1	0	0
$A_2 < B_2$	X X	0	0	1
$A_2 = B_2$	$A_1 < B_1$	0	0	1
$A_2 = B_2$	$A_1 = B_1$	0	1	0

An electronic circuit to compare two binary numbers is called a comparator. Let us assume 2 bit numbers (A_2A_1 and B_2B_1) be compared.

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(If $A_2A_1 > B_2B_1$ following conditions must be statisfied.

(I) If $A_2 > B_2$ independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 > B_1$ If $A_2A_1 = B_2B_1$ following conditions must be satisfied.

$A_2 = B_2$ and $A_1 = B_1$

If $A_2A_1 < B_2B_1$ following conditions must be satisfied

(I) If $A_2 < B_2$, independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 < B_1$

All conditions stown in the truth table.

In this table x represent's the indepent of the values of A_1 and B_1.

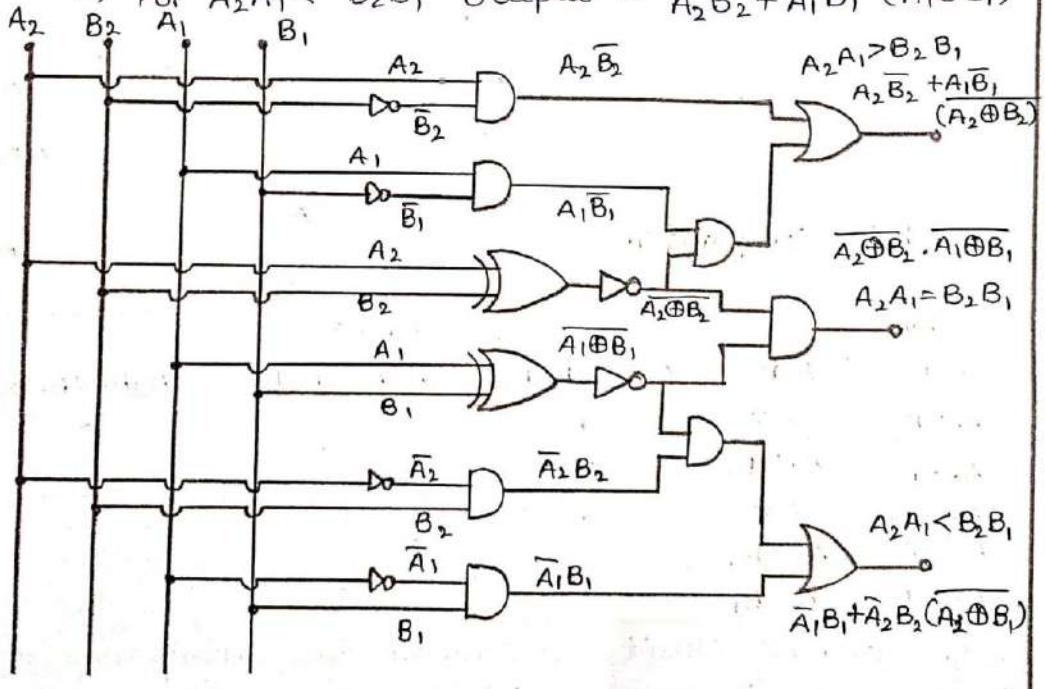
The circuit diagram regarding 2 bit comparator's is as shown in figure.

The output of the 2 bit comparator is

1, For $A_2A_1 > B_2B_1$ Output = $A_2\bar{B}_2 + A_1\bar{B}_1\,(\overline{A_2 \oplus B_2})$

2, For $A_2A_1 = B_2B_1$ Output = $(\overline{A_2 \oplus B_2}).(\overline{A_1 \oplus B_1})$

3, For $A_2A_1 < B_2B_1$ Output = $\bar{A}_2B_2 + \bar{A}_1B_1\,(\overline{A_1 \oplus B_1})$



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STUDENT SEMINAR

NAME OF THE STUDENT : **K.YELESH**

CLASS : **I B.SC (MECs)**

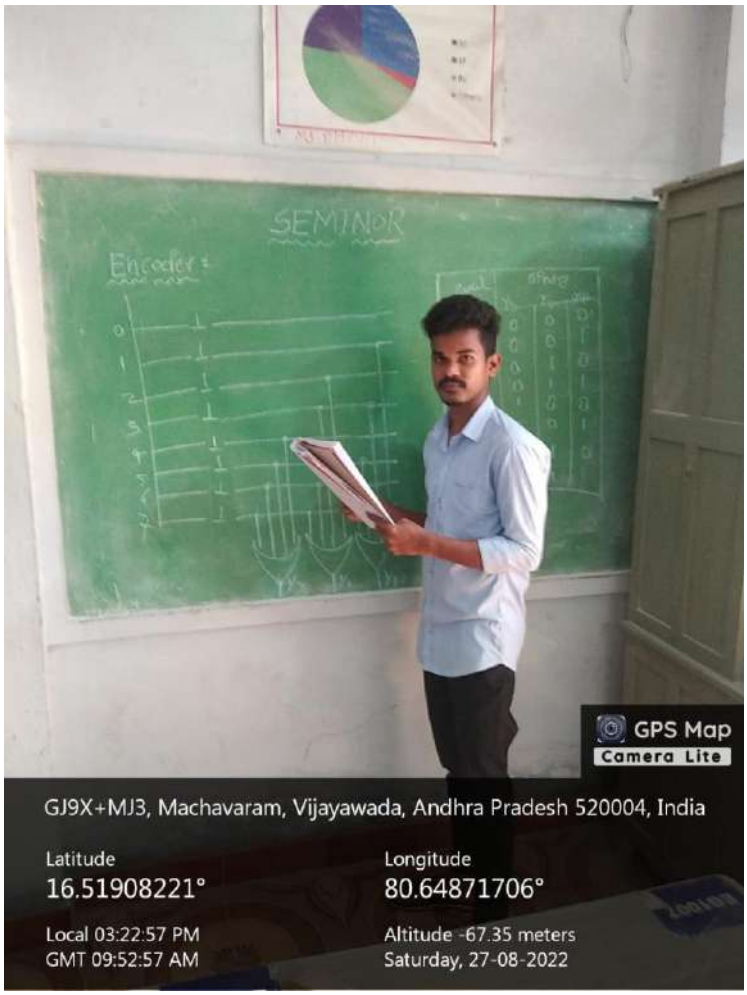
SEMESTER : **II SEMESTER**

Regd. No. : **21303215**

TOPIC : **ENCODER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Name :- K. Yelesh
group :- B.Sc (MECs)
Reg No :- 21303215

SEMINOR

Encoder :-

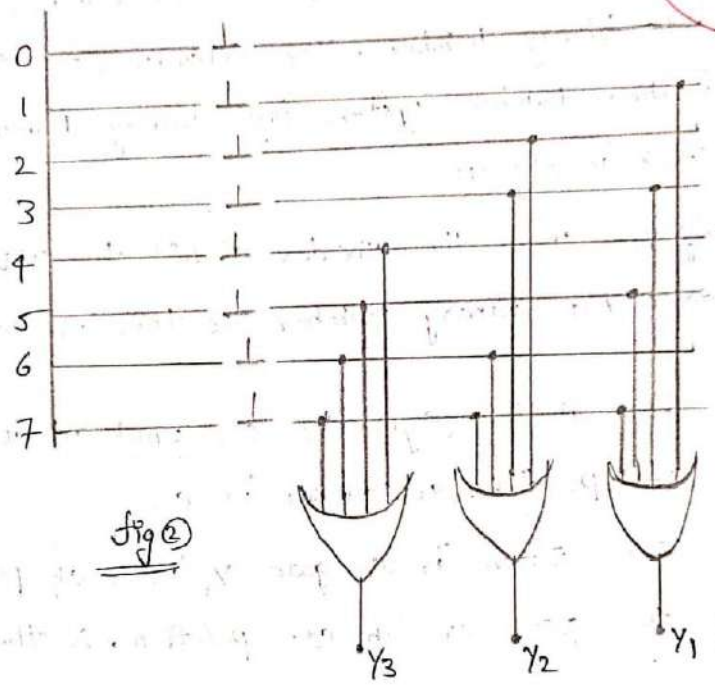


fig ②

Decimal	Binary Y_3	Y_2	Y_1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

fig - ①

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Electronic seminar

Encoder is an electronic circuit to convert from 1 number system into binary number system. It means Encoder can change either desimal number OR octal number Hexa decimal number into binary number. The convertion of eight numbers from desimal number system into binary number system is as shown in fig ①.

fig ② shows the encoder circuit to convert 8 numbers into 3 bit binary number so this is called 8 into 3.

As shown in the fig ① if 0's which is an, all OR gates in off position. so output is 000.

If one switch is an gate Y_1 is in on position and remaining two gates are in off position. so the out put is 001.

If two switch is of the secound OR gate Y_2 is on remaining 2 gates in off position. so the out put is 010.

similarly if 7 switches is on all OR. gates in on position so the output is 111.

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STUDENT SEMINAR

NAME OF THE STUDENT : **T.INDRA**

CLASS : **I B.SC (MECs)**

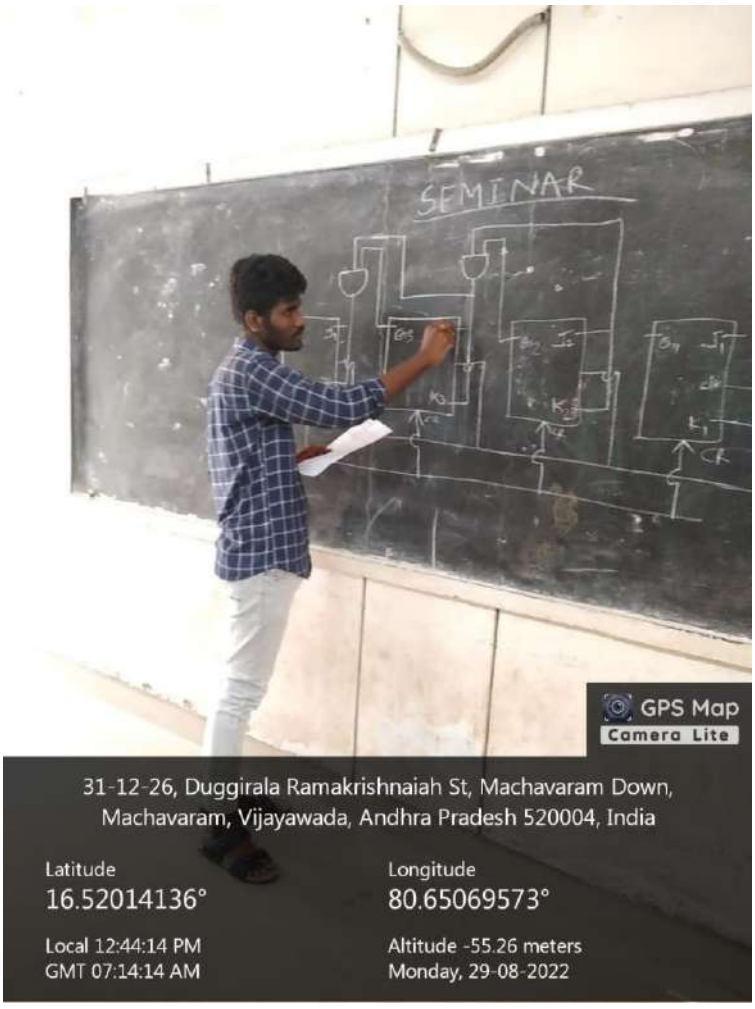
SEMESTER : **II SEMESTER**

Regd. No. : **21303216**

TOPIC : **ENCODER**

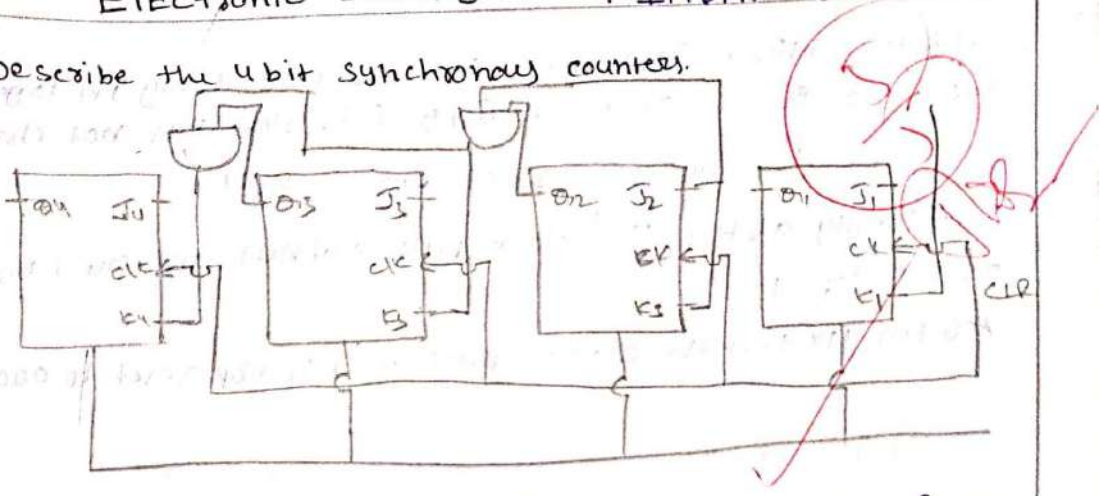
DATE OF SEMINAR : **29.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



ELECtronic seminar T.INDRA Reg:-213032216

① Describe the 4 bit synchronous counters.



The speed of the counter depending on clock pulse frequency and propagation delay of the flip flop In case of tripple counter The clock pulse is given to the first flip flop only It clock pulse given to all flip flop at a time whose speed increase This type of counter is called synchronous counters.

4 bit or 16-mode synchronous counter using JK flip flop as shown in the figure In which clock pulse is given to all flip flop at a time and clear pulse is also connected to all flip flop.

The first flip flop is always connected in toggle mode flip flop 3 & flip flop inputs are set connected through AND gates It clear pulse all the flip flop are set to 0000

1 It first clock pulse set the flip flop 1 output changes to 1 due to toggle mode so output changes FF_3 & FF_4 does not change

$\therefore Q_4=0 \quad Q_3=0 \quad Q_2=0 \quad Q_1=1$

after second clock pulse the first flip flop and second flip flop are in toggle mod so output changes

$Q_4=0 \quad Q_3=0 \quad Q_2=1 \quad Q_1=0$

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After third clock pulse the flip flop 1 only in toggle mod so $Q_1 = 1$ and remaing flip flops does not change

$\therefore Q_4 = 0 \quad Q_3 = 0 \quad Q_2 = 1 \quad Q_1 = 1$

Similarly after 15th clock pulse outputs are $Q_4 = 1$ $Q_3 = 1$ $Q_2 = 1$ $Q_1 = 1$

After sixteenth clock pulse all flip flop reset to 0000.

Clock Pulse	Q_4	Q_3	Q_2	Q_1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

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STUDENT SEMINAR

NAME OF THE STUDENT : **CH.HONEY**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303210**

TOPIC : **MULTIPLEXER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar on Electronics

Name :- Gh. Honey.
Group: M.E.Cs (B.Sc)
Reg! - 21303210

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Multiplexer is an electronic circuit to send data from number of lines into a single line. For example, the data is sending from four lines into one line is called 4x1 multiplexer. The block diagram of the multiplexer is as shown in figure - ①.

The data selected from input lines depending on the selection wires S_1 and S_2 in case of 4x1 multiplexer. If A, B, C & D are inputs to send into output Y the truth table is as shown in figure - ②.

The electronic circuit desig for 4x1 multiplexer is an shown in figure - ③.

If $S_1=0$ and $S_2=0$ then input A only reflects at the output Y. Remaining all inputs are in active at 3-AND gates. If $S_1=1$, $S_2=0$ the input B present at output Y. If $S_1=0$ and $S_2=1$ the input C present at output Y.

If $S_1=1$ and $S_2=1$ then input D present at output Y.

If their are 8 inputs lines, 3 selection wires S_1, S_2, S_3 $[2^3=8]$ are required.

If there are 'n' selection wire the data may select from 2^n input lines.

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Multiplexer :

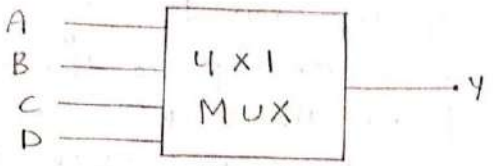


fig- ①

Selection O(wires)		Output
S_2	S_1	Y
0	0	A
0	1	B
1	0	C
1	1	D

fig - ②

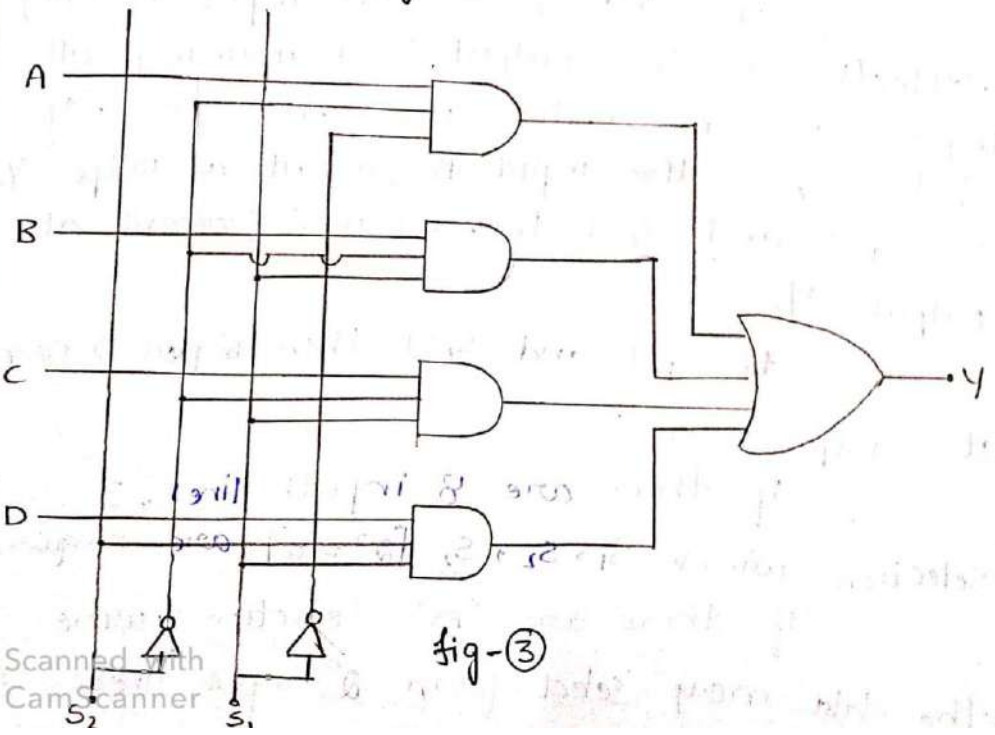


fig - ③

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STUDENT SEMINAR

NAME OF THE STUDENT : **G.VENKATESH**

CLASS : **I B.SC (MECs)**

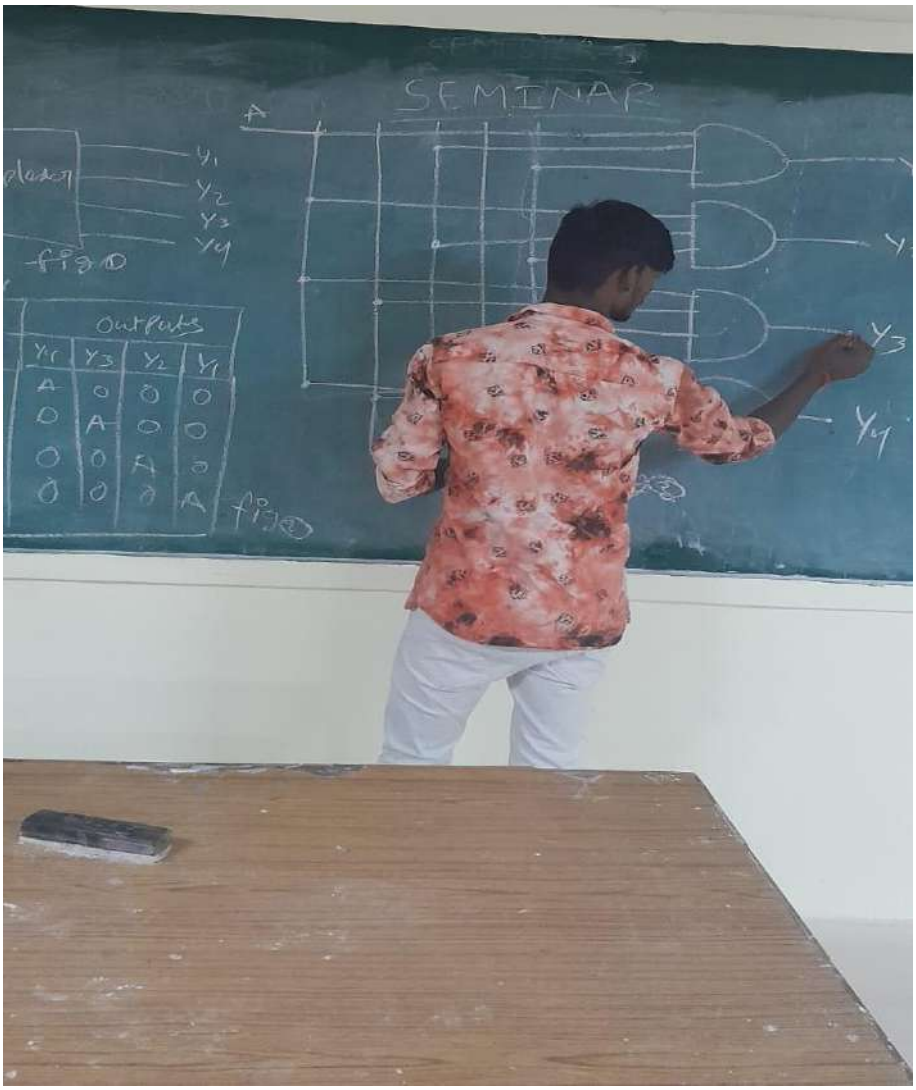
SEMESTER : **II SEMESTER**

Regd. No. : **21303224**

TOPIC : **DE-MULTIPLEXER**

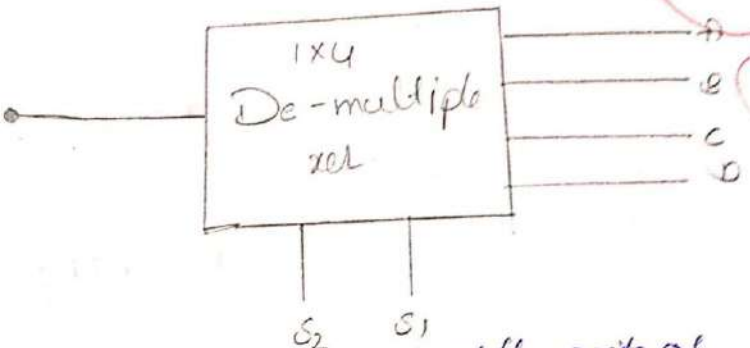
DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Dt: 01/03/2024

De-Multiplexer



De-multiplexer is the opposite of the opsite of the multiplexer. In which the data can be transfd from 1 input line into any 1 of the n output lines.

fig:-① shows the symbol of the 1×4 de-multiplex. If there are 4 outputs lines then 2 selecting wires are required to transfer the data

If there are 8 output lines we require 3 selecting wires similarly using n selecting wires the data can transfer to on output lines The Truth table of the de-multiplexer is as show in fig ②

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the digital circuit of demultiplexer using logic gates is as show in fig (8)

If $S_1=0$ and $S_2=0$ than 1st AND gate is enabled and remaing 3 AND gate are desabled.

So, Input 'A' passes through the output line 'Y_1'. If $S_1=1$ and $S_2=0$ than 1st AND gate is enabled and remining 3 AND gates are desabled.

So, data 'A' passes through output line 'y_2'.

If $S_1=0$ and $S_2=1$ than 3rd AND gate is enabled and remining 3 AND gates are disabled.

So, data 'A' passes through the output line 'y_3'.

If $S_1=1$ and $S_2=1$ than 4th AND gate is enabled remining 3 AND gates are desabled.

So, data 'A' passes through the output line 'y_4'.

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Inputs		outputs			
S_2	S_1	y_1	y_2	y_3	y_4
0	0	A	0	0	0
0	1	0	A	0	0
1	0	0	0	A	0
1	1	0	0	0	A

fig - ②

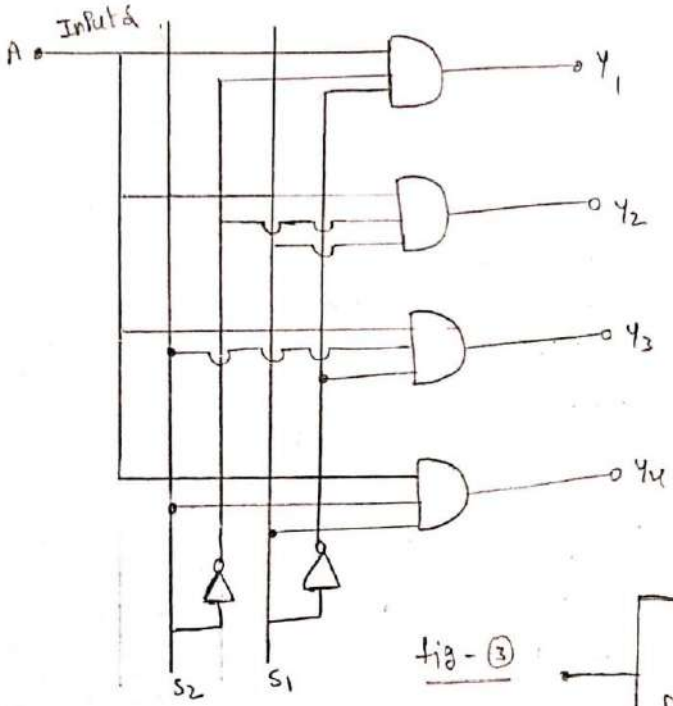
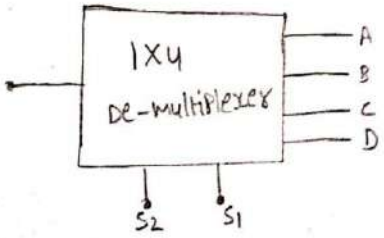


fig - ③



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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **V.LAVANYA**

CLASS : **I B.SC (MECs)**

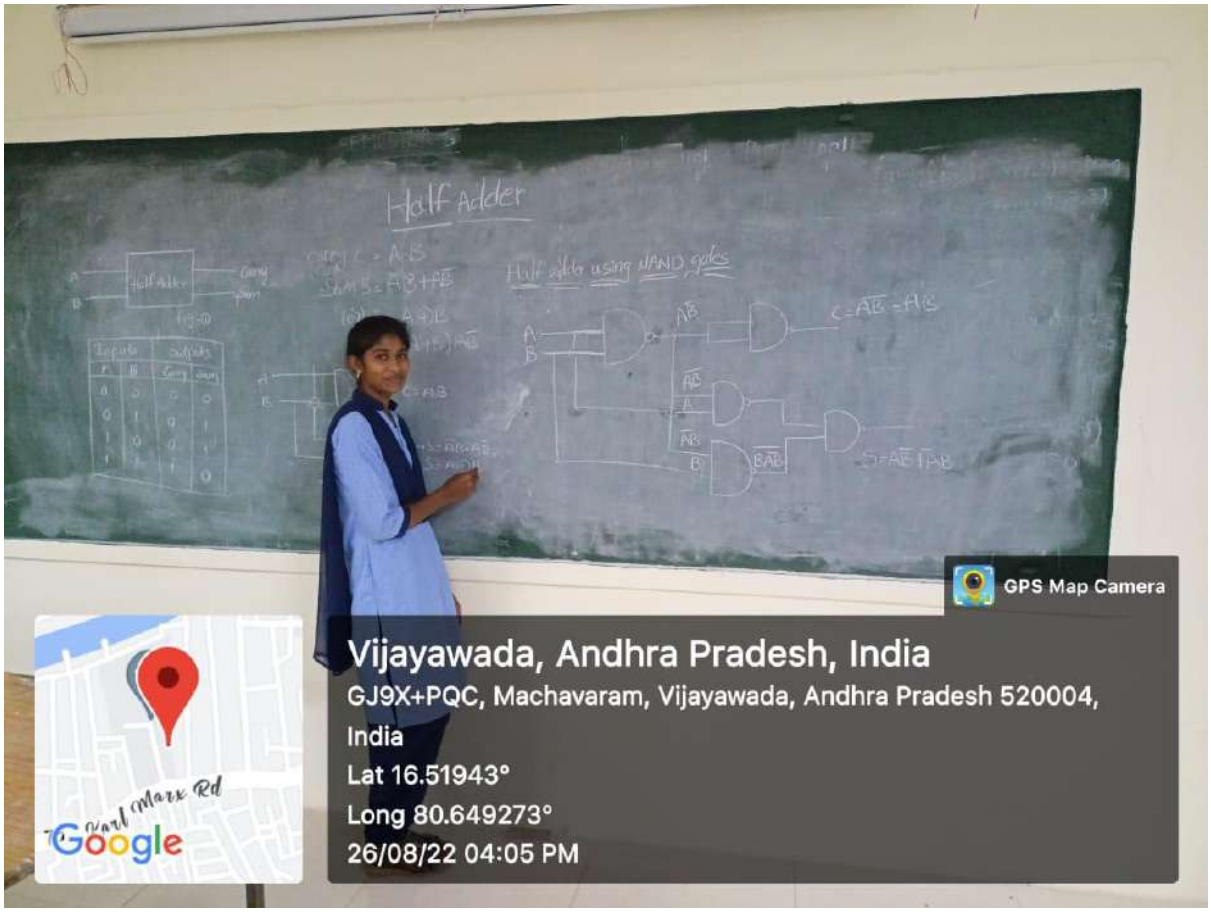
SEMESTER : **II SEMESTER**

Regd. No. : **21303208**

TOPIC : **HALF ADDER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar

Name:- V. Lavanya.
Class:- BSc [MECs]
Redg No:- 21303208

Half Adder

A digital circuit which can add 2 bits only is called half-Adder. The half adder containing two inputs and two outputs. outputs are carry (c) and sum (s).

The block diagram of the Half adder is shown in fig ①. The truth table of the Half Adder is shown in table.

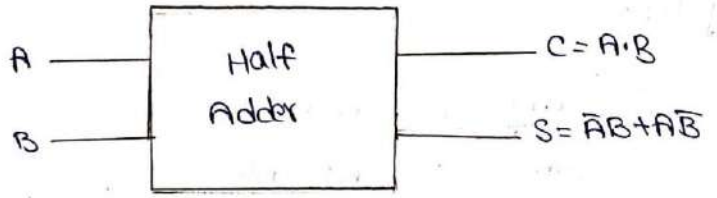


fig ①

Inputs		outputs	
A	B	C	S
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

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When observe the truth table of the half adder the carry 'c' output is '1' when both inputs are in '1' state. It means AND GATE is capable to show carry C.

The output sum 'S' is in '1' state, only both the inputs are different. this is the output of the exclusive OR gate. So the action of the sum made by X-OR-gate.

By the combination of AND gate and X-OR gate shows the half adder circuit as shown in fig (1).

$\therefore$ Carry $C = A \cdot B$

Sum $S = \bar{A}B + A\bar{B}$

(or) $S = A \oplus B$

(or) $S = (A+B)\,A\bar{B}$

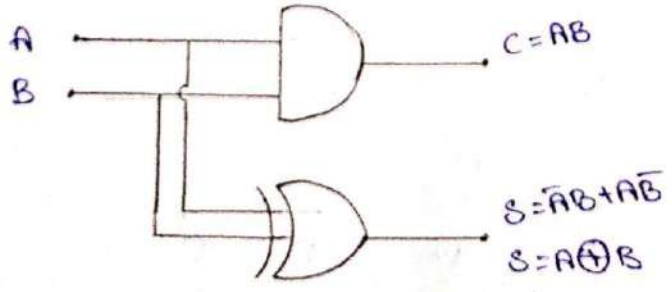
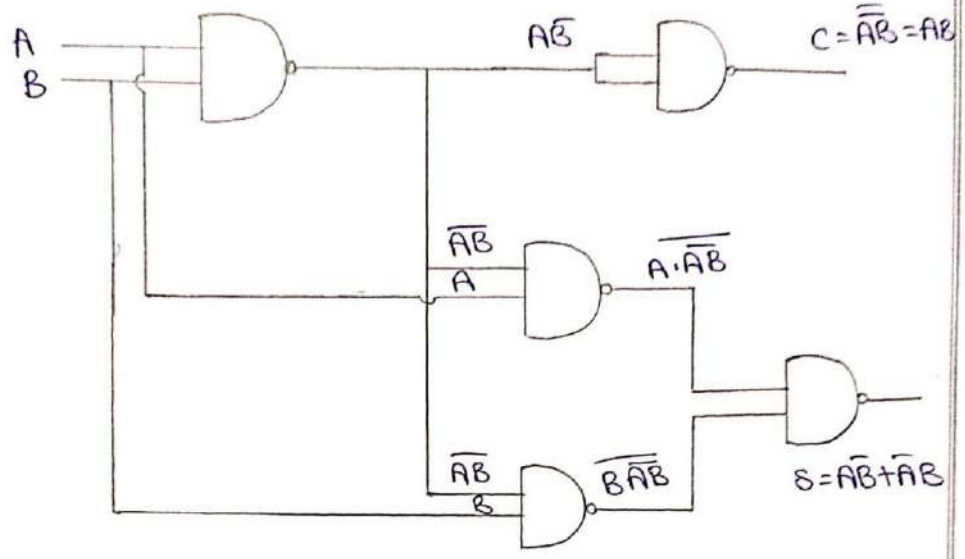


Fig - 2

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Half adder using NAND gates



Half adder can be constructed using NAND gates only as shown in the figure.

According to the diagram

$$\text{Carry } (C) = \overline{\bar{A}\bar{B}} = AB$$

$$\text{Sum } (S) = \overline{\overline{A\cdot\bar{A}\bar{B}}\cdot\overline{B\cdot\bar{A}\bar{B}}} \qquad \left(\because \overline{\bar{A}\bar{B}} = \bar{A}+\bar{B}\right)$$

$$= \overline{A\cdot\bar{A}\bar{B}} + \overline{\overline{B\cdot\bar{A}\bar{B}}}$$

$$= A\cdot\bar{A}B + B\cdot\bar{A}\bar{B}$$

$$= A(\bar{A}+B) + B(\bar{A}+\bar{B})$$

$$= A\bar{A} + A\bar{B} + B\bar{A} + B\bar{B}$$

$$= 0 + A\bar{B} + B\bar{A} + 0$$

$$\therefore \text{Sum } (S) = A\bar{B} + B\bar{A}$$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **B.G.M. KALIDAS**

CLASS : **I B.SC (MECs)**

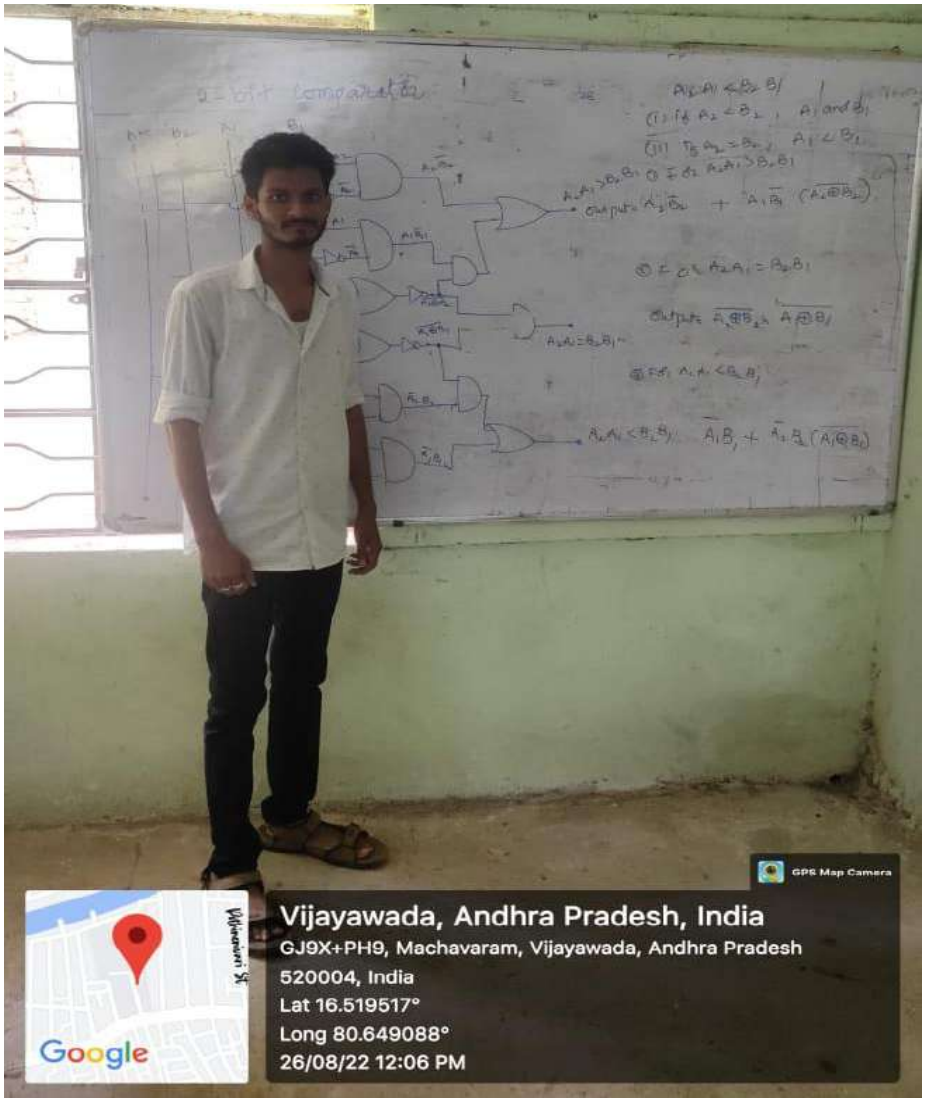
SEMESTER : **II SEMESTER**

Regd. No. : **21303211**

TOPIC : **BINARY COMPARATOR**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Name :- B.G.M. Kalidas
Group :- B.Sc [MECS]
subject :- Electronics
Admin No :- 21303211

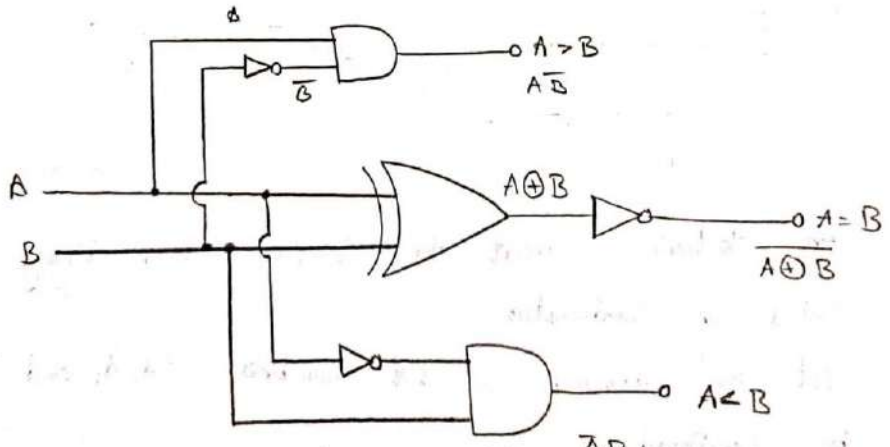
SEMINAR

Magnitude Comparator (or) Binary Comparator

A logic circuit that Compare two binary numbers is called Comparator. If A and B are two binary numbers, than we Can Compare 3 Conditions such as $A \geq B$ (or) $A = B$ (or) $A < B$.

The truth table of the 1 bit Comparator is as shown in table. The logical circuit diagram of the 1- bit Comparator is as shown in fig.

Inputs		outputs		
A	B	A>B	A=B	A<B
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0



If $A > B$ the output is $A \cdot \bar{B}$

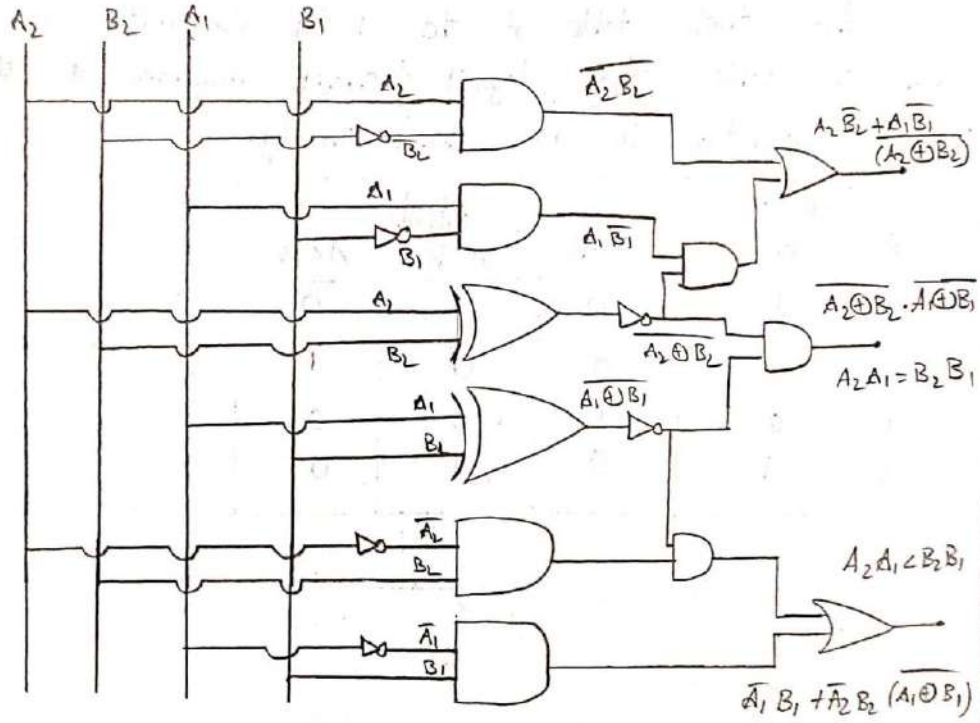
If $A = B$ the output is $\overline{A \oplus B}$ (or) $\overline{\bar{A}B + A\bar{B}}$

If $A < B$ the output is $\bar{A} \cdot B$

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2- bit Comparator

Inputs		outputs		
A_2 B_2	B_1 A_1	$A_2A_1 > B_2B_1$	$A_2A_1 = B_2B_1$	$A_2A_1 < B_2B_1$
$A_2 > B_2$	XX	1	0	0
$A_2 = B_2$	$A_1 > B_1$	1	0	0
$A_2 < B_2$	XX	0	0	1
$A_2 = B_2$	$A_1 < B_1$	0	0	1
$A_2 = B_2$	$A_1 = B_1$	0	1	0



An electronic circuit to compare two binary numbers is called a comparator

Let us assume 2 bit numbers (A_2A_1 and B_2B_1) be compared.

If $A_2A_1 > B_2B_1$ following conditions must be statisfied.

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(I) If $A_2 > B_2$ independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 > B_1$

If $A_2A_1 = B_2B_1$ following Conditions must be satisfied.

$A_2 = B_2$ and $A_1 = B_1$

If $A_2A_1 < B_2B_1$ following Conditions must be satisfied

(I) If $A_2 < B_2$, independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 < B_1$

All this Conditions shown in truth table

In this table X represents the independent of values of A_1 and B_1

The circuit diagram regrading 2 bit Comparator is as shown in figure.

The outputs of the 2 bit Comparator is

1, for $A_2A_1 > B_2B_1$

output $= A_2\overline{B_2} + A_1\overline{B_1}\ (\overline{A_2 \oplus B_2})$

2, for $A_2A_1 = B_2B_1$

output $= (\overline{A_2 \oplus B_2})\ (\overline{A_1 \oplus B_1})$

3, for $A_2A_1 < B_2B_1$

output $= \overline{A_2}B_2 + \overline{A_1}B_1\ (\overline{A_1 \oplus B_1})$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **SK.HASHMIUN**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303201**

TOPIC : **READ ONLY MEMORY**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



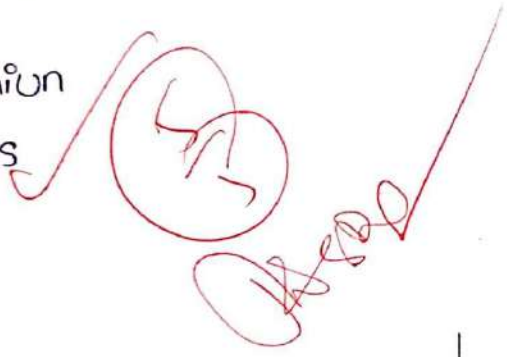
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Name : SK. Hashmiun

Subject : Electronics

Group : B.Sc [MECS]

Reg. no : 21303201



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"Read only Memory (ROM)"

In a computer system, memory is very essential part of the computer system and used to store information for instant use or permanently. Based on computer memory working features, memory is divided into two types.

① Volatile Memory (RAM)
② Non-volatile memory (ROM)

Before understanding ROM, we will first understand what exactly volatile and non-volatile memory is. Non-volatile memory is a type of computer memory that is used to retain stored information during power is removed. It is less expensive than volatile memory. It has a large storage capacity. ROM and flash memory are examples of non-volatile memory. whereas, volatile memory is a temporary memory. In this memory, the data is stored till the system is capable of, but once the power of the system is turned off the data within the volatile memory is deleted automatically. RAM is an example of volatile memory.

ROM stands for Read-only memory. It is a non-volatile memory that is used to stores important information which is used to operate the system. As its name refers to read-only memory, we can only read the programs and data stored on it.

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It is also a primary memory unit of the computer system. It contains some electronic fuses that can be programmed for a piece of specific information. The information stored in the ROM in binary-format. It is also known as permanent memory.

*Working of ROM

ROM is sustained by a small, long-life battery in the computer. It contains two basic components :-

1. The decoder and
2. OR logic gates

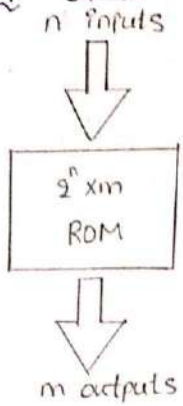
In ROM, the decoder receives input in binary form; the output will be the decimal equivalent. The OR gates in ROM use the decoder's decimal output as their input.

ROM performs like a disk array. It contains a grid of rows and columns that are used to turn the system on and off. Every element of array correlates with a specific memory element on the ROM chip. A diode is used to connect the corresponding elements.

When a request is received, the address input is used to find the specific memory location. The value that is read from the ROM chip should match contents of the chosen array element.

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* Block diagram of ROM



The block of ROM has 'n' input lines and 'm' output lines. Each bit combination of input variables is known as an address. Each bit combination that comes out through output lines is called a word. The number of bits per word is equal to no. of output lines, m.

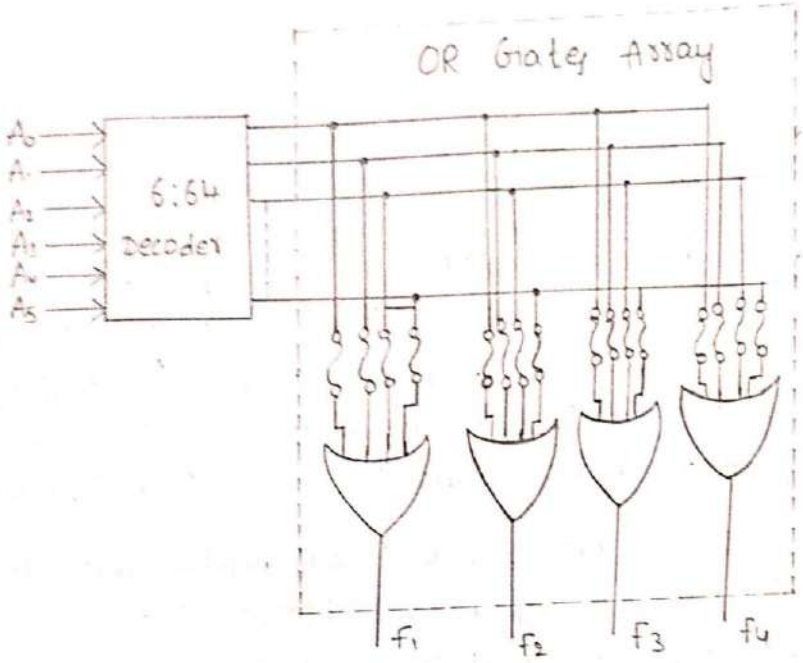
The address of a binary number refers to one of the address of n variables. So, the number of possible addresses with 'n' input variables is 2^n. An output word has a unique address, and as there are 2^n distinct addresses in a ROM, there are 2^n separate words in the ROM. The words on the output lines at a given time depends on the address value applied to the input lines.

* Internal structure of ROM

The internal structure comprises two logic components : decoder and OR gates. A decoder is a circuit that decodes the binary form to a

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decimal form. All the OR gates present in ROM will have outputs of the decoder as their output. Let us take an example of 64x4 ROM. The structure is shown in following image.



Internal Construction of 64 X 4 ROM

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **P.RECHAL JYOTHI**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303206**

TOPIC : **ENCODER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



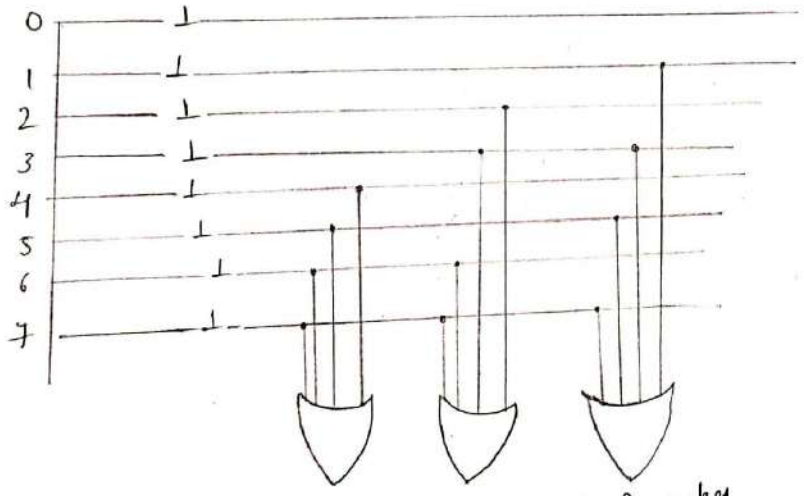
Electronics Seminar

Name: P. Rechal Jyothi
Group: 1 (B.SC (MECs)
Reg NO: 21303206

Encoders:-

Truth Table of Encoders:

Decimal	Binary		
	43	42	41
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	0	0	0
5	1	0	1
6	1	1	0
7	1	1	1



Circuit diagram of Encoders

Encoders is an electronic circuit to convert from 1 number system into binary number systems. It means encoders can change either decimal numbers or octal numbers or hexadecimal numbers into binary numbers.

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The conversation of 8 numbers from decimal number systems into binary number systems is as shown in fig ①.

Fig ②: Shows the Encoder Circuit to Convert 8 numbers into 3 bit binary number. So, this is Called 8x3 Encoder.

As shown in the fig ② if '0' Switch is on, all OR gates in off position. So, output is 0000.

If '1' switch is on, gate '4_1' in 'on' Position & remaining 2 gates are in off position. So, the output is 001. If '2' Switch is on, the 2nd OR gate '4_2' is on, Remaining 2 gates are in OFF position.

So, the output is 010. Similarly, if '7' Switch is 'ON', All OR in 'ON' position. So, the Output is 111

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SRR & CVR GOVERNMENT DEGREE COLLEGE

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

2021-22

II B.Sc (MPC)

STUDENT SEMINARS

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **V.STEFEN**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20301236**

TOPIC : **De-Morgan laws**

DATE OF SEMINAR : **29.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



De-Morgan Laws - statements and proof.

De-Morgan's First theorem states that "The compliment of the sum of two or more variables is equal to the product of the compliment of the variables".

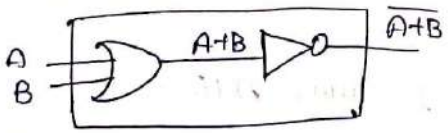
(or)

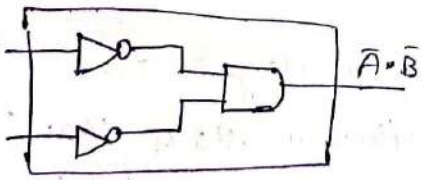
De Morgan's first theorem states that "when two input variables are OR'ed and negated, they are equivalent to the AND of the complements of the individual variables.

If A and B are two inputs, According to De-Morgan first law.

$$\overline{A+B} = \bar{A} \cdot \bar{B}$$

Using logic gates De-Morgan first law can be shown as shown in fig1.





Truth table of the De-Morgan first law is shown in the below table

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INPUTS		Truth table outputs for each term.				
B	A	A+B	$\overline{A+B}$	$\overline{B}\overline{A}$	B	$\overline{A}\cdot\overline{B}$
0	0	0	1	1	1	1
0	1	1	0	0	1	0
1	0	1	0	1	0	0
1	1	1	0	0	0	0
x	x	x	x	x	x	x

Proof:

1) If A=0 and B=0 then, $\overline{A+B} = 0 = 1$ and $A\cdot\overline{B} = 1\cdot 1 = 1$

So, $\overline{A+B} = \overline{A}\cdot\overline{B}$.

2) If A=0 and B=1 then, $\overline{A+B} = 1 = 0$ and $\overline{A}\cdot\overline{B} = 1\cdot 0 = 0$

So $\overline{A+B} = \overline{A}\cdot\overline{B}$

3. If A=1 and B=0 then, $\overline{A+B} = 1 = 0$ and $\overline{A}\cdot\overline{B} = 0\cdot 1 = 0$

So, $\overline{A+B} = \overline{A}\cdot\overline{B}$.

4. If A=1 and B=1 then, $\overline{A+B} = 1 = 0$ and $\overline{A}\cdot\overline{B} = 0\cdot 0 = 0$

So $\overline{A+B} = \overline{A}\cdot\overline{B}$.

Hence, proved the De-Morgan First theorem.

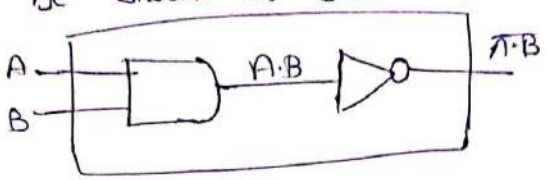
De-Morgan's second theorem states that "The compliment of the product of two or more variables is equal to the sum of the compliments of the variables.

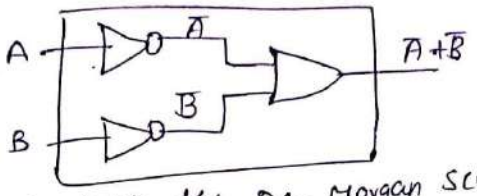
If A and B are two inputs, then according to De-Morgan's second theorem.

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$\overline{AB} = \overline{A} + \overline{B}$

Using Logic gates De- Morgan second Law can be shown as shown in fig 1.





Truth table the De- Morgan second law can be shown as shown

INPUTS		Truth table outputs Each term.				
B	A	A·B	$\overline{A \cdot B}$	$\overline{A}$	$\overline{B}$	$\overline{A}+\overline{B}$
0	0	0	1	1	1	1
0	1	0	1	0	1	1
1	0	0	1	1	0	1
1	1	1	0	0	0	0

Proof:

① If A=0 and B=0 then, $\overline{AB} = \overline{0} = 1 = \overline{A} + \overline{B} = 1 \cdot 1 = 1$

So, $\overline{AB} = \overline{A} + \overline{B}$.

② If A=0 and B=1, then, $\overline{AB} = \overline{0} = 1$ and $\overline{A} + \overline{B} = 1 + 0 = 1$.

So, $\overline{AB} = \overline{A} + \overline{B}$

③ If A=1 and B=0 then, $\overline{AB} = 0 = 1 = \overline{A} + \overline{B} = 0 + 1 = 1$.

So, $\overline{AB} = \overline{A} + \overline{B}$.

④ If A=1 and B=1 then, $\overline{A+B} = \overline{1} = 0$ and $\overline{A} + \overline{B} = 0 + 0 = 0$

So $\overline{AB} = \overline{A} + \overline{B}$

Hence, proved De- Morgan second theorem.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **CH.HEMANTH TRINADH**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20301205**

TOPIC : **Electromagnetic Wave Equation**

DATE OF SEMINAR : **29.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



SEMINAR

Name :- CH. Hemanth Trinadh.

5/5

group :- B.S.C [M.P.C]

Year :- IInd year.

Hall ticket :- 20301205

Subject :- Physics.

College :- SRR & C.V.R govt College

Submitted to :- NageswaraRao Sir

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Maxwell's Wave Equation (or) Equation of Electromagnetic Waves:

Let us apply Maxwell's equations to homogeneous, istropic and dielectric medium. In a dielectric medium of offers resistance and hence conductivity is zero (current density $j=0$). In homogeneous medium there is no volume distribution of charge and hence charge density $\rho=0$

1. $\nabla \cdot E = 0$ -- (1)
2. $\nabla \cdot B = 0$ -- (2)
3. $\nabla \times E = -\frac{\partial B}{\partial t}$ -- (3)
4. $\nabla \times B = \mu \frac{\partial D}{\partial t}$ or $\nabla \times B = \mu\varepsilon \frac{\partial E}{\partial t}$ -- (4)

Using Equations 3 and 4 by eliminating the E we can obtain the maxwell's wave equation of propagation.

Using 3 and 4 by Eliminating the E we can obtain the maxwell's wave equation progation.

$$\nabla \times \nabla \times B = \nabla \times \mu\varepsilon \cdot \frac{\partial E}{\partial t}$$

$$\nabla \times \nabla \times B = \mu\varepsilon \cdot \frac{\partial (\nabla \times E)}{\partial t}$$

But from equation $\nabla \times E = -\frac{\partial B}{\partial t}$

$$\nabla \times \nabla \times B = \mu\varepsilon \cdot \frac{\partial \left(-\frac{\partial B}{\partial t}\right)}{\partial t}$$

$$\nabla \times \nabla \times B = -\mu\varepsilon \frac{\partial^2 B}{\partial t^2}$$

$$-\nabla^2 E = -\mu\varepsilon \frac{\partial^2 E}{\partial t^2}$$

$$\nabla^2 E = \mu\varepsilon \frac{\partial^2 E}{\partial t^2} \text{ ---- (6)}$$

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$$\nabla^2\psi = \frac{1}{v^2}\frac{\partial^2\psi}{\partial t^2} \quad ---(7)$$

where ψ is the wave function and v is the velocity of a wave

$$\mu\varepsilon = \frac{1}{v^2}$$

$$v^2 = \frac{1}{\mu\varepsilon}$$

$$\text{Velocity } v = \frac{1}{\sqrt{\mu\varepsilon}}$$

$$\text{Velocity } v = \frac{1}{\sqrt{\mu_0\varepsilon_0}}$$

But $\mu_0 = 4\pi\times10^{-7}$ Henry/meter and $\varepsilon_0 = 8.85\times10^{-12}$ coloumb^2/N-m^2

$C = 3\times10^8$ m/sec.

$$\nabla\times\nabla\times B = \nabla\cdot(B) - \nabla^2 B$$

$$\nabla(\nabla\cdot B) - \nabla^2 B = \mu\varepsilon\frac{\partial^2 B}{\partial t^2}$$

$$\nabla^2 B = \mu\varepsilon\frac{\partial^2 B}{\partial t^2} \quad ---(5)$$

This called Maxwell's wave equation of magnetic field B

$$\nabla\times\nabla\times E = -\frac{\partial\left(\mu\varepsilon\frac{\partial E}{\partial t}\right)}{\partial t}$$

$$\nabla\times\nabla\times E = -\mu\varepsilon\frac{\partial^2 E}{\partial t^2}$$

We know $\nabla\times\nabla\times E = \nabla(\nabla\cdot E) - \nabla^2 E$

$$v^2 = \frac{1}{\mu\varepsilon}$$

$$\text{velocity } v = \frac{1}{\sqrt{\mu\varepsilon}}$$

$$\text{Velocity } v = \frac{1}{\sqrt{\mu_0\varepsilon_0}}$$

Velocity of Electromagnetic waves is free space $C = 3\times10^8$ m/sec

This is equal to velocity light in free space.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **D.RAJESH REDDY**

CLASS : **II B.SC (MPC)**

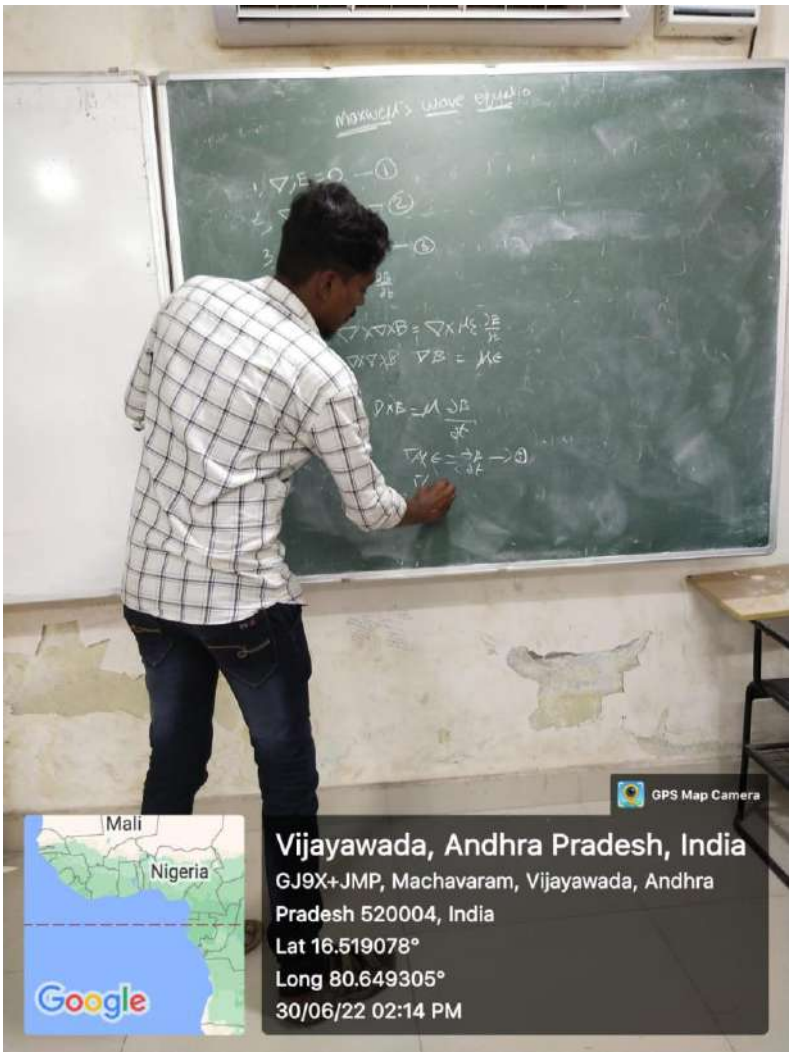
SEMESTER : **IV SEMESTER**

Regd. No. : **20301208**

TOPIC : **Maxwell Wave Equation**

DATE OF SEMINAR : **30.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar

Name : D. Rajesh reddy

Group : Bsc mpc

Year : IInd year

Hall Ticket: 20201208

Sub: Physics

Submitted To: Nageswara Rao sir

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Maxwell Wave Equation & Equation of Electromagnetic waves

let us apply Maxwell's equation to homogeneous, istropic and dielectric medium. In dielectric medium of offers resistance and hence cond conductivity is zero (current density $j=0$) In homogeneous medium there is no volume distribution of charge and hence charge density $\rho=0$

1. $\nabla \cdot E = 0$ ... (1)

2. $\nabla \cdot B = 0$ ... (2)

3. $\nabla \times E = -\frac{\partial B}{\partial t}$ ... (3)

4. $\nabla \times B = \mu \frac{\partial D}{\partial t}$ (or) $\nabla \times B = \mu\epsilon \frac{\partial E}{\partial t}$ ... (4)

Using Eq 3 and 4 by eleminating the E we can obtain the maxwells wave equation of propagation using 3 and 4 by eleminating the E we can obtain the maxwells wave equation progation

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$$\nabla \times \nabla \times B = \nabla \times \mu\epsilon \frac{\partial E}{\partial t}$$

$$\nabla \times \nabla \times B = \mu\epsilon \frac{\partial (\nabla \times E)}{\partial t}$$

But from eq $\nabla \times E = -\frac{\partial B}{\partial t}$

$$\nabla \times \nabla \times B = \mu\epsilon \frac{\partial (-\partial B)}{\partial t}$$

$$\nabla \times \nabla \times B = -\mu\epsilon \frac{\partial^2 B}{\partial t^2}$$

$$-\nabla^2 E = -\mu\epsilon \frac{\partial^2 E}{\partial t^2}$$

$$\nabla^2 E = \mu\epsilon \frac{\partial^2 E}{\partial t^2} \quad \text{---} (6)$$

$$\nabla^2 \psi = \frac{1}{V^2} \cdot \frac{\partial^2 \psi}{\partial t^2} \quad \text{---} (7)$$

where ψ is the volume function and v is the velocity of a wave $\mu\epsilon = \frac{1}{V^2}$

$$V^2 = \frac{1}{\mu\epsilon}$$

$$\text{velocity } V = \frac{1}{\sqrt{\mu\epsilon}}$$

$$\text{velocity } v = \frac{1}{\sqrt{\mu_0 \epsilon_0}}$$

But $\mu_0 = 4\pi \times 10^{-7}$ Henry/meter and ϵ_0

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$\epsilon_0 = 8.85 \times 10^{-2}$ coulomb^2 (Nm)$^{-2}$ $c = 3 \times 10^8$ m/sec

$$\nabla(\nabla \cdot B) - \nabla^2 B = \mu\epsilon \frac{\partial^2 B}{\partial t^2}$$

$$\nabla^2 B = \mu\epsilon \frac{\partial^2 B}{\partial t^2} \quad \text{--- (1)}$$

This is called Maxwell wave equation of magnetic field B

$$\nabla \times \nabla \times E = -\frac{\partial}{\partial t}\left(\mu\epsilon \frac{\partial E}{\partial t}\right)$$

$$\nabla \times \nabla \times E = -\mu\epsilon \frac{\partial^2 E}{\partial t^2}$$

we know $\nabla \times \nabla \times E = \nabla(\nabla \cdot E) - \nabla^2 E$

$$\nabla v^2 = \frac{1}{\mu\epsilon}$$

velocity of $v = \frac{1}{\sqrt{\mu\epsilon}}$

Velocity $v = \frac{1}{\sqrt{\mu_0 \epsilon_0}}$

Velocity of Electromagnetic wave is free space

$c = 3 \times 10^8$ m/sec

This is equal to velocity of light in free space

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **CH.SAI**

CLASS : **II B.SC (MPC)**

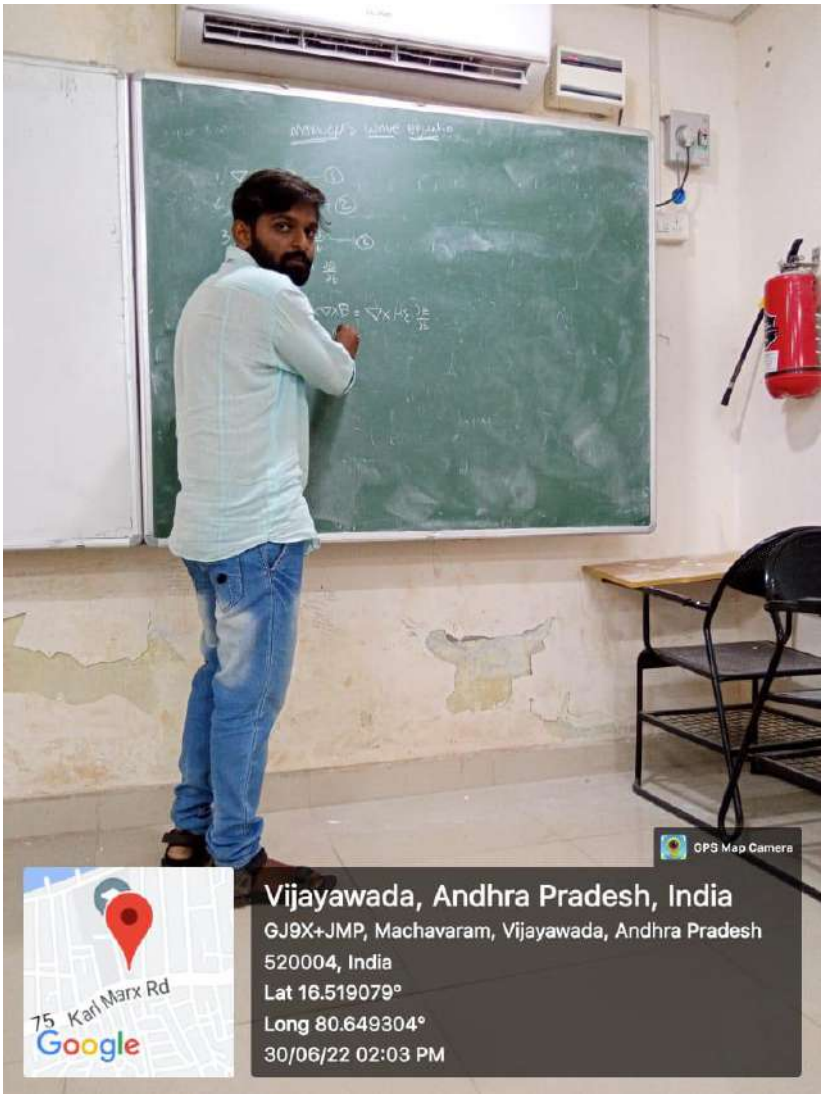
SEMESTER : **IV SEMESTER**

Regd. No. : **20301206**

TOPIC : **Equation of Electro Magnetic Waves**

DATE OF SEMINAR : **30.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



STUDENT SEMINAR

Name :- Ch. Sai

Group :- B.Sc (MPC)

Year :- IInd year.

Hall ticket no :- 20301206.

Subject :- physics.

College :- SRR & CVR GOVT Degree college.

Submitted To :- Nageswara Rao Sir.

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Maxwell's wave equation for Equation of electromagnetic waves:-

Let us apply maxwell's equation to the homogenous isotropic and dielectric medium In a dielectric medium at offers Infinte resistance and hence conducting is zero. homogenous medium there no volume distubution of charge and hence charge density $\rho=0$ & $J=0$, $\rho=\alpha$, $\varepsilon_0=\varepsilon$ and $\mu_0=\mu$

Hence Maxwell eqn for homogenous and dielectric medium can be written as.

① $\nabla \cdot E = 0$ — ①

② $\nabla \cdot B = 0$ — ②

③ $\nabla \times E = \frac{\partial B}{\partial t}$ — ③

④ $\nabla \times B = \mu J + \mu\varepsilon \frac{\partial E}{\partial t}$ — ④.

using eqn ③ and ④ by eliminating the E we can obtain Maxwell wave eqn of propgation

$$\nabla \times \nabla \times B = \nabla \times \mu\varepsilon \frac{\partial B}{\partial t}$$

$$\nabla \times \nabla \times B = \mu\varepsilon \frac{\partial(\nabla \times E)}{\partial t}$$

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But From eqn (5) $\nabla B = 0$

$$-\nabla^2 B = -\mu\epsilon \cdot \frac{\partial^2 B}{\partial t^2}$$

$$\nabla^2 B = \mu\epsilon \cdot \frac{\partial^2 B}{\partial t^2} \quad \text{— (3)}$$

This is called Maxwell eqn term of Magnetic field of

Similarly From eqn (3) $\nabla \times E = -\frac{\partial B}{\partial t}$

$$\nabla \times \nabla \times E = -\nabla \times \frac{\partial B}{\partial t}$$

$$\nabla \times \nabla \times E = -\frac{\partial (\nabla \times B)}{\partial t}$$

But From equidocnal $\nabla \times B = \mu\epsilon \frac{\partial E}{\partial t}$

$$\nabla \times \nabla \times E = \frac{\partial \left(\mu\epsilon \frac{\partial E}{\partial t}\right)}{\partial t}$$

$$\nabla \times \nabla \times E = -\mu\epsilon \frac{\partial E}{\partial t^2} \quad \text{— (6)}$$

This is also called Maxwell eqn term of electric field E

$$\nabla^2 \psi = \frac{1}{v^2} \frac{\partial^2}{\partial t^2} \quad \text{— (1)}.$$

when compare 5,6 Factor $\mu\epsilon = \frac{1}{v^2}$

$$v^2 = \frac{1}{\mu\epsilon}$$

velocity $v = \frac{1}{\sqrt{\mu\epsilon}}$

The medium of coul of free space velocity of electromagnetic waves

velocity $v = \frac{1}{\sqrt{\mu_0 \epsilon_0}}$

But $\mu_0 = 4\pi \times 10^{-7}$ Henry / meter and $\epsilon_0 = 8.85 \times 10^{-12}$ coloumb^2/N-m

velocity of electric magnetic waves on $= c = 3 \times 10^8$ m/sec

This is equal to velocity of light on free space

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **B.SASI KANTH**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20301203**

TOPIC : **Equation of Electro Magnetic Waves**

DATE OF SEMINAR : **30.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



SEMINAR

5/5

Name : B. Sasikanth

Group : BSc (MPC)

Year : II nd year

Hallticket : 20301203

Subject : Physics

College : SRR & CVR Govt degree College

Submitted to : Nageswara Rao Sir

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Maxwell's wave equation (or) Equation of electromagnetic waves:

Let us apply Maxwell's equations to the homogeneous, isotropic and dielectric medium. In a dielectric medium it offers infinite resistance and hence conductivity is zero

In homogenous medium there is no volume distubution of charge and hence charge density $\rho = 0$

$$\text{So, } J = 0 \text{ , } \rho = 0 \text{ c , } \varepsilon_0 = \varepsilon \text{ and } \mu_0 = \mu$$

Hence Maxwell equations for homogenous and dielectric medium can be written as

(1) $\nabla \cdot E = 0$ --- (1)

(2) $\nabla \cdot B = 0$ --- (2)

(3) $\nabla \times E = \frac{\partial B}{\partial t}$ --- (3)

(4) $\nabla \times B \; \mu \frac{\partial D}{\partial t}$ or $\nabla \times B = \mu \varepsilon \frac{\partial e}{\partial t}$ -- (4)

Using equations 3 and 4, by eliminating the E we can obtain the Maxwell wave equation of propgation.

$$\nabla \times \nabla \times B = \nabla \mu \varepsilon \frac{\partial B}{\partial t}$$

$$\nabla \times \nabla \times B = \mu \epsilon \frac{\partial (\nabla \times E)}{\partial t}$$

But eq. 3, $\nabla \times E = \frac{\partial B}{\partial t}$

$$\nabla \times \nabla \times B = \mu \epsilon \frac{\partial \left(-\frac{\partial B}{\partial t}\right)}{\partial t}$$

$$\nabla \times \nabla \times B = -\mu \epsilon \frac{\partial^2 B}{\partial t^2}$$

We know $\nabla \times \nabla \times B = \nabla (\nabla \cdot B) - \nabla^2 B$

$$\nabla (\nabla \cdot B) - \nabla^2 B = -\mu \epsilon \frac{\partial^2 B}{\partial t^2}$$

But from equation 2, $\nabla B = 0$

$$-\nabla^2 B = -\mu \epsilon \frac{\partial^2 B}{\partial t^2}$$

$$\nabla^2 B = \mu \varepsilon \frac{\partial^2 B}{\partial t^2} \text{ ---- (5)}$$

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This is called Maxwell's equation in terms of Magnetic field B

Similarly, from equation 3 $\nabla \times E = \frac{-\partial B}{\partial t}$

Taking curl on both sides, then

$$\nabla \times \nabla \times E = -\nabla \times \frac{\partial B}{\partial t}$$

$$\nabla \times \nabla \times E = -\frac{\partial (\nabla \times B)}{\partial t}$$

But from equation 4, $\nabla \times B = \mu\epsilon \frac{\partial E}{\partial t}$

$$\nabla \times \nabla \times E = -\frac{\partial \left(\mu\epsilon \frac{\partial E}{\partial t}\right)}{\partial t}$$

$$\nabla \times \nabla \times E = -\mu\epsilon \frac{\partial^2 E}{\partial t^2}$$

we know $\nabla \times \nabla \times E = \nabla(\nabla \cdot E) - \nabla^2 E$

$$\nabla(\nabla \cdot E) - \nabla^2 E = -\mu\epsilon \frac{\partial^2 E}{\partial t^2}$$

$$-\nabla^2 E = -\mu\epsilon \frac{\partial^2 E}{\partial t^2}$$

$$\nabla^2 E = \mu\epsilon \frac{\partial^2 E}{\partial t^2} \quad ---(6)$$

This is also called Maxwell wave equation in terms of electric field E

$$\nabla^2 \psi = \frac{1}{V^2} \frac{\partial^2 \psi}{\partial t^2} \quad ---(7)$$

where ψ is the wave function and V is the velocity of wave

eq. (5) & (6) are comparable with equation (7) when compare 5, 6 factor $\mu\epsilon = \frac{1}{V^2}$

$$V^2 = \frac{1}{\mu\epsilon}$$

$$\text{Velocity } V = \frac{1}{\sqrt{\mu\epsilon}}$$

This is the velocity of electromagnetic waves in a dielectric and homogeneous medium in case of free space, velocity of electromagnetic waves is

$$\text{Velocity } V = \frac{1}{\sqrt{\mu_0 \epsilon_0}}$$

But $\mu_0 = 4\pi \times 10^{-7}$ Henry/meter and $\epsilon_0 = 8.85 \times 10^{-12}$ coloumb^2/N-m^2

Velocity of electromagnetic waves in free space $C = 3 \times 10^8$ m/sec

This is equal to velocity of light in free space

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **T.VIJAYA SREE**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20301233**

TOPIC : **Relation between D,E and P**

DATE OF SEMINAR : **29.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



SEMINAR

NAME : T. Vijaya Sri

Reg.no : 20301233

Subject : physics

college : ARR & C.V.R Govt. Degree

Submitted to : Nageswara Rao Sir.

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Relation Between D, E and P.

The intensity of electric field between Capacitor plates when no medium is between capacitor plates is E_0.

The intensity of electric field $E_0 = \frac{q}{\epsilon_0 A}$

When dielectric slab placed between two capacitor plates, the charges are induced and hence intensity of electric field decreases to E.

Then intensity of electric field $E = \frac{q}{K\epsilon_0 A}$

If 'q' is the induced charge in dielectric slab, then intensity of induced electric field is

$$E' = \frac{q'}{\epsilon_0 A}$$

Now the intensity of electric field $E = E_0 - E'$

$$\frac{q}{K\epsilon_0 A} = \frac{q}{\epsilon_0 A} - \frac{q'}{\epsilon_0 A}$$

$$\frac{q}{\epsilon_0 A} = \frac{q}{K\epsilon_0 A} + \frac{q'}{\epsilon_0 A}$$

$$\frac{q}{A} = \epsilon_0 \frac{q}{K\epsilon_0 A} + \frac{q'}{A}$$

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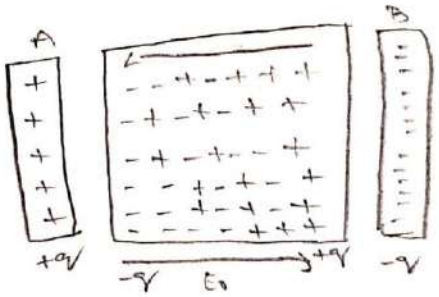
But electric displacement

$D = \frac{q}{A}$, $E = \frac{q}{K\epsilon_0 A}$ and electric

polarization $P = \frac{q'}{A}$

$$D = \epsilon_0 E + P$$

This is the relation between D, E & P.



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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **K.KEERTHI**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20301220**

TOPIC : **Energy Stored in a Magnetic Field**

DATE OF SEMINAR : **29.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



SEMINAR

NAME :- K. Keerthi

SUBJECT :- Physics Seminar

RED No :- 20301220

COLLEGE :- SRR & CVR Govt College

Sumitted to :- Nageswara Sir.

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* Energy stored in a Magnetic field (or) energy density in a magnetic field

According to electromagnetic induction an EMF is induced when Magnetic flux linked with the coil. due to this the induced current 'i' does work against the magnetic field

There fore work done in time dt is

$$dw = -e.idt$$

But from faraday law $e = -L\frac{di}{dt}$

$$\therefore dw = L.\frac{di}{dt}.idt$$

$$\therefore dw = L.i\,di$$

Total work done to bring the Maximum current 'i'

$$w = \int_0^i Lidi$$

$$W = \frac{Li^2}{2}$$

This amount of work stored as energy ina magnetic field.

$\therefore$ Energy stored in a magnetic field

$$U = \frac{1}{2}Li^2$$

But in case of solinoide self inductance

$$L = \mu_0 n^2 Al$$

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$$U = \frac{1}{2} \mu_0 n^2 A l \, I^2$$

$$U = \frac{1}{2} \frac{\mu_0^2 n^2 I^2 A l}{\mu_0}$$

But magnetic induction

$$B = \mu_0 n I$$

$$\therefore U = \frac{1}{2} \frac{B^2}{\mu_0} \cdot Al$$

Where A is the area of cross section and l is the length of the solenoid

The energy stored per unit volume is called energy density

$$\text{Energy density } u = \frac{U}{V}$$

$$u = \frac{\frac{1}{2} \frac{B^2}{\mu_0} Al}{Al} \quad (\because V = Al)$$

$$\therefore \text{Energy density } u = \frac{B^2}{2\mu_0}$$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **L.LAKSHMI PRASANNA**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20301223**

TOPIC : **Energy Stored in a Magnetic Field**

DATE OF SEMINAR : **29.06.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



STUDENT SEMINAR:-

Name:- d. lakshmi prasanna

~~Adm. No:-~~

Hall ticket No:- 20301223

Subject:- physics

topic:- Energy ~~field~~ stored in a magnetic field.

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ENERGY STORED by a Magnetic field

Energy stored in a magnetic field (or) Energy density in a magnetic field?

Ans: According to electromagnetic induction an Emf is induced when magnatic flux linked with the coil due to this the induced i does work agonist the magnetic field

$\therefore$ Energy density $u = \frac{U}{V}$

$\therefore P = \frac{1}{2} \frac{\frac{B^2}{\mu_0} A\cancel{t}}{A\cancel{t}}$ ($\because V = At$)

Energy density $\boxed{u = \frac{B^2}{2\mu_0}}$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A)
VIJAYAWADA

STUDENT SEMINAR
On

BIG DATA WITH R

Conducted by: Kum.T.Pavani,
Lecturer in Computer Application
On 26-09-2022

Presented by:A. NAGA RAJU, Reg.No.[20202203] III B.Com(C.A) SEM-V



DEPARTMENT OF COMMERCE
SRR & CVR GOVERNMENT DEGREE COLLEGE VIJAYAWADA

Introduction of Big Data.

unit - 1.
26/8/2022.

A. Nagaraju
B.Com (Computers)

What is Big data:-

Big data is also Data. But with a Huge size. it is used to discribe collection of Data that is the size growing Difficult process Applications. using Data base management tools.

History of Big data:

→ Big data may the next Big thing in the IT world.

→ Big data science in the frist Decet of 21st Centuary.

→ The first organization online startup firms (google, facebook, instagrame, etc) so where built arround the bigdata from the beiging.

→ New information technologys Big data can bring. Cost reductions, improvement the time, computing tasks, new producets and Service offerings.

Examples: facebook handels 40 billons of users using photos, posts, etc)

It is procedure of phython language, which was makes exception handling and operating system

1. phython is widely used in machine language, Artificial intelligence, web development, mobile Applications, Desktop Applications and calculations

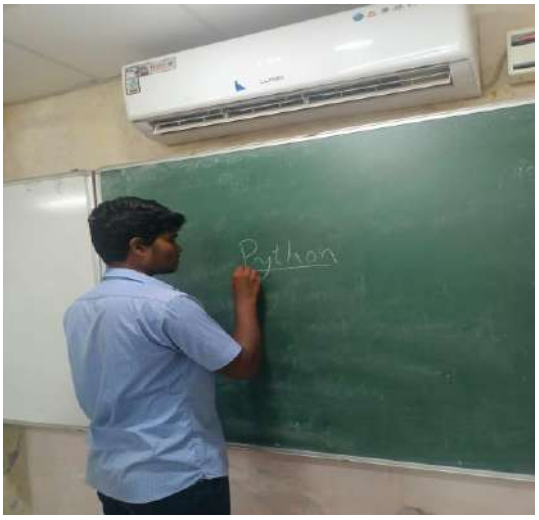


SRR & CVR GOVERNMENT DEGREE COLLEGE (A)
VIJAYAWADA

STUDENT SEMINAR
On

DATA SCIENCE WITH PYTHON

Conducted by: Kum.T.Pavani,
Lecturer in Computer Application
On 28-09-2022
Presented by: K.LEELA CHAKRADHAR, Reg.No.[20202256]
III B.Com(C.A) SEM-V



DEPARTMENT OF COMMERCE
SRR & CVR GOVERNMENT DEGREE COLLEGE VIJAYAWADA

26/09/22
Leela Charkardhary

Data Science:

machince language
Robotic
Artificial Intelligence } phyfthon.
Voice Recognization.

Model 3: } first name of phyfton.
ABC language.

phyfton. → snake. → fast developing language.
1980 → started in.

Phython: History:-

Introduction of phyfton:-

phython is developed in the year 1980's the implementation of phython was started in Dec 1989 By Guido van Rossum in Netherland. In 1994 phython .0 was released with new features like map, filter and Garbage collection of items. It was designed to rectify the undamentals of language.

ABC language,
model 3-
ABC progeramming language

It is procedure of phython language, which was makes exception handling and operating systems

1. phython is widely used in machine language, Artificial intelligence, web development, mobile Applications, Desktop Applications and calculations.

Q

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)
VIJAYAWADA

STUDENT SEMINAR
On

DATA BASE MANAGEMENT SYSTEM

Conducted by: Kum.T.Pavani,
Lecturer in Computer Application
On 20-08-2021

Presented by: V.SRAVANI, Reg.No.[20202302] II B.Com(C.A) SEM-IV



DEPARTMENT OF COMMERCE
SRR & CVR GOVERNMENT DEGREE COLLEGE VIJAYAWADA

V. Sravani

25/09/21

Data base Management :-

DBMS Tutorial provides basic and advanced concepts of Database. Our DBMS Tutorial is designed for beginners and professionals both.

Database management System is software that is used to manage the database.

Our DBMS Tutorial includes all topics of DBMS Such as introduction, ER model, keys, relational model, join operation; SQL, functional dependency, transcration, Concurrency Contr etc.

The database is a collection of inter-related data which is used to retrieve, insert and delete the data efficiently. It is also used to organize the data in the form of a table, Schem views. & reports etc.

- Database Management System is a Software which is used to manage the database. For Example: MySQL, Oracle etc are a very popular Commerical database which is used in different applications.
- It provides protection and Security to the database. In the Case of multiple users, it also maintains data Consistency.

Characteristics of DBMS:

1. It uses a digital repository established on a server to store and manage the information.
2. It can provide a clear and logical view of the process that manipulates data.
3. DBMS contains automatic backup and recovery procedures
4. It contains ACID properties which maintain data in a healthy state in case of failure.
5. It can reduce the complex relationship between data
6. It is used to support manipulation and processing of data
7. It is used to provide security of data.
8. It can view the database from different viewpoints according to the requirements of the ~~user~~.

25/09/21

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) VIJAYAWADA

STUDENT SEMINAR
On

WEB DESIGNING

Conducted by: Kum.T.Pavani,
Lecturer in Computer Application
On 26-09-2021

Presented by:G.SUDHEER BABU, Reg.No.[21202246]
I B.Com(C.A) SEM-II



DEPARTMENT OF COMMERCE

SRR & CVR GOVERNMENT DEGREE COLLEGE VIJAYAWADA

Dt: 26/09/21 G. Sudheerbabu.
I st. B.com CA/BSc. 212022246.

Types of lists in HTML

List : lists may be for something as simple as supplying a piece of information or for providing a straight forward index to the site.

Types : 1. Unordered list
2. ordered list
3. Definition list.

1. unordered list :

Syntax :

< ul type = "disc" or "square" or "circle".

2. Ordered list :

Syntax : < ol type = "1" | "a" | | "A" | | "i" | "i" . start = "n" >.

< li > text < /li >

3. Definition list :

Syntax : < dl > tag - < dl > < /dl >
< dt > tag - < dt > < /dt >
< dd > tag - < dd > < /dd >.

program - 2 :

< html >
< head >

```
</title> DEMO of list </title>
</head>
<body>
<center> <H1> WELCOME TO MAHESH COMPUTERS
</H1> </center>
<HR>
<BR>
<BR>
<h4> LANGUAGES </h4>
<ul>
<li> C canguage </li>
<li> Java </li>
</ul>
<h4> OPERATING SYSTEMS </h4>
<ol>
<li> MSDOS </li>
<li> windows </li>
</ol>
<h4> PACKAGES </h4>
<dl>
<dt> MS - OFFICE </dt>
<dd> these elements are word, excel etc </dd>
<dt> ACCOUNTING PACKAGES </dt>
<dd> these elements are tally, wings etc
</dd>
</dl>
</body>
</html>.
```

5/5 Good.

26/07/24

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) VIJAYAWADA

STUDENT SEMINAR
On

WEB DESIGNING

Conducted by: Kum.T.Pavani,
Lecturer in Computer Application
On 22-06-2021

Presented by:K.SUSHMA SRI, Reg.No.[2120260]
I B.Com(C.A) SEM-I



DEPARTMENT OF COMMERCE

SRR & CVR GOVERNMENT DEGREE COLLEGE VIJAYAWADA

Dt 22/06/24

STUDENT SEMINAR — INFORMATION TECHNOLOGY

K. Sushma
60
I st B.com(CA)/ASee
21202260

Components of MS-word

1. File tab :- When open File tab, it will display the commands like New, Open, Save, Saveas, Print.
2. Quick Acess toolbar :- The default commands which appear on this toolbar are Save, undo, redo.
3. Title bar :- The title bar also contains the three buttons called control buttons. They are minimize. They control your word window.
4. Ribbon :- The Ribbon is positioned at the top of the screen of MS-word window.
5. Tabs :- It includes seven tabs, namely Home, insert, Page layout
6. Groups :- On Each tab buttons are organised into groups.
7. Dialog box launcher :- Dialog box which you can display by clicking the dialog box launcher at the right end of the groups title bar.

Good
22/06/24

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: Ch. Likitha

Class : 1.BSc.(MBF)

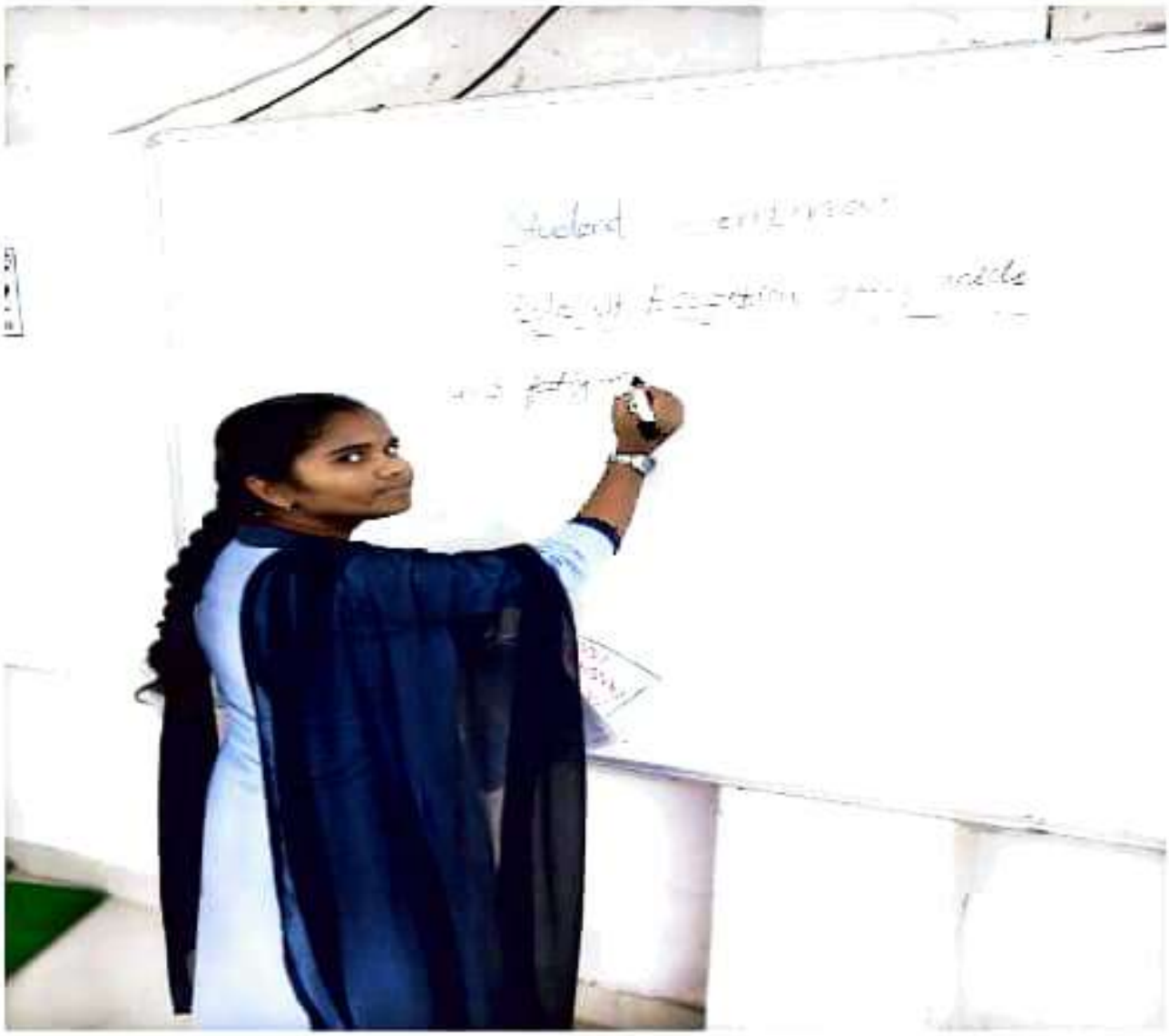
Semester : 1 semester

Regd no : 21315207

Topic : Role of fatty acids

Date of seminar : 11/02/2022

Name of the lecturer: Dr. K. Anu Radha



FOOD TECHNOLOGY ASSIGNMENT

Topic: Role of Essential fatty acids..

Submitted By:

Ch. Likitha

B.Sc (MBF)

1st year

Submitted To:

Anuradha Mam

Food Technology Lecturer

SPR & CVR Degree College

Abstract

During the recent decades, awareness towards the role of essential fatty acids in human health and disease prevention has been unremittingly increasing among people. Fish, fishoils and some vegetable oils are rich sources of essential fatty acids. Many studies have positively correlated essential fatty acids with reduction of cardiovascular morbidity and mortality, infant development, cancer prevention, optimal brain and vision functioning, arthritis, hyper tension, diabetes mellitus and neurological disorders. Beneficial effects may be mediated through several different mechanisms, including alteration in cell membrane composition, gene expression or eicosanoid production.

However, the mechanisms whereby essential fatty acids affect gene expression are complex and involve multiple processes. Further understanding of the molecular aspects of essential fatty acids will be the key to devising novel approaches to the treatment and prevention of many diseases.

Introduction :

There has been significant consumer interest in the health enhancing role of (significant) specific foods & physiologically active food components. Functional foods may be defined as foods or dietary components that may provide significant health benefits in addition to basic nutrition. The term essential fatty acids (EFA) refers to those polyunsaturated fatty acids (PUFA) that must be provided by foods because these cannot be synthesized in the body yet are necessary for health. There are two families of EFA, omega-3 (ω-3) and omega-6 (ω-6).

Omega-3 fatty acids have in common a final carbon-carbon double bond in the ω-3 position i.e., the third bond from the methyl end of the fatty acid whereas ω-6 fatty acids have it in the ω-6 position i.e, the sixth bond from the methyl end of the fatty acid. The importance of ω-3 and ω-6 designation is that n end is never changed during physiological transformation in the human body as it is most stable energetically. The double bonds in these ω-3 fatty acids are in the cis-configuration i.e., the two hydrogen atoms are on the same side of the double bond.

α-Linolenic acid (ALA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) have various properties for which they can be classified as functional foods.

Sources of ALA :

Alpha Linolenic Acid is abundant in flax seeds and is present in small quantities in hemp, walnut, soybean and canola oil. It is mostly found in the chloroplast of green leafy vegetables.

Sources of EPA :

Fish and fish oil are the rich sources of this fatty acid with contents ranging from 39% to 50% for both fresh and salt water fish. EPA is a parent of series 3 eicosanoid hormones.

Sources of DHA :

It is present in fish oil and red brown algae. It is a major brain ω-3 fatty acid and is also found in eye ball (retina). Brain is made up of about 65% fat and out of this 50% is DHA.

Status of ω-3 fatty acids in diet

ALA is very sensitive to destruction by light, oxygen and heat. If not protected, it becomes toxic. It is destroyed five times faster than linoleic acid (LA). Average intake of ω-3 fatty acids has decreased to less than 20% of what was present in common diets 150 years ago. About 95-99% of the population gets ω-3 fatty acids lesser than that required for good health, making ω-3 fatty acids lesser than that

an essential nutrient and therefore the most therapeutic of all the essential nutrients (20 minerals, 14 vitamins, 8-11 amino acids, 2 fatty acids).

The important ω-6 fatty acids and their sources:

Linoleic Acid C18:2 ($\Delta^{9,12}$)

This is abundant in safflower, sunflower and corn; present in medium quantities in soybean, sesame and almonds and in small quantities in canola, peanut and olive oils. It is very low in coconut and palm kernel. The body converts LA into other fatty acids depending upon need.

Gamma-linoleic acid, 18:3 ($\Delta^{6,9,12}$)

It is present in evening primrose oil (7-10%), black current (15-20g/100g), borage (18-26g/100g). It is also present in small amounts in organ meats and in human milk.

Dihomo gamma-linoleic acid C20:3 ($\Delta^{8,11,14}$)

It is synthesized by gamma linoleic acid (GLA).

Status of ω-6 fatty acids:

LA is abundant in the diets of most people. Its intake has been doubled during the past 100 years due to increased use of corn and safflower oils. Diets too high in LA and too low in ω-3 fatty acids may lead to chronic inflammation, hypertension and blood clotting tendency that increase the risk of heart attack and stroke. Increased amount of LA slows down the metabolism of ALA to EPA and DHA by inhibiting Δ^6 desaturase which may also decrease with age. The fatty acids composition of various oils. Average content of linoleic (LA 18:2 n-6) and α-linolenic (ALA 18:3 n-3) acids in oils (Presented).

Metabolism of Omega-6 And Omega-3 fatty acids:

The ω-6 and ω-3 fatty acids when consumed in the diet in the form of triglycerides from various food sources undergo digestion in the small intestine which allows absorption and transport in the blood and subsequent assimilation in the brain, retina, heart and other tissues. These fatty acids can undergo (a) β-oxidation to provide energy in the form of ATP (b) esterification into cellular lipids including triglycerides, cholesterol esters and phospholipids and (c) converted into their important longer chain and more unsaturated products derived by a series of desaturation and elongation reactions.

Omega 3 and trans fatty acid interactions

High trans fatty acids (TFA) intake inhibit the desaturation reactions involved in the conversion of ALA to EPA and subsequently to DHA. For example, a typically Canadian diet contains about TFA: ALA ratio (ω-3) of 6:1 which is similar to the ratio found in canadian breast milk. An inverse correlation has been reported by Elias and Innis between the TFA status of infants and their DHA concentrations in the circulation suggesting possible interfering effects of TFAs on foetal growth and length of gestation.

Essential fatty acid interactions:

The actions of ω-3 and ω-6 fatty acids are characterized by their interactions and cannot be understood separately. Their action is mediated through a series of eicosanoids as discussed.

Synthesis of eicosanoid series from fatty acids and their nomenclature:

Eicosanoids are signaling molecules derived from EFAs. They constitute the major path way by which EFAs act in the body. There are four classes of eicosanoids and two or three series with in each class. In each phospholipid, there are two types of fatty acids.

Mechanism of action of ω-3 fatty acids and GLA in countering the inflammatory effects of arachidonic acid

In the AA cascade, the dietary LA is converted to AA which is esterified into the phospholipids of cell membranes. In response to many inflammatory stimuli, eicosanoids formed from AA bind receptors on the cell. Dietary ω-3 fatty acids and GLA counter the inflammatory effects of AA's eicosanoids by 3 mechanisms namely displacement, competitive inhibition and counteraction.

Displacement:

Animal studies show that increased dietary ω-3 results in decreased AA in brain and other tissues. ALA (18:3 ω-3) contributes to this by displacing LA (18:2 ω-6) from the elongase and desaturase enzymes which are involved in AA synthesis.

Competitive inhibition

DGLA and EPA compete with AA for access to the cyclooxygenase (COX) and lipoxygenase (LOX) enzymes. So, the presence of DGLA and EPA in tissues lowers the output of AA's eicosanoids. For example, dietary GLA increases tissue DGLA and lowers TXB_2. Likewise EPA inhibits the production of series-2 PG and TX.

Conclusion :

Effects of EPA and DHA are mediated through direct interactions in changing the composition of cell membranes and membrane bound function activating or suppressing signaling molecules, interacting directly with DNA as well as with proteins that effect the processing of transcription factors and affecting enzymes activities and vesicular endoplasmic reticulum golgi trafficking. There is a strong need for dietary supplementation of ω-3 fatty acids for reducing risk of cardiovascular morbidity and mortality in the present scenario.

Omega-3 fatty acids may have beneficial effects on heart health and potentially other disease conditions such as cancer, diabetes and neurological disorders. The current food supply offers a wide variety of sources for dietary ALA, EPA and DHA. Sustained innovations and a growing body of scientific evidence to support dietary recommendations for ω-3 fatty acids may help the public to achieve optimal health.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: G. Anil kumar

Class : 1.BSc.(MBF)

Semester : 1 semester

Regd no : 21315202

Topic : vitamin C

Date of seminar : 12/02/2022

Name of the lecturer: Dr. K. Anu Radha



FOOD TECHNOLOGY

ASSIGNMENT

Submitted by:

G. Anil Kumar

MBF

1st year

Submitted To:

Anu Radha mam

Food Technology

Lecture

SRR & CVR GOVT

Degree college

VITAMIN - C

Vitamin c is also known as the ascorbic acid and ascorbate. It is a water soluble vitamin found in citrus and other fruits and vegetables, and also sold as a dietary supplement. It is used to prevent and treat scurvy. Vitamin C is an essential nutrient involved in the repair of tissue, the formation of collagen, and the enzymatic production of certain neurotransmitters. It is required for the functioning of several enzymes and is important for immune system function. It also functions as an antioxidant. Most animals are able to synthesize their own vitamin C. However apes (including humans) and monkeys, most bats, some rodents, and certain other animals must acquire it from dietary sources.

Vitamin C was discovered in 1912, isolated in 1928 and in 1933 was the first vitamin to be chemically produced. It is on the world Health Organization's List of Essential medicines. Vitamin C is available as an inexpensive generic and over-the-counter medication. partly for its discovery Albert Szent-Gyorgyi and walter Norman Haworth were awarded Nobel prize in 1937. Foods containing vitamin C include citrus fruits, kiwifruit, guava, broccoli, Brussels sprouts, bell peppers potatoes and strawberries. prolonged storage or cooking may reduce vitamin C content in foods.

Significance:

Vitamin C is an essential nutrient for certain animals including humans. The term vitamin C encompasses several vitamers that have vitamin C activity in animals. Ascorbates salts such as sodium ascorbate and calcium ascorbate are used in some dietary supplements. These release ascorbate upon digestion Ascorbate and ascorbate acid are both naturally present in the body. since the forms interconvert according to pH. Oxidized form of the molecule such as dehydroascorbic acid are converted back to ascorbic acid by reducing agents.

Vitamin C functions as a cofactor in many enzymatic reactions in animals (including humans) that mediate a variety of essential biological functions. including wound healing and collagen synthesis. In humans, vitamin C deficiency leads to impaired collagen synthesis, contributing to the more severe symptoms of scurvy. Another biochemical role of vitamin C is to act as an antioxidant (a reducing agent) by donating electrons to various enzymatic and non-enzymatic reactions. Doing so converts vitamin C to an oxidized state. either as semidehydroascorbic acid or dehydroascorbic acid. These compounds can be restored to reduced state by glutathione and NADPH dependent enzymatic mechanisms. In plants Vitamin C is a substrate for ascorbate peroxidase. This enzyme utilizes ascorbate to neutralize excess hydrogen peroxide (H_2O_2) and by converting it to water (H_2O) and oxygen.

Deficiency:

Vitamin C blood serum levels are considered saturated at levels $\geq 65\ \mu mol/l$ (1.1 mg/dL) achieved by consuming amounts which are at, or above, the Recommended dietary Allowance while adequate levels are defined as $\geq 50\ \mu mol/L$. Hypovitaminosis in the case of vitamin C is defined as $\leq 23\ \mu mol/L$ and deficiency occurs at $\leq 11.4\ \mu mol/L$. For those 20 years of age or above, data from the U.S 2003-4 NHANES survey showed mean and median serum concentrations of 49.0 and 54.4 $\mu mol/L$ respectively.

Scurvy is a disease resulting from a deficiency of vitamin C. Without this vitamin, collagen made by the body is too unstable to perform its function and several other enzymes in the body do not operate correctly. Scurvy is characterized by spots on and bleeding under the skin, spongy gums, corkscrew, hair growth and poor wound healing. The skin lesions are most abundant on the thighs and legs, and a person with the ailment looks pale feels depressed, and is partially immobilized. In advanced scurvy there are open, suppurating wounds, loss of teeth, bone abnormalities and eventually death.

Early symptoms are malaise and lethargy, progressing to shortness of breath, bone pain, bleeding of gums, susceptibility to bruising, poor wound healing, and finally fever, convulsion and eventual death. Until quite late in the disease the damage is reversable as healthy collagen replace defective

Research on vitamin C in the common cold has been divided into effects on prevention, duration, and severity. A cochrane review which looked at atleast 200 mg/day concluded that vitamin C taken on a regular basis was not effective in prevention of the common cold. Restricting analysis to trials that used at least 1000 mg/day also saw no prevention benefit. However, taking vitamin C on a regular basis did reduce the average duration by 8% in adults and 14% in children, and also reduced severity of colds. A subset of trials in adults reported that supplementation reduced the incidence of colds by half in marathon runners, skiers, or soldiers in subarctic conditions. Another subset of trials looked at therapeutic use, meaning that vitamin C was not started unless the people started to feel the beginnings of a cold. In these, vitamin C did not affect duration of severity. An earlier review stated that vitamin C did not prevent colds, did reduce duration, did not reduce severity. As of April 2021, the National institutes of Health (NIH) COVID-19 treatment guidelines stated that "there are insufficient data to recommend either for or against the use of vitamin C for the prevention of treatment of covid-19. During march through July 2020 vitamin C was the subject of more US FDA warning letters than any other ingredient for prevention and/or treatment of covid-19.

Side effects:

Vitamin C is a water soluble vitamin, with dietary excesses not absorbed, and excesses in the blood rapidly excreted in the urine, so it exhibits remarkable low acute toxicity. more than two to three grams may cause indigestion particularly when taken on an empty stomach. However, taking vitamin c in the form of sodium ascorbate and calcium ascorbate may minimize this effect. Other symptoms reported for large doses include nausea, abdominal cramps and diarrhea. These effects are attributed to the osmotic effects of unabsorbed vitamin C passing through the intestine. In theory, high vitamin c intake may cause excessive absorbtion of iron. A summary of reviews of supplementation in healthy subjects did not report this problem, but left as untested the possibility that individuals with hereditary hemochromatosis might be adversely affected. There is a longstanding belief among the mainstream medical belief community that vitamin C increases risk of kidney stones. Reports of kidney stone formation associated with excess ascorbic acid intake are limited to individuals with renal disease. Reviews state that "data from epidemiological studies do not support an association between excesses ascorbic acid intake and kidney stone formation in apparently healthy individuals. although one large multi-year trial did report a nearly two-fold increase in kidney stones in men who regularly consumed a vitamin C supplement.

Supplements

Vitamin C dietary supplements are available as tablets, capsules drink mix packets, in multi-vitamin/mineral packet formulations in antioxidant formulations and as crystalline powder. Vitamin C is also added to some fruit juices and juice drinks. Tablet and capsule content ranges from 25mg to 1500mg per serving. The most commonly used supplement compounds are ascorbic acid, sodium ascorbate and calcium ascorbate. Vitamin C molecule can also be bound to the fatty acid palmitate creating ascorbyl palmitate, or else incorporated into liposomes.

Food fortification:

In 2014, the canadian food inspection Agency evaluated the effect of fortification of foods with ascorbate in the guidance document Foods to which vitamins, mineral nutrients and amino acids may or must be added. Voluntary and mandatory fortification was described for various classes of foods. Among foods classified for mandatory fortification with vitamin C were fruit-flavored drinks, mixes and concentrates, foods for a low energy diet, meal replacement products, and evaporated milk.

Sources:

The richest natural source of vitamin C are fruits and vegetables The vitamin is the most widely taken dietary supplement. plant sources.

For vitamin C content in ten common staple foods such as corn, rice, and wheat etc...

Diet:

Recommendations for vitamin C intake by adults have been set by various national agencies:

- 40 milligrams per day: India National Institute of Nutrition
- 45 milligrams per day or 300 milligrams per week: The World Health Organisation.
- 90 mg/day (males) and 75 mg/day (females) Health canada 2007.
- 90 mg/day (males) and 75 mg/day (females) United states National Academy of sciences.
- 100 milligrams per day: Japan National Institute of Health and Nutrition.

In 2000 the North American Dietary Refence intake chapter on vitamin C updated the Recommended Dietary Allowance (RDA) to 90 milligrams per day for adult men and 75 mg/day for adult women, and set a Tolerable upper intake level (UL) For adults of 2,000 mg/day The table shows RDAs for the United states and canada for children, and for pregnant and lactating women.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: k. Naga sriya

Class : 1.BSc.(MBF)

Semester : 1 semester

Regd no : 21315203

Topic : Role of essential fatty acids

Date of seminar : 12/02/2022

Name of the lecturer: Dr. K. Anu Radha



FOOD TECHNOLOGY

ASSIGNMENT

Submitted By

Name : K. Naga Sriya

Group : B.Sc (MBF) I^st year

Admission No : 6387

Topic : Role of essential fatty acids

Submitted To

Anuradha Mam

Food Technology lecturer

SRR & CVR Degree college.

Introduction:

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Omega-3 fatty acids have in common on a final carbon-carbon double bond in the ω-3 position i.e., the third bond from the methyl end of the fatty acid whereas ω-6 fatty acids have it in the ω-6 position i.e., the sixth bond from the methyl end of the fatty acid. The importance of ω-3 and ω-6 desig-nation is that n end is never changed during physiological transformation in the human body as it is most stable energetically. The double bonds in these ω-3 fatty acids are in the cis-configuration i.e., the two hydrogen atom are on the same side of the double bond.

α-Linolenic acid (ALA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) have various properties for which they can be classified as functi-onal foods.

Sources of ALA:

Alpha Linolenic Acid is abundant in flax seed and is present in small quantities in hemp, walnut, Soyabean and canola oil. It is mostly found in the chloroplast of green leafy vegetables.

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Fish and fish oil are the rich sources of this fatty acid with contents ranging from 39% to 50% for both fresh and salt water fish. EPA is a parent of series 3 eicosanoid hormones.

Sources of DHA:

It is present in fish oil and red brown algae. It is a major brain ω-3 fatty acid and is also found in eye ball (retina). Brain is made up of about 65% fat and out of this 50% is DHA.

Status of ω-3 fatty acids in diet:

ALA is very sensitive to destruction by light oxygen and heat. If not protected, it becomes toxic. It is destroyed five times faster than linoleic acid (LA). Average intake of ω-3 fatty acids has decreased to less than 2% of what was present in common diets 150 years

ago. About 95-99% of the population gets ω-3 fatty acids lesser than that required for good health, making ω-3 fatty acids lesser than that an essential nutrient and therefore the most therapeutic of all the essential nutrients (20 minerals, 14 vitamins), 8-11 amino acids 2 fatty acids).

The important ω-6 fatty acids and their sources:

Linoleic Acid C18:2 ($\Delta^{9,12}$)

This is abundant in safflower, sunflower and corn; present in medium quantities in soyabean, sesame and almonds and in small quantities in canola peanut and olive oils. It is very low in coconut and palm kernel. The body converts LA into other fatty acids depending upon need.

Gama-linoleic acid, 18:3 ($\Delta^{6,9,12}$)

It is present in evening primrose oil (7-10%) black current (15-20g/100g), borage (18-26g/100g). It is also present in small amounts in organ meats and in human milk.

Dihomo gamma-linoleic acid C 20:3 ($\Delta^{8,11,14}$)

It is synthesized by gamma lenoleic acid (GLA).

Arachidonic acid, C 20:4 ($\Delta^{5,8,11,14}$)

It is found in meat, eggs and dairy products.

Status of ω-6 fatty acids

LA is abundant in the diets of most people. Its intake has been doubled during the past 100years due to increased use of corn and safflower oils. Diets too high in LA and too low in ω-3 fatty acids may lead to chronic inflammation, hypertension and blood clotting tendency that increases the risk of heart attack and stroke. Increased amount of LA slows down the metabolism of ALA to EPA and DHA by inhibiting Δ^6 desaturase which may also decrease with age (Simopoulos 1996). The fatty acid composition of various oils. Average content of linoleic (LA 18:2 n-6) and α-linolenic (ALA 18:3 n-3) acids in oils (g/100 g fat). Presented table is based on the values reported in the literature.

Metabolism of omega-6 and omega-3 fatty acids

The ω-6 and ω-3 fatty acids when consumed in the diet in the form of triglycerides from various food sources undergo digestion in the small intestine which allows absorption and transport in the blood and subsequent assimilation in the body including brain, retina, heart and other tissues. These fatty acids can undergo (a) β-oxidation to provide energy in the form of ATP (b) Esterification into cellular lipids including triglycerides, cholestrol esters and phospholipids and (c) converted into their important longer chain and more unsaturated products derived by a series of desaturation and elongation reactions.

Omega 3 and trans fatty acid interactions

High trans fatty acid (TFA) intake inhibit the desaturation reactions involved in the conversion of ALA to EPA and subsequently to DHA. For example, a typically Canadian diet contains about TFA : ALA ratio(ω-3) of 6:1 which is similar to the ratio found in Canadian breast milk. An inverse correlation has been reported by Elias and Innis between the TFA status of infants and their DHA concentrations in the circulation suggesting possible interfering effects of TFAs on fetal growth and length of gestation.

Essential fatty acid interactions

The actions of ω-3 and ω-6 fatty acids are characterized by their interactions and cannot be understood separately. Their action is mediated through a series of eicosanoids as discussed below.

Synthesis of eicosanoid series from fatty acids and their nomenclature.

Eicosanoids are signaling molecules derived from EFAs. They constitute the major pathway by which EFAs act in the body. There are four classes of eicosanoids and two or three series within each class. In each phospholipid, there are two types of fatty acids. These 20 carbon EFAs and the eicosanoid series derived from them.

Mechanism of action of ω-3 fatty acids and GLA in countering the inflammatory effects of arachidonic acid

In the AA cascade, the dietary LA is converted to AA which is esterified into the phospholipids of cell membranes. In response to many inflammatory stimuli, eicosanoids formed from AA bind receptors on the cell. Dietary ω-3 fatty acids and GLA counter the inflammatory effects of AA's eicosanoids by three mechanisms namely displacement, competitive inhibition and counter-action.

Displacement

Animal studies show that increased dietary ω-3 results in decreased AA in brain and other tissues. ALA (18:3 ω-3) contributes to this by displacing LA (18:2 ω-6) from the elongase and desaturase enzymes which are involved in AA synthesis However, this effect is not so strong, the desaturase has a higher affinity for ALA than LA (Phinney et al. 1990).

Competitive inhibition

DGLA and EPA compete with AA for access to the cyclooxygenase (COX) and lipoxygenase (LOX) enzymes. So, the presence of DGLA and EPA in tissues lowers the output of AA's eicosanoids. For example, dietary GLA increases tissue DGLA and lowers TXB_2. Likewise EPA inhibits the production of series-2 PG and TX.

Conclusion :

Effects of EPA and DHA are mediated through direct interactions in changing the composition of cell membranes and membrane bound function activating or suppressing signaling molecules, interacting directly with DNA as well as with proteins that effect the processing of transcription factors and affecting enzyme activities and vesicular endoplasmic reticulum Golgi trafficking. There is a strong need for dietary supplementation of ω-3 fatty acids for reducing risk of cardiovascular morbidity and mortality in the present scenario. omega-3 fatty acids may have beneficial effects on heart health and potentially other disease conditions such as cancer, diabetes, and neurological disorders. people at special stages in the life cycle, such as pregnant / lactating women, infants and children may also benefit from consuming ω-3 fatty acids in adequate amounts. the current food supply offers a wide variety of sources for dietary ALA, EPA, and DHA. Sustained innovations and a growing body of scientific evidence to support dietary recommendations for ω-3 fatty acids may help the public to achieve optimal health.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Gummadi Rajesh

Class :- 1st BSC [MBF]

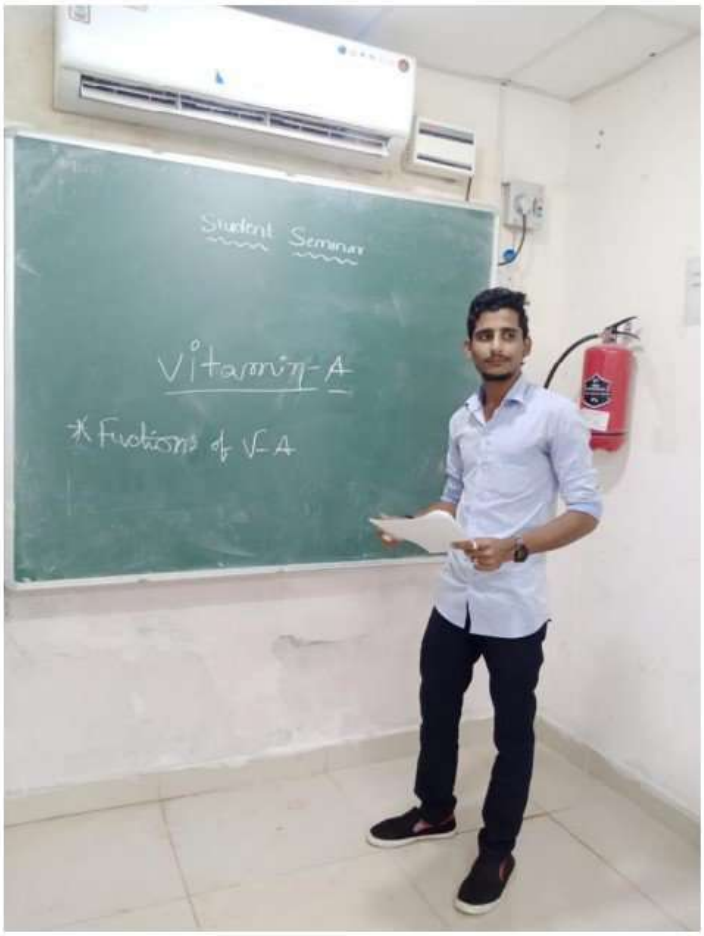
Semister :- 1 St semester

Regd No :- 21315224

Topic :- vitamin -,A

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr. Anurada mam



A STUDY PROJECT ON

TOPIC:- Vitamin - A



S.R.R & C.V.R Government Degree College (A)
VIJAYAWADA – 520004

Department of

Food Technology

Submitted by

G. Rajesh
MBF (1st year)
SRR & College.

Vitamin - A

Vitamin A is the generic name given to a group of compounds having vitamin A activity.
These compounds are retinol, retinal, retinoic acid. They are found only in the fatty phases of foods of animal origin. plant food contain "yellow, Orange and red" coloured pigments called Carotene which gives colours to vegitables and fruits.
Carotene is Synthesized by plants and the Carotene pigment are converted to vitamin A in the body.
Carotene is a provitamine or precursor vitamin A.
Carotene is Synthesised the plants and Ultimate Source of all vitamin A

pure vitamin A is a pale yellow Crystalline Compound occuring naturally in the animal Kingdom. It is Soluble in fat insoluble in water and relative stable to heat, acids, and alkalis. It is Easily oxidized and rapidly destroyed by Ultraviolet rays.

fuctions of Vitamin A :-

* Vitamin A maintains normal vision in dim light.
* Rhodopsin or Visual purple is present in the retina of the eye.
* It is required for vision in dim light. it is formed when vitamin A Combines with protein opsin. In bright light

protein opsin and retinal. Every time rhodopsin [illegible] some retinal is lost.

* In dim light or darkness, retinal and opsin re-combine rapidly to form rhodopsin provided there is an adequate supply of vitamin A. if there is a deficiency of vitamin A, the regeneration is slow and the person's eyes fail to adapt to changes in light quickly.
* Vitamin A is required for normal bone and tooth development and proper growth.
* It helps the bodys to fight against infections by keeping mucous membranes in a healthy condition which act as a barrier to infection.

⇒ Dietary Sources of Vitamin A :-

→ Animal foods, such as whole milk products, eggs yolk, oily fish, fish-liver oil, Organ meat, butter, Cream and Clarified or pure ghee, are rich Source.

⇒ Sources of Carotene :-

All yellow, Orange and red as whole milk product, eggs yolk, oily fish, fish-liver oil fruits and vegitables such as Carrots, pumpkin, mango, papaya, peaches and apricots and all green leafly vegitables such as fenugreek leaves, Spinach, Colocasia leaves, amaranth, Curry leaves, and turnip greens are rich Sources of pro Vitamin

⇒ Clinical Manifestation of Deficiency and Excess :-

⇒ Deficiency :- 1. Night blindness
2. Epithelial changes
3. changes in the eyes.

① Night blindness :- It is one of the earliest signs of vitamin A deficiency. In this condition, an individual is unable to see well in dim light, especially after coming from a brightly lit area. This happens because there is insufficient vitamin A to bring about quick formation of rhodopsin.

② Epithelia changes :- the epithelium becomes dry, scaly and rough. Goose pimples are seen on upper forearms and thighs.

③ Changes in the Eyes :-
→ Eye ball becomes dry and lustreless (Red lines)
→ Bitot Spots are seen on Conjunctiva
→ photophobia or Sensitive to bright light is observed.
→ Xeroptholmia : Cornea becomes dry and inflamed.
→ If not treated it leads to Keratomalacia.
→ Keratomalacia or Softening of the Cornea and permanent blindness results.

④ Bone development :- Growth failure

Vitamin "A" requirments :-

Physiological group	Body weight (Kg)
Adult - Male	65
Adult - female	55
Pregnant	55.0 + GWG
Lactating	55.0
Infants (0-6m)	5.8
Infants (6-12m)	8.5
Children (1-3y)	12.9
Children (3-6y	18.3
Children (7-9y)	25.3
Boys (10-12y)	34.9
Girls (10-12y)	36.4
Boys (13-15y)	50.5
Girls (13-15y)	49.6
Boys (16-18y)	64.4
Girls (16-18y)	55.7

SRR & CVR GOVT. DEGREE COLLEGE(A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: TAMMISETTI.GOPI

Class : 1 BSc (MBF)

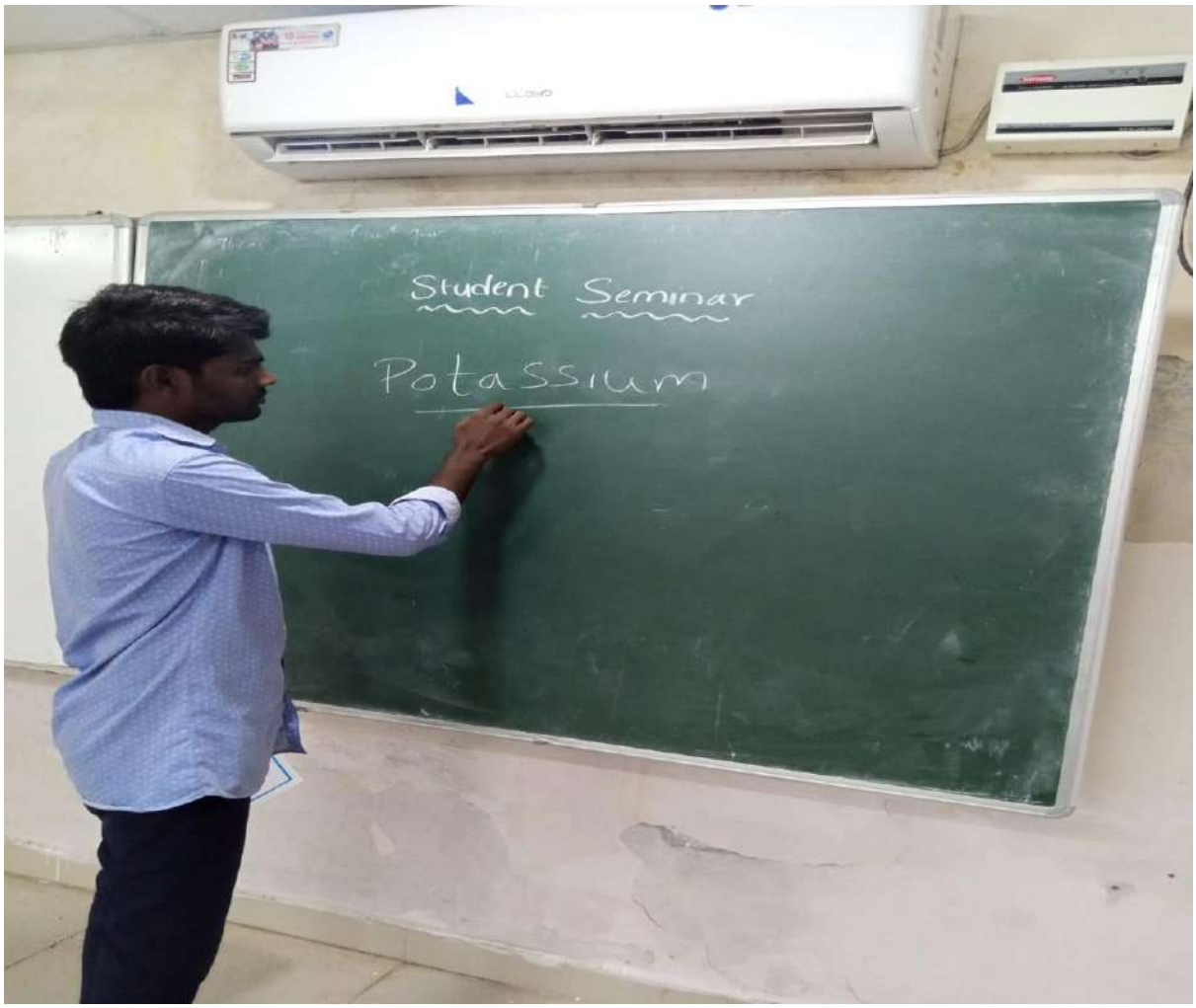
Semester : 1 Semester

Regd no : 21315223

Topic : POTASSIUM

Date of seminar : 12/02/2022

Name of the lecturer: Dr.K.Anu Radha



FOOD TECHNOLOGY

ASSIGNMENT

Topic :- Potassium

Submitted By :-

T. Gopi

B.Sc (MBF)

1st year

Submitted To :-

Anuradha Mam

Food Technology Lecturer

SRR & CVR Govt. Degree. college.

ssss

POTASSIUM

Potassium is a mineral found in the foods you eat. It's also an electrolyte.

Electrolytes conduct electrical impulses through the body. They assist in a range of essential body functions, including:-

* Blood pressure
* normal water balance
* muscle contractions
* nerve impulses
* digestion
* heart rhythm
* pH balance (acidity and alkalinity)

Your body doesn't produce potassium naturally. So, it's important to consume the right balance of potassium-rich foods and beverages.

* Consuming too little potassium can lead to serious health issues. However, taking in too much can cause temporary or long term health problems.

Healthy kidneys maintain normal potassium levels in the body because they remove excess amounts through urine.

Sources of Potassium :-

The most common source of potassium is from food. Potassium-rich source include;

* Fruits, such as apricots, bananas, kiwi, oranges etc.
* Vegetables, such as leafy greens, carrots and potatoes.
* lean meats
* whole grains
* beans and nuts.

Most people get enough potassium by eating a balanced diet. For low potassium levels, a doctor may prescribe the mineral in supplement form. If you have a severe deficiency, you may need intravenous (IV) treatment.

Potassium deficiency :-

Certain conditions can cause potassium deficiencies, or hypokalemia. These include

- Kidney disease
- Overuse of diuretics
- Excessive sweating, diarrhea, and vomiting
- magnesium deficiency
- Use of antibiotics, such as carbenicillin & penicillin.

The symptoms of hypokalemia are different depending on how severe your deficiency is.

A temporary decreases in potassium may not cause any symptoms. For example, if you sweat a lot from a hard workout, your potassium levels may normalize after eating a meal or drinking electrolytes before any damage is done.

* However, Severe deficiencies can be life threatening.

Signs of a potassium deficiency include:-

- Extreme fatigue
- muscle spasms, weakness or cramping.

- Irregular heartbeat
- constipation, nausea, Vomiting

Hypokalemia is usually diagnosed with a blood test your doctor may also order an electrocardiogram of your heart and an arterial blood gas test to measure pH levels in your body.

Potassium overdose :-

Too much potassium can cause hyperkalemia. This is rare in people who eat balanced diets. Risk factors for overdose include:

- taking too many potassium supplements
- kidney disease
- Prolonged exercise
- cocaine use
- Potassium-conserving diuretics
- Chemotherapy
- diabetes
- Severe burns.

The most obvious symptom of too much potassium is an abnormal heartbeat (arrhythmia). Severe cases can lead to death.

People with mild cases of high potassium rarely have noticeable symptoms. Your doctor should order occasional blood work if you have any risk factors

Treating imbalanced potassium levels:

There are different treatments for imbalanced potassium levels that depend on if your levels are too high or too low.

Hypokalemia (Low):

Potassium supplements are usually the first course of action for levels that are too low. Supplements are mostly effective if your kidneys are in good shape.

Severe hypokalemia may require IV treatment, especially if youre experiencing an abnormal heart beat.

Potassium-sparing diuretics can rid the body of excess sodium. This will help normalize

electrolyte levels. But, Some diuretics and potassium supplements can be harsh on the digestive tract.

Ask a doctor for wax-coated pills to help prevent digestive issues. Only people with normal kidney function can use potassium-sparing diuretics.

Hyperkalemia (high) :-

Mild cases of hyperkalemia can be treated with prescription medications that increase potassium excretion. Other methods include diuretics or anema.

Severe cases may require more complex treatments. Kidney dialysis can remove potassium. This treatment is the preferred for cases of kidney failure.

For people with healthy kidneys, a doctor might recommend insulin and glucose. These help to transport potassium from the blood to cells for removal.

An albuterol inhaler can also lower dangerously high levels. Calcium gluconate may be used temporarily to stabilize the heart and reduce the risk of serious heart complications from hyperkalemia.

The Outlook for imbalanced potassium levels:-

Changes in body potassium may not be a concern if you don't have risk factors. Healthy kidneys are often enough to regulate body potassium.

Medical conditions that affect levels should be monitored regularly. Call your doctor if you experience any unusual symptoms.

SRR & CVR GOVERNMENT DEGREE COLLEGE(A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- AREPALLI UPENDRA

Class :- 1st year

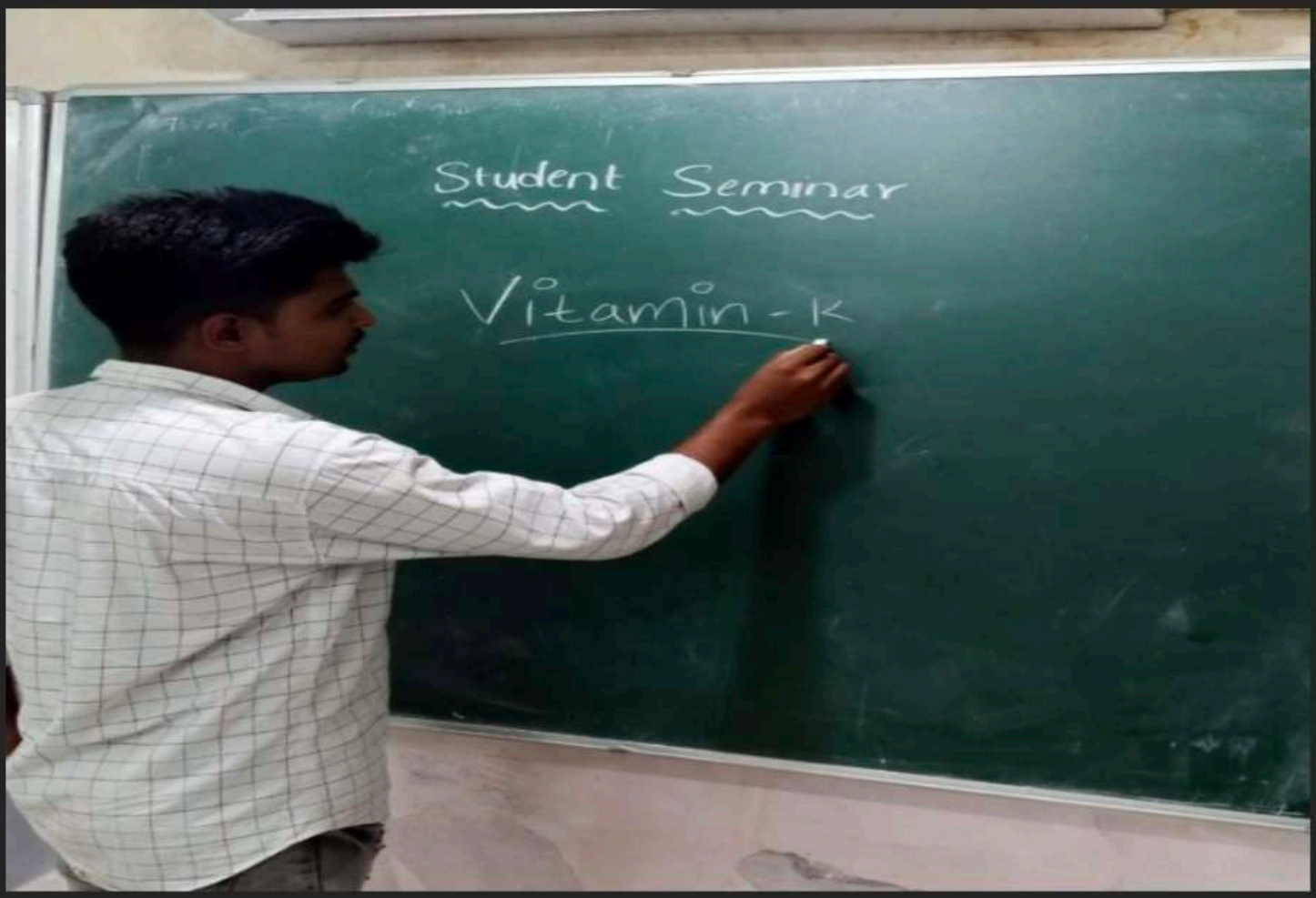
Semester :- 1st semester

Regd no :- 21315205

Topic :- VITAMIN -k

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr. K. Anu Radha



FOOD TECHNOLOGY

ASSIGNMENT

Topic :- Vitamin - k

Submitted By :-

A. Upendra

B.SC (MBF)

I Year

Submitted TO :-

Anuradha mam

Food Technology Lecturer

SRR & CVR Govt Degree. college

Vitamin - K

Introduction :-

Vitamin K refers to a group of fat soluble vitamins that play a role in blood clotting, bone metabolism, and regulating blood calcium levels. The body needs vitamins K to produce pro-thrombin, a protein and clotting factor that is important in blood clotting and bone metabolism.

Vitamin K comes in two forms;

* Vitamin K1, or phylloquinone, which occurs in leafy green vegetables such as spinach and kale.
* Vitamin K2 or menaquinone, which occurs in animal-based foods, including butter and egg yolks, and fermented foods such as kefir. The intestine also creates some of this vitamin.

Both vitamin K_1 and vitamin K_2 produce proteins that help the blood clot. Blood clotting or coagulation prevents excessive bleeding internally and externally.

If a person has a vitamin K deficiency, that means the person's body cannot produce enough of these proteins, increasing the risk of excessive bleeding.

Most adults obtain an adequate supply of vitamin K through the foods they eat and through what their body naturally produces

Certain medications and medical conditions can reduce vitamin K production and inhibit absorption, meaning adults can become deficient.

Vitamin K deficiency is much more likely to occur in infants. When it does, it is known as vitamin K deficiency bleeding.

Deficiency Disease :-

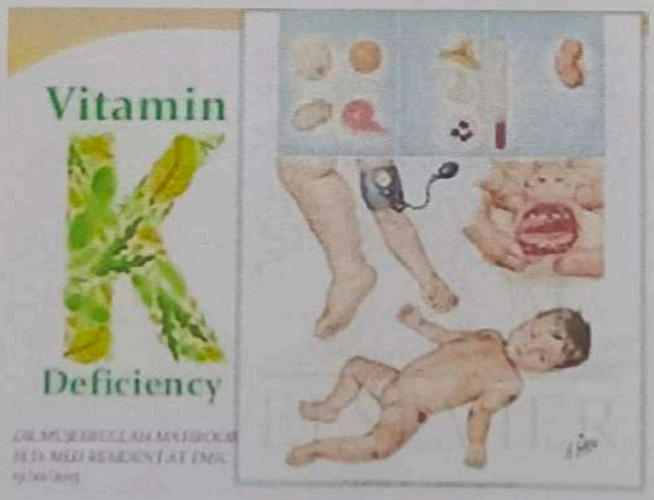
Vitamin K deficiency can contribute to significant bleeding, poor bone development, osteoporosis, and increased risk of cardiovascular disease. Vitamin K Deficiency Bleeding in new borns can be separated into three categories based on the timing of the presentation.

Symptoms :-

The main symptom of vitamin K deficiency is excessive bleeding. Keep in mind that bleeding may happen in areas other than at a cut or wound site. The bleeding may also be apparent if someone:

* bruises easily
* Gets small blood cuts underneath their nails


VITAMIN K DEFICIENCY


Vitamin
K
Deficiency

* bleeds in mucous membranes that line areas inside the body.
* produces stool that looks dark black (almost like tar) and contains some blood

In infants, doctors may observe vitamin K deficiency if there is:

* bleeding from the area where the umbilical cord is removed
* bleeding in the skin, nose, the gastrointestinal tract, or other areas
* bleeding at the penis if the baby has been circumside
* sudden bleeding in the brain, which is extremely dangerous and life threatening.

Sources :-

vitamin K is an essential vitamin that supports blood clotting and healthy bones It occurs in two forms, K-1 and K-2 vitamin K-1 is the primary form, and it mainly comes from leafy green vegetables

Vitamin K-2 occurs in animal proteins and fermented foods.

→ several foods are rich in vitamin K-1 and vitamin K-2 in much less common. Bacteria in the gut can convert some K-1 into K-2.

→ fermented foods are a good source of vitamin K-2.

Also, because it is fat-soluble, organ meats and high-fat dairy products contain fairly substantial quantities of vitamin K-2.

conversely, lean meats, such as poultry are not good sources of K-2.

Dietary sources of vitamin K-1 includes:

dark leafy green vegetables, such as spinach, kale and collards

→ lettuce
→ turnips
→ broccoli
→ carrots
→ vegetable oils
→ blue berries



Dietary sources of vitamin K-2 include:

Natto, a traditional Japanese dish of fermented soybeans

Sauerkraut

dairy products, especially hard cheeses

liver and other organ meats

beef

egg yolks

chicken

fatty fish, such as salmon

prevention of Deficiency disease:-

Vitamin K is used to prevent and treat certain blood clotting (coagulation) issues. It's also used to prevent severe bleeding (hemorrhagic disease) in new borns. Vitamin K may be used in causes of ongoing IV feeding. It may also be used when antibiotics have killed bacteria in the intestines that makes Vitamin K.

conclusion:-

Vitamin K has a plethora of potential implications, including prevention and treatment of arterial calcifications, coronary heart disease and cancer, improvements in bone strength and reduced risks of fractures as well as improvements in insulin sensitivity.

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VIJAYAWADA

STUDENT SEMINAR

Name of the student :- MALLIKARJUNA YASAMW

Class :- 1st BSC [MBF]

Semister :- 1st semester

Regd No :- 21315226

Topic :- MICRO NUTRIENT ZINC

Date of seminar :- 08-02-2022

Name of the lecturer :- Dr. ANURADHA MAM





Food Technology Assignment

Submitted by: Y. Mallikarjuna

Submitted to : Anuradha mam

Topic : Zinc.

ZINC

INTRODUCTION

Zinc is an essencial micronutsient for animal & human health. Adequate intake of zinc has been found necessary to enhace physical growth & decrease morbidity and mortality among children. Supplementation with Zn was found to Reduce frequency and severity of infections like diarrhoea, pneumonia, and mortality. It is estimated that globally 2 billion people are at risk of zinc deficiency. Zinc supplimentation has been shows to improve linear growth in stunted growth underweight children at young age, but its impactin low and middle-income settings remains uncertain. WHO/UNICEF recommends zinc supplimentation during diarrhoeal infection and for treatment of severe malautrition. Zinc is considered a type 2 nutsient whose deficiency leads to conservation of nutsient in the body at the expense of growth, and thus clinical symptoms such as reduced growth precedes the decline in blood zinc levels.

Zinc Homeostasis

Zinc is ubiquitously present in all tissues. With highest levels found in muscle and bone followed by liver. The whole body zinc content is stable over a wide range of dietary zinc intakes including efficient homeostatic mechanisms Homeostaticregulation of zinc metabolism is orchestrated through increased absorption during deficiency and excretion during repletion. Zinc opsorption & excretion in the gastrointerstainal tract are the primary mechanisms for maintaining zinc hemostatis. Zinc absorption takesplace throughout the small intestaine with

the highest rate of absorption occuring in the jejunum, but duodenum contributes to the maximal zinc absorption owing to its exposure to higher zinc concentration after a meal. Thereafter, excess endogenous zinc can be secreted into the intestine through pancreatic juice and excreted in faeces. The balance of intestinal absorption and endogenous loses of zinc through faeces are these two important pathways that regulates the zinc homeostasis.

In addition to the active intestinal excretion, zinc is also excreted through sweat, urine, hair, seminal fluid and menstrual cycle. Systemic zinc repletion/Depletion studies in humans demonstrated that faecial zinc excretion increases as a function of dietary zinc intake and/or absorbed zinc but be losses in urine & sweat remained constant over a wide range of zinc intakes. Therefore, entero-pancreatic axis is the major pathway of zinc excretion, and regulates the whole-body zinc homeostasis.

Losses of zinc:

Urinary zinc losses: The urinary loss of men was 614±238 µg/day for men and 443±282 µg/day. Except under severe depletion, both sweat and urinary zinc losses are found to be constant, and thus these values are considered dietary for the purpose of factorial computation.

Sweat zinc losses: Two studies reported the sweat zinc losses for men 442±190 µg/day and 163.42±39.41 µg/day. The pooled mean ± SD sweat loss for men was 275±122 µg/day However, no data on sweat loss of zinc for women could be found, therefore, it is derived by dividing the men sweat loss with a factor of 0.86 to account for difference in surface area. and amounts to 236±104 µg/day.

Seminal zinc loss: The seminal zinc loss 630±540 µg/day, 139.91±103 µg/day and 111±104 µg/day.

Menstrual loss: Zinc loss through the menstrual fluid is 5 µg zinc loss per day.

PHYSIOLOGICAL FUNCTIONS OF ZINC

Biochemical functions:

- Cofactor for enzymes
- Activity of zinc fingerproteins

Cellular functions:

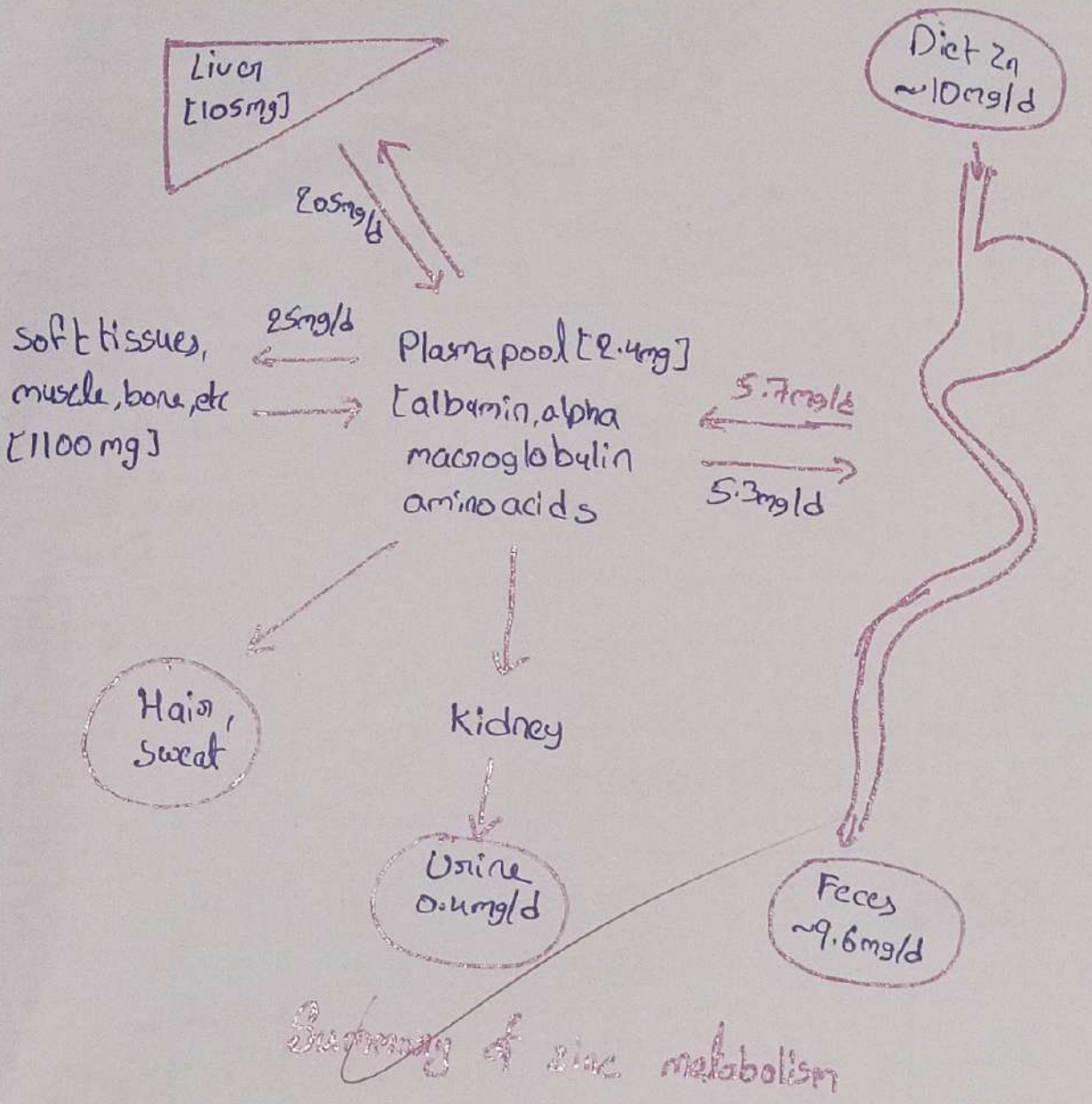
- Growth & cell development
- Cellmembrane integrity
- Tissue growth & Repair
- Wound healing

Endocrinological functions:

- Reproduction: spermatogenesis
- Thyroid function
- Pancreatic function - Insulin storage & Release
- Prolactin secretion
- Thymopoetin synthesis.

Neurological function:

- Cognition
- Memory
- Taste



Sources:

Oysters are very good sources of zinc cereals, pulses, nuts and oil seeds, vegtables and fruits are fair sources. The zinc present in animal foods are well absorbed while zinc present in cereals, pulses, nuts & oilseeds are poorly absorbed due to the presence of phytates which interfere in its absorption.

Zinc requirements:

Category/Age		Body Weight [kg]a	Physiological zinc requirement [mg/day]	Absorption assumed [%]	ICMR2020 [mg/day]	
					EAR	RDA
Men		65	3.25	23	14.1	17
Women		55	2.53	23	11.0	13.2
Pregnant women		55	3.0	25	12.0	14.5
Lactating women [0-6m]		55	3.53	30	11.8	14.1
Infants						
[0-6m]		5.8	-	-	-	-
6-12m		8.5	0.486	23	2.1	2.5
Children						
1-3y		12.9	0.64	23	2.8	3.3
4-6y		18.3	0.85	23	3.7	4.5
7-9y		25.3	1.13	23	4.9	5.9
Adolscents						
Boys	10-12y	34.9	1.62	23	7.0	8.5
Girls	10-12y	36.4	1.64	23	7.1	8.5
Boys	13-15y	50.5	2.75	23	11.9	14.3
Girls	13-15y	49.6	2.46	23	10.7	12.8
Boys	16-18y	64.4	3.38	23	14.7	17.6
Girls	16-18y	55.7	2.72	23	11.8	14.2

Zinc excess

Brain
- lethargy
- focal neuronal deficits

Respiratory tract
- Respiratory disorder after inhalation of zinc smoke
- Metal fume fever

Gastrointestinal tract
- nausea / vomiting
- epigastric pain
- diarrhea

Prostate
- Elevated risk of prostate cancer.

Synthetic symptoms
- Copper deficiency & sequelae
- Altered lymphocyte function

Zinc deficiency

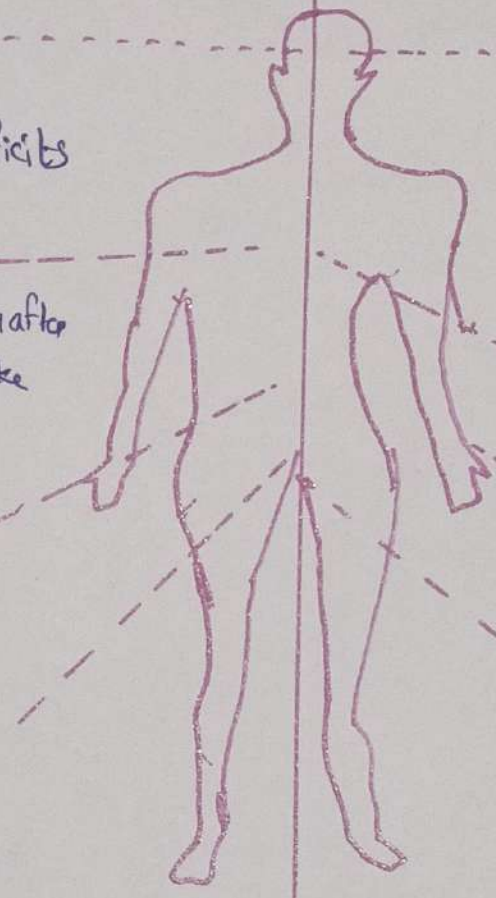
Brain
- Decreased nerve conduction
- Neuropsychiatric disorders
- Neurosensory disorders
- Mental lethargy

Thymus
- Thymic atrophy

Skin
- Skin lesions
- Decreased wound healing
- Acrodermatitis

Reproductive system
- Infertility
- Retarded genital development
- Hypogonadism

Synthetic symptoms.
- Growth retardation
- Immune dysfunction and infection



SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- G Taraka Anjaneyulu

Class :- 1st BSC [MBF]

Semister :- 1st semester

Regd No :- 21315218

Topic :- Probiotics

Date of seminar :- 12/02/2022

Name of the lecturer :- Dr.k.Ak.Anu Radha



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FOOD TEACHNOLOGY
ASSIGNMENT

G. Tavaka Anjaneyulu
BSc MBF
1st Year

PROBIOTICS

Probiotics are made of good live bacteria and yeats that naturally live in your body you constantly have both good and bad bacteria in your body when you get an infeaction there's more bad bacteria knocking your system out of balance. Good bacteria helps elumination bactia bad bacteria, returing the balance. Probiotics, retuing supplements are a way to add good bacteria to your body.

Probiotics are part of a larger picture concerning bacteria and your body your microbiome. Think of a microbiome as a diverse community of organisms, such as a forest, that work together to keep our body healthy. This community you have trillions of microbes on and in your body

* Bacteria
* fungi
* Viruses
* Protozoa

Everyone's microbiome is unique. No two people have the same microbial cells. even twins are different.

For a microbe to be called a probiotic it must have Dernal characteris. These includes

* Be isolated from a human
* Survive in your intestine after ingestion
* Have a proven benefits to you
* Be Safely Consumed

The main job for probiotics or good bacteria is to maintain a healthy balance in your body Think of it as Keeping your body in neutral when you are sick, bad bacterial enters your body and increses in number. This knoks your body out of balance. Good bacteria works to fight of the bad bacteria and restore the balance within your body, making you feel better.

* Diarrhea from clostridoides
* Constipation
* Gum diseases
* Lactose intolerance
* urinary tract infections

PROBIOTICS NEWS AND RESEARCH

* Gut Microbiome modulation induces behavioral cognitive changes in Alzhimer's disease model

✓14 Feb 2022

* High-fiber diet helps melanoma patients to respond better to immunotherapy

✓3 Jan 2022

* UC researchers engineer new probiotic to target and break down cancer cell defenses

✓2 Dec 2021

* Microbiome discovery may help improve treatment for patients with gastrointentinal diseases

✓21 Nov 2021

* Researchers develop oregineered yeast probiotic for treatment of inflammatory bowel disease

✓6 Jun 2021

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VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Gujjarlapudi.Praneeth

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315201

Topic :- vitamin --D

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr.K . Anuradha



FOOD TECHNOLOGY ASSIGNMENT

Submitted by :- G.P.Dhoot
Submitted To :- Asha Mam
TOPIC :- Vitamin-D

VITAMIN - D

Basic Description

→ Vitamin D refers to a group of fat soluble secto steroids.

→ Most important Compounds in this group are.

* Vitamin d_3 - Cholecalciterol.
* Vitamin D_2 - ergocalciterol.

→ Synthesis of vitamin D in the skin is the major natural source of the vitamin.

→ Vitamine D from the diet or dermal synthesis from sunlight is biologically inactive; activation requires enzymatic conversion in the liver and kidney.

→ In the liver, cholecalciterol (vitamin D_3) is converted to Calcidiol, which is known as Calcitediol.

→ Ergo Calciterol (vitamin D_2) is Converted in the liver to 25- hydroxyergo calciterol.

Types:

1. Vitamin D_1
2. Vitamin D_2 - Ergo Calciterol.
3. Vitamin D_3 - Chole Calciterol.
4. Vitamin D_4 - 22 - dihydroergoCalciterol.
5. Vitamin D_5 - Sitocalciterol.

Sources

* Major Surcose Synthesis in the Skin ultraviolet B wavelength (290-315nm)
* Vitamin D_3 exists naturally in Animal products and the richest sources are Fish liver Oils
* Vitamin D_2 ergocalciterol is obtained from plant sources and is the chemical form found in some supplements.
* Human milk and unfortified Cows milk tend to be poor sources of Vitamin D_3, providing Only 0.4 to 1 mcg/L

Absorption, Transport and Storage

Vit D + other lipids

↓

Micelle

↓

Incorporated into Chylomicrons

↓

plasma

↓

Chylomicron remnants or DBP

↙ Liver

↘ peripheral tissue.

Clinical Features

⇒ Muscular Weakness and bone tenderness.

⇒ Greater risk of fractures, particularly of the wrist and pelvis.

Prevention

Possible with Adequate Consumption of Vitamin D

Toxicity

⇒ Infants And Small Children are most Susceptible to hypervitaminosis D.

⇒ The UL for vitamin D is 25 mcg (1000 IU)/day for Infants and 50 mcg (2000 IU) for Children and adults.

Signs of Vitamin-D Toxicity

* Excessive Calcification of bone
* kidney stones.
* Metastatic Calcification of soft tissues. (kidney, heart, lung, and tympanic membrane)
* HyperCalcemia
* Headache
* Weakness
* Nausea and vomiting
* polyuria
* polydipsia.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- R.Akshitha

Class :- 1st BSC [MBF]

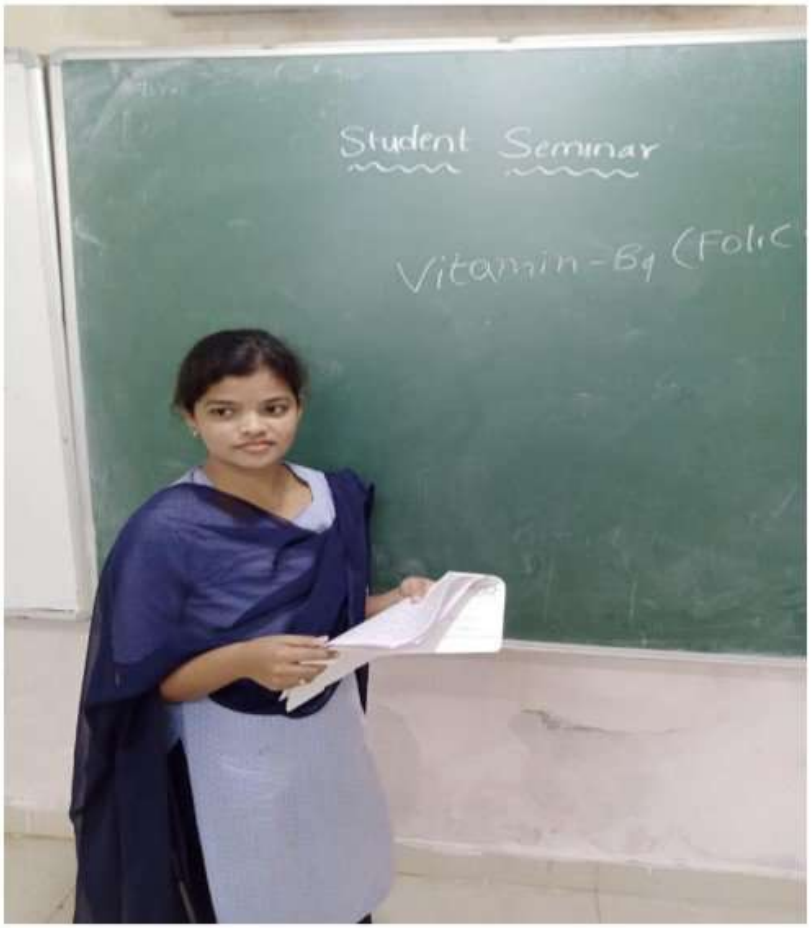
Semister :- 1nd semester

Regd No :- 21315221

Topic :- Vitamin -9

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr. Anurada (mam)



FOOD Technology

Assignment

Submitted by : R. Akshitha

Submitted to : Anuradha ma'am

Topic : Folic Acid (Vit B9)

VITAMIN B9 (FOLIC acid)

Vitamin B9, also called folate or folic acid, is one of 8B Vitamins. All B Vitamins help the body convert food into fuel which is used to produce energy. These B Vitamins, often referred to as B-complex Vitamins, also help the body use fats and Protein. B-complex Vitamins are needed for a healthy liver and healthy skin, hair and eyes. They also help the nervous system function properly. Folic acid is the synthetic form of B9, found in supplements and fortified foods and naturally in foods.

All the B-Vitamins are water Soluble, meaning the body does not store them.

Folic acid is crucial for proper brain function and Plays important role in mental and emotional health. It aids in the production of DNA and RNA, the body's genetic material, and especially

Folate and Folic content of Selected foods

Food	Micrograms DFE Per serving	Percent DV
Beef liver, braised 3 ounces	215	54
Spinach, boiled, 1/2 cup	131	33
Black-eyed peas, boiled 1/2 cup	105	26
Breakfast cereals, fortified	100	25
Rice, white, medium-grain, cooked	90	22
Asparagus, boiled 4 spears	89	22
Brussels sprouts, frozen, boiled	78	20
Spaghetti, cooked, enriched 1/2 cup	74	19
Avocado, raw sliced, 1/2 cup	59	15
Spinach, raw 1 cup	58	15
Bread, white, 1 slice	50	13
Green peas, frozen boiled 1/2 cup	47	12
Orange juice, 3/4 cup	35	9
Egg, whole hard boiled	22	6
Fish, cooked, 3 ounces	12	3
Milk, 1% fat 1 cup	12	3
Chicken breast, roasted, 3 ounces	3	1

important when cell and tissues are growing rapidly, such as in infancy, adolescence and Pregnancy. Folic acid also works closely with Vitamin B_{12} to help make red blood cells and help iron work properly in the body.

Folic acid deficiency can cause :-

* Poor growth
* Tongue inflammation
* Gingivitis
* Loss of appetite
* Shortness of breath
* Diarrhea
* Irritability
* Forgetfulness
* Mental Sluggishness

Pregnant women need more folic acid to lower the risk of neural tube birth defects, including Cleft Palate, Spina bifida, and brain damage. Folic acid has been added to many grain foods in the U.S, such as bread and cereal neural tube defects have decreased dramatically.

Birth defects.-

As mentioned, Pregnant women who do not get enough folic acid are more likely to have children with birth defects. Pregnant women should get "600mcg of folic acid per day". women who plan to become Pregnant should make sure to get the recommended "400 mcg per day" since many neural tube defects can happen shortly after conception and before a women even knows she is pregnant.

Studies show that women who take folic acid supplements before conception and during the first trimester may reduce their risk of having children with "neural tube defects by 72 to 100%". Folic acid may also help prevent miscarriage, although the evidence is not clear. And some research suggests that low folate levels during Pregnancy is associated with high risk of emotional Problems

Heart Disease:-

Folate may help protect the heart through several methods. First, there is some evidence that getting enough folic acid in your diet can reduce your risk of heart disease, although this evidence is based on population studies. Also many studies suggest that people with high levels of the amino acid homocysteine are roughly 1.7 times more likely to develop coronary artery diseases, and 2.5 times more likely to have a stroke than normal levels.

Most people who are concerned about heart disease should focus on getting B vit from healthy foods.

Age-related hearing loss:-

One study suggests that folic acid supplements help slow the progression of age related hearing loss in elderly people with high homocysteine levels and low folate in their diet. It is not known whether healthy seniors would benefit.

Eye- related macular degeneration (AMD)

One large study found that women who took "2,500 mcg of folic acid" along with "500 mg of Vit B_6" and "1,000 mcg of cyanocobalamin" daily reduced their risk of developing AMD, an eye disease that can cause vision loss

Depression:-

The evidence about whether folic acid can help relieve depression is mixed. Some studies show that 15 to 38% of people with depression have low folate levels in their bodies, and those with very low levels tend to be most depressed.

Cancer:-

Folic acid is the diet seems to protect against the development of some forms of cancer, including:-

* Colon cancer
* Breast cancer
* Cervical cancer
* Pancreatic cancer
* Stomach cancer

Low dietary intake of folate may increase the risk of developing breast cancer particularly for women who take alcohol. Regular use of alcohol, more than 1 1/2 to 2 glasses per day is associated with higher risk of breast cancer

Dietary sources:-

* Spinach
* Dark leafy greens
* Asparagus
* Turnips
* Beets
* Mustard greens
* Soya beans
* Beef liver
* Root vegetables
* Wheat germ
* Orange juice
* Milk

In addition, all grain and cereal products in the U.S are fortified with folic acid.

Daily recommendations for dietary folic acid are:-

Pediatric:-

* Infants, 0 to 6 months : 65 mcg
* Infants, 7 to 12 months : 80 mcg
* Children, 1 to 3 years : 150 mcg (RDA)
* Children, 9 to 13 years : 300 mcg (RDA)
* Children, 4 to 8 years : 200 mcg (RDA)
* Teens, 14 to 18 years : 400 mcg (RDA)

Adult:-

* Men and women, 19 years and older: 400 mcg
* Pregnant women : 600 mcg
* Breastfeeding women : 500 mcg

Amount used in studies for heart disease range from 400 to 1,200 mcg.

Precautions:-

Because of the potential for side effects and interaction and medications, you should take dietary supplements only under the supervision of a knowledgeble health care provider.

Side effects from folic acid are rare. very high doses can cause:-

* Stomach Problems
* Sleep Problems
* Skin reactions
* Confusion
* Loss of appetite
* Nausea
* Seizures

People who are being treated for Seizures or Cancer should not take folic acid without talking to their doctors

Medications that lower levels of folic acid:-

The following medications may interfere with the body's absorption of folate, measuring you may need to take a folic acid supplement while taking them. Talk to your doctor first

* Antacids
* H_2 blockers:- used to reduce stomach acid including cimetidine, famotidin and ranitidine

Proton Pump inhibitors:- Used to reduce stomach acid including Someprazole, lansoprazole, omeprazole and rabeprazole

* Bile acid Sequestrants:- Used to lower Cholestrol, including colestipol, cholestyamine and colsevelam.

* Anti-seizure:- Including phenobarbital, pyrimidone and carbamazepine

* Cycloserine:- An antibiotic

* pyrimethamine:- Used to prevent and threat malaria

* Trimethoprim:- An antibiotic used to threat and to threat toxoplasmosis urinary tract infections.

When take for long periods of time, these medications as well as other antiinflammatory medicines, can increase the body's needed for folic acid.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Thupakula venkata Sai

Class :- 1st BSC [MBF]

Semister :- 1nd semester

Regd No :- 21315204

Topic :- calcium

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr.Anurada mma



ASSIGNMENT

DEPARTMENT OF BIOCHEMISTRY
SRR & CVR GOVT. COLLEGE
VIJAYAWADA 520 004

NAME: T. VENKATA SAI

SUBJECT:- FOOD TECHNOLOGY

SUBMITTED BY

K. ANURADHA REDDY

Calcium

calcium has several important functions

These include:-

* helping build bones and keep teeth healthy
* regulating muscle contractions including your heartbeat.
* making sure blood clots normally

A lack of calcium could lead to a condition called rickets in children and osteomalacia or osteoporosis in later life.

Sources of calcium

Sources of calcium include:

* milk, cheese and other dairy food
* green leafy vegetables - such as curly kale or okra but not spinach (spinach does contain high levels of calcium but the body cannot digest it well.
* soya drinks with added calcium
* bread and anything made with fortified flour
* fish where you eat the bones - such as sardines and pilchards.

How much calcium do I need?

Adults aged 19 to 64 need 700mg of calcium a day.

you should be able to get all the calcium you need from yours daily diet.

what happens if I take too much calcium?

Taking high doses of calcium (more than 1,500mg a day) could lead to stomach pain and diarrhoea.

what does the Department of Health and social care advise.

you should be able to get all the calcium you need by eating a varied and balanced diet

If you take calcium supplements do not take too much as this could be harmful.

taking 1,500mg or less a day is unlikely to cause any harm.

It's not just osteoporosis you have to worry about if you don't get adequate calcium. calcium also plays vital role in cell, nerve hormone, blood and muscle functions.

Supplementing with a clinically supported calcium supplement will be beneficial to make up for any shortfall from yours diet In fact the Standard American diet (SAD) on it provides about 300-600mg of calcium per day which is a gross cry from the recommended 1,200 mg per day of calcium for women 51 years old and older.

so ensuring you're getting enough calcium every day from all sources is crucial.

If you have a sensitivity to milk and dairy or simply choose not to incorporate it into your diet- Take a look at the top plant based sources including greens, legumes, nuts and seeds. Some of your favorite foods are probably on this list-

Food	Calcium	Serving size
Nut milk	101-516 mg	1 cup.
Soy/Rice milk	19/288 mg	1 cup.
Poppy seeds	1438 mg	100g
Amaranth Grain and leaves	159-209 mg	100g
Almond/Almond Butter	264-347 mg	100g

Nut milk :-

Non dairy milks - sometimes branded as mylk can be made from almonds, cashews, coconuts, hazelnuts, hemp, oats and rice. While they are a great tasting alternative for anyone looking to cut out dairy products they may not pack the same nutritional punch of traditional dairy Soy/Rice milk.

Soy milk contains very little calcium naturally

Rice milk is a naturally sweet alternative to cow's milk Rice milk is made by blending minimally milled rice with water. And during this process the carbohydrates in the rice break down into sugars A cup of rice milk provides 23% of calcium.

Almond / Almond Butter

Almond butter has the nutritional edge over peanut butter in terms of vitamins and minerals per serving it provides more than double the vitamin E more calcium. consider making your own fresh almond milk. or grind your own butter

Amaranth Grain and Leaves

certainly lesser known than many other grains amaranth is a highly underappreciated super grain. originally cultivated hundreds of years ago by the Aztecs amaranth is a delicious gluten-free grain that's brimming with protein and fiber vitamin B6 calcium iron magnesium phosphorus and manganese.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :-Eeda Narendra

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315215

Topic :- Atherosclerosis

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. Anuradha madam



FOOD TECHNOLOGY

ASSIGNMENT

E.Narendra

M.B.A-I

ARTERIOSCLEROSIS/ATHEROSCLEROSIS

Arteriosclerosis is the thickening, hardening, and loss of Elasticity of the walls of arteries. This process gradually restricts the blood flow to one's organs and tissue and can lead to severe health risks brought on by atheraclerosis, which is a specific form of arteriosclerosis caused by the of fatty plaques, cholesterol, and some other substances in and on the artery wall.

It can be brought on by smoking, a bad diet, or many genetic factors

Symptoms :- Sudden weakness

Causes :- Smoking, High blood pressure

Diagnostic method :- Blood test, EKG

Treatment :- Treatment of underlying condition.

Atherosclerosis is the primary cause of coronary artery disease (CAD) and stroke, with multiple genetic and environmental contributions.

Genetic epidemiologic studies have identified a surprisingly long list of genetic and environmental non-genetic risk factors for CAD. However, such studies indicate that family history is the most significant independent risk factor

Signs and symptoms :-

The signs and symptoms of arteriosclerosis depend on the vessel affected by. If affecting cerebral (or) opthalmic vessel, as in cerebrovascular accidents.

Sudden weakness, facial or lower limb numbness, confusion, difficulty understanding speech, and problem seeing.

If affecting coronary vessels, as in coronary artery disease, signs and symptoms may include chest pain.

Arteriolosclerosis :-

Unlike atherosclerosis, is a sclerosis that only affects small arteries and arterioles, which carry nutrients and blood to the cells.

Atherosclerosis :-

-Atherosclerosis is the narrowing of arteries from a build up of plaque, usually made up of cholesterol, fatty substance, cellular waste products, calcium, and fibrin, inside the arteries. This effects large and medium-sized arteries; however, its positioning varies person to person.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- P.Yedukondalu naik

Class :- 1st BSC [MBF]

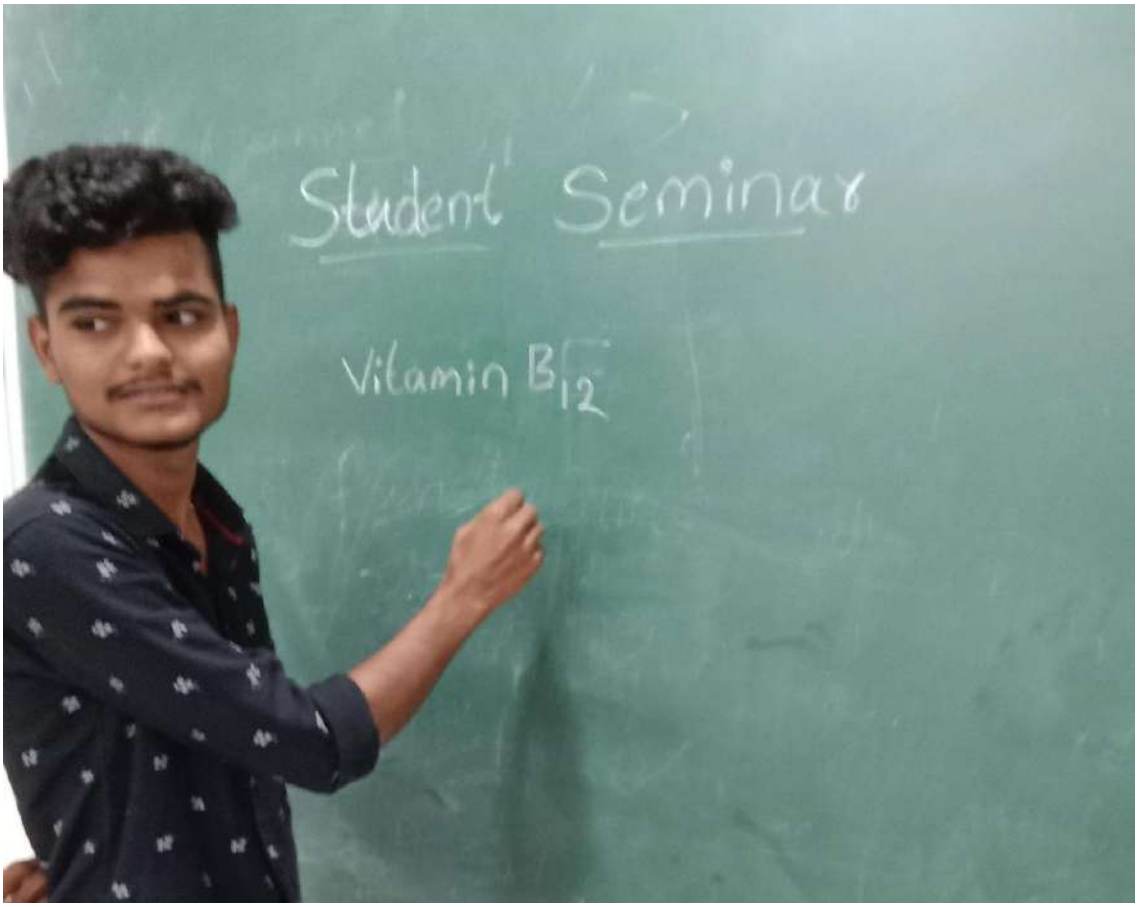
Semister :- 1 St semester

Regd No :- 21315219

Topic :- Vitamin-B12

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr.Anurada mam



A STUDY PROJECT ON

TOPIC:- Vitamin B_{12}



S.R.R & C.V.R Government Degree College (A)
VIJAYAWADA – 520004

Department of

Food Technology

Submitted by

P. Yedukondalu naik
1st year MBF

Vitamin B_{12}

Vitamin B_{12} is an essential vitamin found in foods such as meat, fish, and dairy, it can also be made in a lab and often taken with other B vitamins. Vitamin B_{12} is required for the function and development of many parts of the body including the brain, nerves and blood cells. methylcobalamin is the active from of vitamin B_{12}. Cyanocobalamin, which must be processed by the body into the active forms, is the most common type used in supplements.

people commonly use vitamin B_{12} for Vitamin B_{12} deficiency, cyanide poisoning, and high levels of homocysteine in the blood. it is also used for canker sores, cataracts, Alzheimer disease, osteoporosis, fatigue and many other conditions, but there is no good scientific evidance to support most of these other uses.

Uses & Effectiveness

Effective for:-

- A rare inherited condition marked by Vitamin B12 deficiency (Imerslund-Grasbeck disease). injecting Vitamin B_{12} as a shot for 10 days followed by monthly injections is effective for treating this condition. vitamin B_{12} shots

under the skin six times weekly for up to 4 weeks reduce pain in people with nerve damage from shingles Vitamin B_{12} injection can only be given by a health care provider

possibly ineffective for

- Decline in memory and thinking skills that occurs normally with age. Taking vitamin B_6, folic acid, and vitamin B_{12} by mouth doesn't improve mental function in elderly people
- Cataracts. Taking Vitamin B_2 by mouth along with vitamin B_6 and folic acid doesn't seem to prevent cataract in females. it might even increase the risk of needing to have cataracts removed
- Disorders that affect when a person sleeps and when they are awake. Taking Vitamin B_{12} by mouth does not seem to help people with sleep disorders
- memory and thinking skills (cognitive function). Taking Vitamin B_{12} by mouth alone or with folic acid and vitamin B_6 doesn't seem to improve memory and thinking skills in elderly people
- fall prevention. Taking folic acid with vitamin B_{12} by mouth doesn't seem to reduce fractures in older people with Vitamin D.

can only be given by a health care provider

- Vitamin B_{12} deficiency. Taking Vitamin B_{12} by mouth, as a shot, or inhaling through the nose can threat and prevent Vitamin B_{12} deficiency. Vitamin B_{12} shots can only be given by a health care provider

Likely effective for

- Cyanide poisoning. Administering hydroxocobalamin (Cyanokit) a natural form of Vitamin B_{12} as a shot is likely effective for treating cyanide poisoning. It has been approved by the FDA for this us Vitamin B_{12} shots can only be given by a health care provider

possibly effective for

- Canker Sores. Applying an ointment containing Vitamin B_{12} or taking Vitamin B_{12} under the tongue Seems to help reduce canker sore symptoms
- High levels of homocysteine in the blood (hyperhomocysteinemia). Taking Vitamin B_{12} by mouth, along with folic acid and Sometimes pyridoxine (Vitamin B_6) can lower blood levels of homocysteine
- Nerve pain Caused by Shingles (postherpetic neuralgia) injection Vitamin B_{12} in the form of methylobalamin

weak and brittle bones (osteoporosis) Taking B_{12} and folic acid by mouth with or without vitamin B_6, doesn't Seem to reduce fracture in older people with osteoporosis

- physical performance in elderly adults Taking Vitamin B_{12} and folic acid by mouth doesn't Seem to help improve physical function in older people

Side effects

When taken by mouth: Vitamin B_{12} is likely Safe for most people. Vitamin B_{12} is considered Safe even in large doses

When applied to the skin: Vitamin B_{12} is likely Safe most people when used appropriatey

When Sprayed into into the nose: Vitamin B_{12} is likely Safe for most people. Vitamin B_{12} is considered Safe even in large doses

precautions

pregnancy and breast-feeding

Vitamin B_{12} is likely Safe when taken by mouth during pregnancy or breast-feeding in the amounts recommended The recommended amount for pregnancy is 2.6 mcg per day. Those breast-feeding Should take 2.8 mcg per day The Safety or larger amounts is unknown

Post-surgical Stent placement

Avoid using a combination of vitamin B_{12}, folate, and Vitamin B_6 after receiving a coronary stent. This Combination may increases the risk of blood vessel narrowing

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- M.manjula

Class :- 1st BSC [MBF]

Semister :- 1 St semester

Regd No :- 21315209

Topic :- Vitamin-5

Date of seminar :- 12-02-2022

Name of the lecturer :- Dr.Anurada mam



FOOD TECHNOLOGY

ASSIGNMENT

Topic :- Vitamin B5 (Pantothenic Acid)

Submitted By :-

M. Manjula
B.Sc (MBF)
I Year

Submitted To :-

Anuradha mam
Food Technology lecturer
SRR & CVR Govt.
Degree college.

VITAMIN B5

Pantothenic Acid.

Vitamin B5 is a water-soluble vitamin from the B group of vitamins. vitamin B5, also called pantothenic acid, is one of the most important vitamins for human life. It's necessary for making blood cells, and it helps you convert the food you eat into energy.

Vitamin B5 is one of eight B vitamins. All B vitamins help you convert the protein, carbohydrates, and fats you eat into energy.

B vitamins are also needed for:

* healthy skin, hair, and eyes.
* Proper functioning for the nervous system and liver.
* healthy digestive tract
* Making red blood cells, which carry oxygen throughout the body.
* Making sex and stress-related hormones in the adrenal glands.

People need B5 to synthesize and metabolize fats, proteins, and coenzyme A. B5 is one of the less known vitamins, possibly because deficiencies of it are rare.

As with all B vitamins, pantothenic acid helps the body break down fats, carbohydrates, and proteins so that our bodies can use them for energy and rebuilding tissues, muscles, and organs.

Coenzyme A :

* Vitamin B5 has a role in synthesizing coenzyme A.
* Coenzyme "A" is involved in the synthesis of fatty acids and is important for converting foods into fatty acids and cholesterol.
* Coenzyme A is also needed for the creation of sphingosine, a fat-like molecule that helps deliver chemical messages inside the body's cells.
* The liver needs coenzyme A to metabolize some drugs and toxins safely.

Digestive System :

Vitamin B5 helps maintain a healthy digestive system and assists the body in using other vitamins, especially vitamin B2. Vitamin B2 helps manage stress, but there is no evidence that pantothenic acid reduces stress.

A deficiency of B5 can cause an increased sensitivity to insulin.

In mice, a vitamin B5 deficiency led to skin irritation and graying of the fur, but this was reversed when pantothenic acid was given.

Experts recommend daily intakes of Vitamin B5

Recommend:

Life stage group	Recommended Daily intake of Vitamin B5
* Infants	
6 months & younger	1.7 mg
Infants 7 to 12 months	1.8 mg
children 1-3 years	2 mg
children 4-8 years	3mg
children 9-13 years	4mg
14 years or older	5mg
Pregnant or breast-feeding women	7 mg.

Deficiency:

Vitamin B5 deficiency is extremely rare in people as pantothenic acid is found in nearly all foods. A healthy and varied diet should provide a person with enough.

Clinical trails have shown, however, that a deficiency may lead to:

* tiredness
* apathy
* depression
* irritability
* Sleep disorders
* stomach pains
* Nausea
* Vomiting
* Numbness
* Muscle cramps
* hypoglycemia
* burning feet
* Upper respiratory infections.

Use in medical conditions:-

People take vitamin B5 supplements and derivatives to help with a range of conditions. These conditions include:-

* ADHD
* alcoholism
* allergies
* asthma
* baldness
* carpal tunnel syndrome
* conjuctivitis
* depression
* dizziness
* low blood pressure
* multiple sclerosis
* respiratory disorders
* tongue infections.
* yeast infections.

While people take vitamin B5 for these conditions, there's little evidence that it helps most of the conditions, according to mayo clinic. More scientific study is needed to determine its effectiveness.

B5 Chemicals:-

It can also be apphed to the skin to relieve itchiness and promote healing from skin conditions, such as:-

* eczema
* Poison ivy
* insect bites
* diaper rash.

Sources of vitamin B5 :-

The best way to make sure you're getting enough vitamin B5 is to eat a healthy, balanced diet every day.

Vitamin B5 is an easy vitamin to incorporate into a good diet. It's found in most vegetables, including :-

- Broccoli
- members of the cabbage family
- white and sweet potatoes
- whole-grain cereals.

Other healthy sources of B5 includes :-

* Mushrooms
* nuts
* beans
* Peas
* lentils
* meats
* Poultry
* dairy products
* eggs

Skin care:-

Some studies have shown that vitamin B5 works as a moisturizer on the skin and enhances the healing process of skin wounds.

One study showed that vitamins B5 helped facial acne and reduced the number of acne-related facial blemishes when taken as a dietary supplement. Reaserchers noted a "significant mean reduction in total lesion count" after 12 weeks of taking a B5 dietary supplement. The authors call for more trials to confirm the results.

Cholesterol and triglycerides:-

Some studies suggest that vitamin B5 intake can help lower cholesterol and levels of blood triglycerides, or fats. This course of management should only be pursued under medical supervision.

Rheumatoid arthritis:-

Some researches have found that people with rheumatoid arthritis have lower levels of vitamin B5. However, more evidence is needed to confirm these results.

Dexpanthenol has also been used to prevent and treat skin reactions from radiation therapy.

Researchers are also studying the chemical pantethine, a chemical made from vitamin B5, to see if it can lower cholesterol. One study reported that taking daily doses of pantethine for up to 16 weeks can lower LDL-C, or "bad" cholesterol. The study also found it can help lower the risk of coronary heart disease.

The takeaway:

Vitamin B5 is an important vitamin that helps your body make blood cells and convert food into energy. As long as you eat a balanced and healthy diet that incorporates a variety of foods, it's unlikely you'll ever suffer from vitamin B5 deficiency or need to use supplements.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Gujjarlapudi praneeth

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315201

Topic :- Centrifugation

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



Biochemistry

Seminar

Submitted to

Tahseen (Mudam)

Department of Biochemistry

5/5

Sd/-

Submitted by

G. Pra[illegible]

"Centrifugation"

* Centrifugation are designed to accelerate sedimentation of particles, uniformly suspended in a solution by taking advantage of applied centrifugal force. This force is larger than Earth's gravitational field thus increasing the rate at which particle is sediments.

* The rate of particle sedimentation depends on the density, molecular mass, shape & viscosity of the liquid mediums.

$$F = m\omega^2 r$$

f = Intensity of the applied centrifugal force

m = Effective mass of the sedimenting particles.

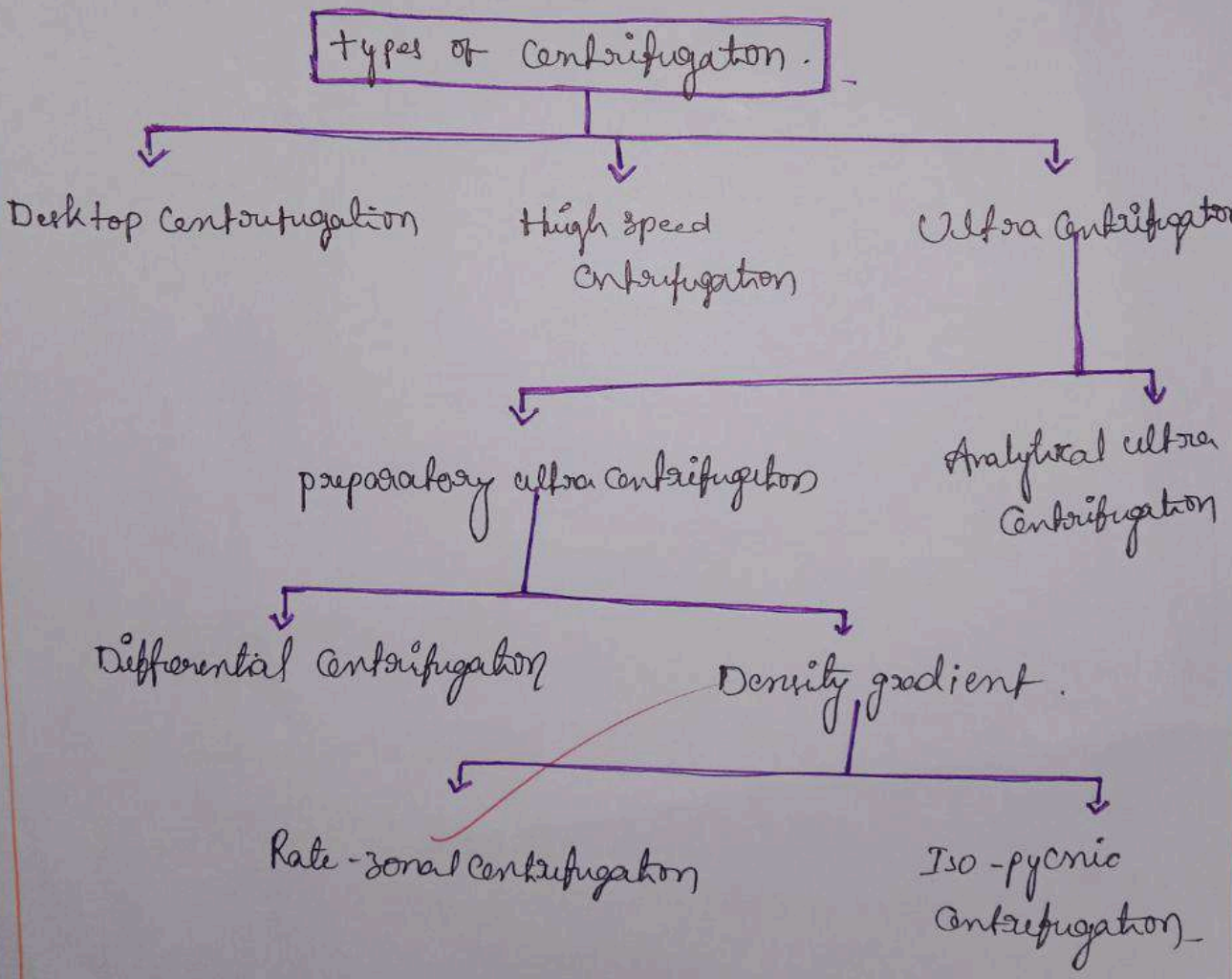
ω = Angular velocity of the rotation in radians

r = the distance in cm of the sedimentation particle from centri central axis of the radius.

Moving body always generates friction ⇒ "$F = 6\pi r\eta v$"

* Sedimentation velocity = $\frac{2}{9} \frac{r^2(\rho_{p-\rho_m})\omega^2 r}{\eta}$

* Sedimentation time = $\frac{9}{2} \frac{\eta}{\omega^2 r^2(\rho_{p-\rho_m})} \ln \frac{r_b}{r_t}$.



SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: G. Anil kumar

Class : 1.BSc.(MBF)

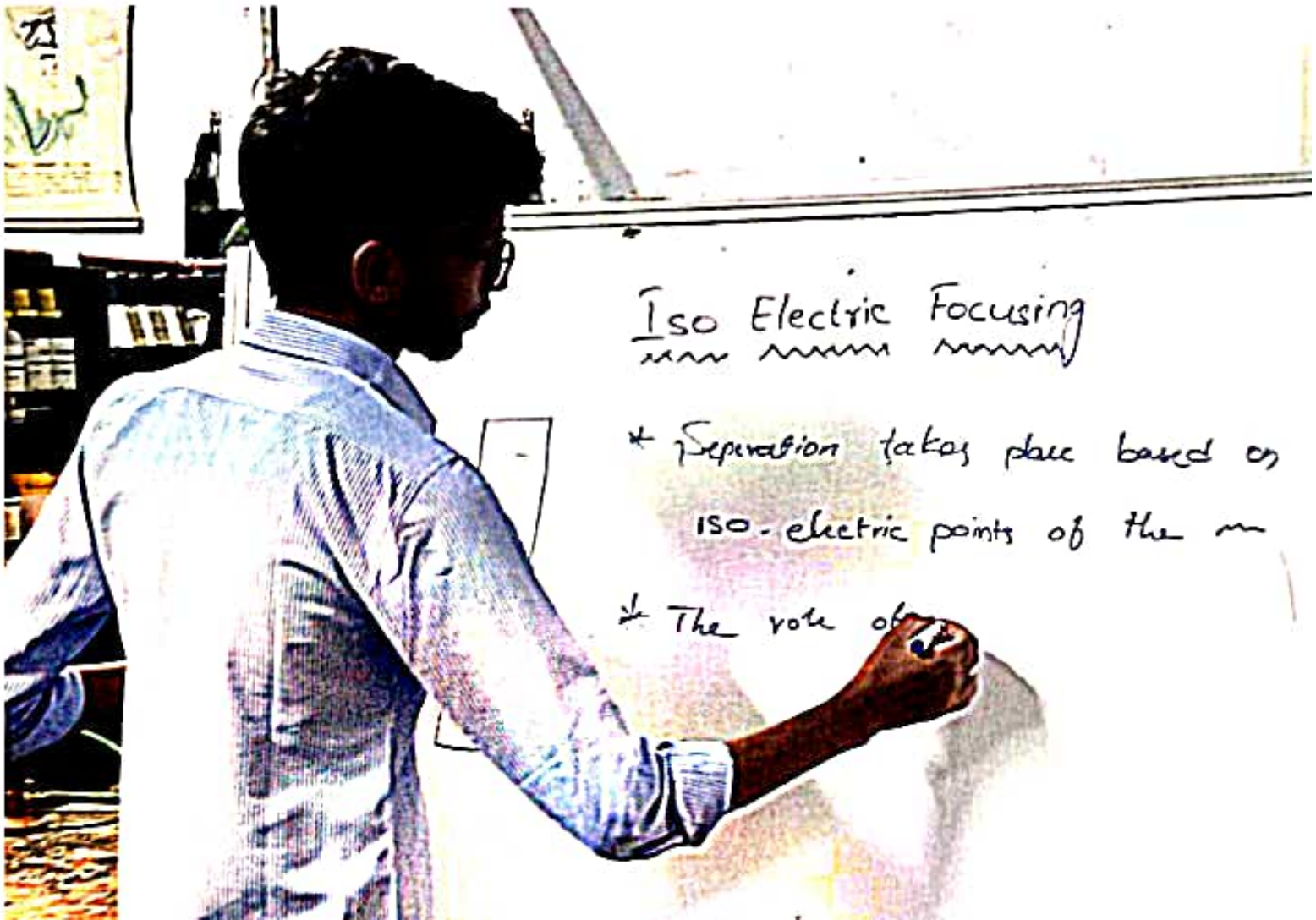
Semester : 2 semester

Regd no : 21315202

Topic : Iso- electric focusing

Date of seminar : 18/08/2022

Name of the lecturer: Dr. Syed Vaziha Tahaseen



BIO CHEMISTRY

SEMINAR

Topic: ISO ELECTRIC FOCUSING

Submitted by:
G. Anil Kumar
1st YEAR
MBF
Second SEM

5/5
Sdr Ca

ISOELECTRIC FOCUSING

Isoelectric focusing is also known as electrofocusing. It is abbreviated as IEF. This technique has been widely used for protein separation and purification.

Isoelectric focusing can be defined as an analytical tool powerful enough to separate proteins. The isoelectric point is different for different protein molecules and is technically used for separating various protein molecules. The high performance is being ensured through previously set isoelectric point standards or pI. Compounds having lower molecular weight have been successfully developed and examined in IEF capillary or IEF electrophoresis. It is a variant of zone electrophoresis that is being performed on proteins using gel. The fact that surrounding pH contributes to overall charge of a significant molecule is of great advantage.

Isoelectric Focusing Principle

The main principle of isoelectric focusing is that two different proteins having different isoelectric points migrate in pH gradient and presence of electric field till total charge of a protein gets to zero. The migration stops as the condition is achieved. Protein gets immobilized in the respective pH gradient while approaching their pI. The gel is then stained and results are documented. After the separation of protein 2D gel electrophoresis is used for further separation of protein with respect to their mass. When net charge of protein gets to zero but cannot be further moved in presence of an electric field. Protein remains in its position due to gradient force and this phenomenon is known as focusing. Reduction in sample or increase in voltage will result in appearance of more clear bands. Application of voltage results in the generation of heat but implication of thin gels and thermostatic circulator will result in sharp focussing. The minimum pI is used for estimating separation. The charge of protein is the sum of its negative and positive charges. These charges are dependent on the pH of their surroundings. The pI of a protein is low if the acidic group is more than the basic group. The pI of a protein will be high if the basic group is more than the acidic group. Proteins get a positive charge when the surrounding pH is below their pI. Protein gets a negative charge when pH surrounding the prctein is higher than the protein's pI.

Isoelectric Focusing Electrophoresis

Isoelectric focusing is generally used to separate proteins of the same molecular mass. The main principle is that physical characters of a protein are being exploited for their separation. Isoelectric focusing electrophoresis can also be termed as two dimensional or 2-D electrophoresis. The first process is dependent on their charge and the second process is determined through mass. While processing with the first step the cell is first denatured. Using a high concentration of urea, that is almost 8M. It is then layered on a glass tube with a polyacrylamide solution of ampholytes. Ampoholyes is a mixture of solution continuing polycationic and polyanionic molecules. These ampholytes will separate during the application of the electric field and a continuous gradient is formed. The high polycationic molecules will collect at one end and the most polyanionic molecules will collect at the other end. The establishment of a pH gradient is stimulated by these ampholytes. Proteins will now migrate through these gradients until the isoelectric point is reached. At this point, the protein acquires zero charges. This is known as isoelectric focusing. The Acrylamide gel is used for carrying ou isoelectric focussing. Acrylamide is present in gel along with non-ionic detergent and urea. It helps in denaturing and maintaining the protein's solubility.

Isoelectric Focusing

In isoelectric focusing, it is already known that net charge of protein gets zero and it gets focused in the gel due to the surrounding pH gradient. The net charge is zero indicates that positive and negative charges are balanced and repulsive electrostatic forces get reduced. Th precipitation and aggregation of protein are caused due to attraction forces that predominate. When the pH of a solution is above the protein's pI, the protein gets a negative charge and experiences a repulsive force from the surroundings. When the pH is lower the protein pI, the protein will be positively charged and will also experience repulsive force from surrounding molecules. However, at an isoelectric point, the negative and positive charges cancel out. Th pH ranges from 4-6. Mineral acids such as sulfuric acid and hydrochloric acid are used for precipitation. One Of greatest advantages of such precipitation is that proteins can get irreversibly denatured. Therefore containment proteins are generally used for isoelectric poi precipitation. Target proteins are not specifically used for such purposes. An example of isoelectric precipitation is casein precipitation during cheesemaking or during the process of producing sodium caseinate. The mechanism that underlies the concept of precipitation is t alteration of solvation potential. When the reagent has been added the solubility of the solut gets reduced. In the industry of biotechnology, protein precipitation technique is generally u for containments elimination in blood components.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: k. Naga Sriya

Class : 1.BSc.(MBF)

Semester : 2 semester

Regd no : 21315203

Topic : isolation & preservation of microbial culture

Date of seminar : 19/08/2022

Name of the lecturer: Dr. Syed Vaziha Tahaseen



Biochemistry Seminar

Topic: Isolation & Preservation of Bacterial Culture

Submitted To:

V Tahaseen Mam

Department of Biochemistry

Submitted By:

K. Naga Sriya

B.Sc (MBF) I

R.No: 21315203

Sahaseen 5/5

Isolation And Preservation of Pure Baterial Culture

1. 1. PURE CULTURE TECHNIQUES OF MICROBES ISOLATION & PRESERVATION METHODS Pure Culture Technique • Culture : Act of cultivating microorganisms or the microorganisms that are cultivated Mixed culture : more than one microorganism Pure culture : containing a single species of organism. • A pure culture is usually derived from a mixed culture (one containing many species) by transferring a small sample into new, sterile growth medium in such a manner as to disperse the individual cells across the medium surface or by thinning the sample many times before inoculating the new medium. 2
2. Why important ? Pure cultures are important in microbiology for the followingreasons- 1.Once purified, the isolated species can then be cultivated with the knowledge that only the desired microorganism is being grown. 2. A pure culture can be correctly identified for accurate studying and testing, and diagnosis in a clinical environment. 3. Testing/experimenting with a pure culture ensures that the same results can be achieved regardless of how many time the test is repeated. o Pure culture spontaneous mutation rate is low o Pure culture clone is 99.999% identical 3
3. •Cultures composed of cells arising from a single progenitor •Progenitor is termed a CFU •Aseptic technique prevents contamination of sterile substances or objects •Common isolation techniques - Streak plate method -Pour plate method -Spread plate method -Roll tube method 4 ISOLATION TECHNIQUE OF PURE CULTURE
4. 1.Streakplate method • Streaking is the process of spreading the microbial culture with an inoculating needleon the surfaceof themedia. • Sterilizethe inoculating needle byflame to make red hot andallow it to coolfor 30 seconds. • Thesampleisstreakedinsuchawaytoprovideseriesofdilution. • purpose- thinoutinnoculumtogetsepratecolonies. • subculturingcanbedonebystreakingwellisolatedcoloniesfromstreakplatetonewplate.
5. 2. Pour plate method • Thebacterial culture andliquid agarmedium aremixedtogether. • After mixing the medium, the medium containing the culture poured into sterilized petridishes (petriplates), allowed solidifying andthenincubated. • After incubation coloniesappearon the surface. DISADVANTAGES- 1. Microorganism trapped beneath the surface of medium hence surface as well as subsurface coloniesaredevelopedwhichmakesthedifficuktiesincountingthebacterialcolony. 2. Tidious and time consuming method, microbes are subjected to heat shock because liquid mediummaintainedat45°C. 3. Unsuitable- Psychrophile
6. 3. Spread plate method • Thisisthe bestmethod to isolate thepure colonies. • In this technique, the culture is not mixed with the agar medium. Instead it is mixed with normal saline andseriallydiluted. • 0.1 ml of sample taken from diluted mixture, which is placed on the surface of the agar plate and spreadevenlyover the surfacebyusingLshaped glassrod calledspreader. • Incubate theplates • After incubation, coloniesareobservedon the agar surface.
7. ADVANTAGES 1. It isasimplemethod. 2. Inthis method only surfacecoloniesare formed. 3. Micro-organismsarenot exposedto higher temperature. . Roll tube method.
8. 5. Micromanipulator method Micromanipulators have been built, which permit one to pick out a single cell from a mixed culture. This instrument is used in conjunction with a microscope to pick a single cell (particularly bacterial cell) from a hanging drop preparation. the single cell of microbe sucked into micropipette and transfered to large amount of sterile medium. ADVANTAGES OF MICROMANIPULATOR METHOD- The advantages of this method are that one can be reasonably sure that the cultures come from a single cell and one can obtain strains with in the species. DISADVANTAGES- The disadvantages are that the equipment is expensive,its manipulation is very tedious, and it requires a skilled person.

9. PRESERVATION OF PURE CULTURE T o maintain pure culture for extended periods in viable condition without any genetic change is referred as Preservation. During preservation most important factor is to stop microbial growth or at least lower the growth rate. D u e to this toxic chemicals are not accumulated and hence viability of microorganism is not affected.
10. Objectives of preservation 1. To maintain isolated pure culture for extended periods in a viable conditions. 2. To avoid contamination 3. To restrict Genetic Mutation
11. Why to Preserve Bacteria? ϖ In nature there are only 1% bacteria which ispathogenic and harmful to Animalia and Plantae. ϖ 99% of bacterial populations are of economic importance for human beings and plants. ϖ In soil for nutrient uptake in food industry,in sewage treatment,in medical industry. ϖ So the preservation of bacteria is one of the most profitable practice economically as well as environmentally.
12. 1. Academic purpose 2. Reserch Purpose Biotechnology field 4. Fermentation Industry 20
13. Preservation methods of Bacteria 1. Periodic
14. Lyophilization (Freeze-Drying) • Freeze-drying is a process where water and other solvents are removed from a frozen product via sublimation. • Sublimation occurs when a frozen liquid goes directly to a gaseous state without entering a liquid phase. • It is recommended using slow rates of cooling, as this will result in the formation of vertical ice crystal structures, thus allowing for more efficient water sublimation from the frozen product.
15. Procedure • In this process, a dense cell suspension is placed in small vials and frozen at -60 to -70°C. • The vial are immediately connected to a high vacuum line. • The ice present in the frozen suspension evaporates(sublime) under the vacuum. • This results in dehydration of bacterial cell and their metabolic activities are stopped; as a result, the microbes go into dormant state and retain viability for years. • The vials are then sealed off under a vacuum and stored in the dark at 4°C in refrigerators.
16. Advantage of Lyophilization • Only minimal storage space is required; hundreds of lyophilized cultures can be stored in a small area: • Remained viable for more than 30 years. • Frequent sub-culturing is not required • Maintained without contamination • Lyophilised strains remains genetically stable • Small vials can be sent conveniently through the mail to other microbiology laboratories when packaged in a special sealed mailing containers. • This method is employed for the preservaton of sera, toxin, enzymes and other biologicals.
17. Storage in sterile soil • It is mainly applied for the preservation of sporulating microorganisms (a single spore (endospore) within the cell). • Fusarium, Penicillium, Alternaria, Rhizopus, Bacillus, Aspergillus, Penicillium, etc. proved successful for store in sterile soil. • Soil storage involves inoculation of 1ml of spore suspension into soil (autoclaved twice) and incubating at room temperature for 5-10 days. • The initial growth period allows the fungus to use the available moisture and gradually to become dormant. • The bottles are then stored at refrigerator. • Viability of organisms found around 70- 80 years.
18. Storage at low temperature • Culture medium can be successfully stored in refrigerators or cold rooms, when the temperature is maintained at 4 °C. • Another: liquid nitrogen can provide long term preservation of culture. In this method, dense suspension of microbes is prepared in a medium containing a protective agent(Glycerol or dimethyl sulfoxide) which prevent cell damage due to ice crystal formation. Suspension is sealed into small ampoules or vials and then frozen at -150°c • At this temperature range the metabolic activities of microbes slows down greatly and only small quantity of nutrients will be utilized. • This method cannot be used for a very long time because toxic products get accumulated which can kill the microbes. • 10-30 Years without changing the characteristics.
19. Preservation by overlaying culture with mineral oil or liquid paraffin storage • In this method sterile liquid paraffin is poured over the slant culture of microbes and stored upright at room temperature. • Where as cultures can also be maintained by covering agar slants by sterile mineral

oil which is stored at room temperature or preferably at 0-5°C. • It limit the oxygen access that reduces the microorganism's metabolism and growth, as well as to cell drying during preservation. • The preservation period for bacteria from the genera Azotobacter and Mycobacterium is from 7-10 years, for Bacillus it is 8-12 years. Adv: • Simple • Mainly used anaerobic microorganism • Cost effective method • Can preserve 10-15 years

SRR & CVR GOVERNMENT DEGREE COLLEGE(A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student : k.vijay

Class :1st BSC (MBC)

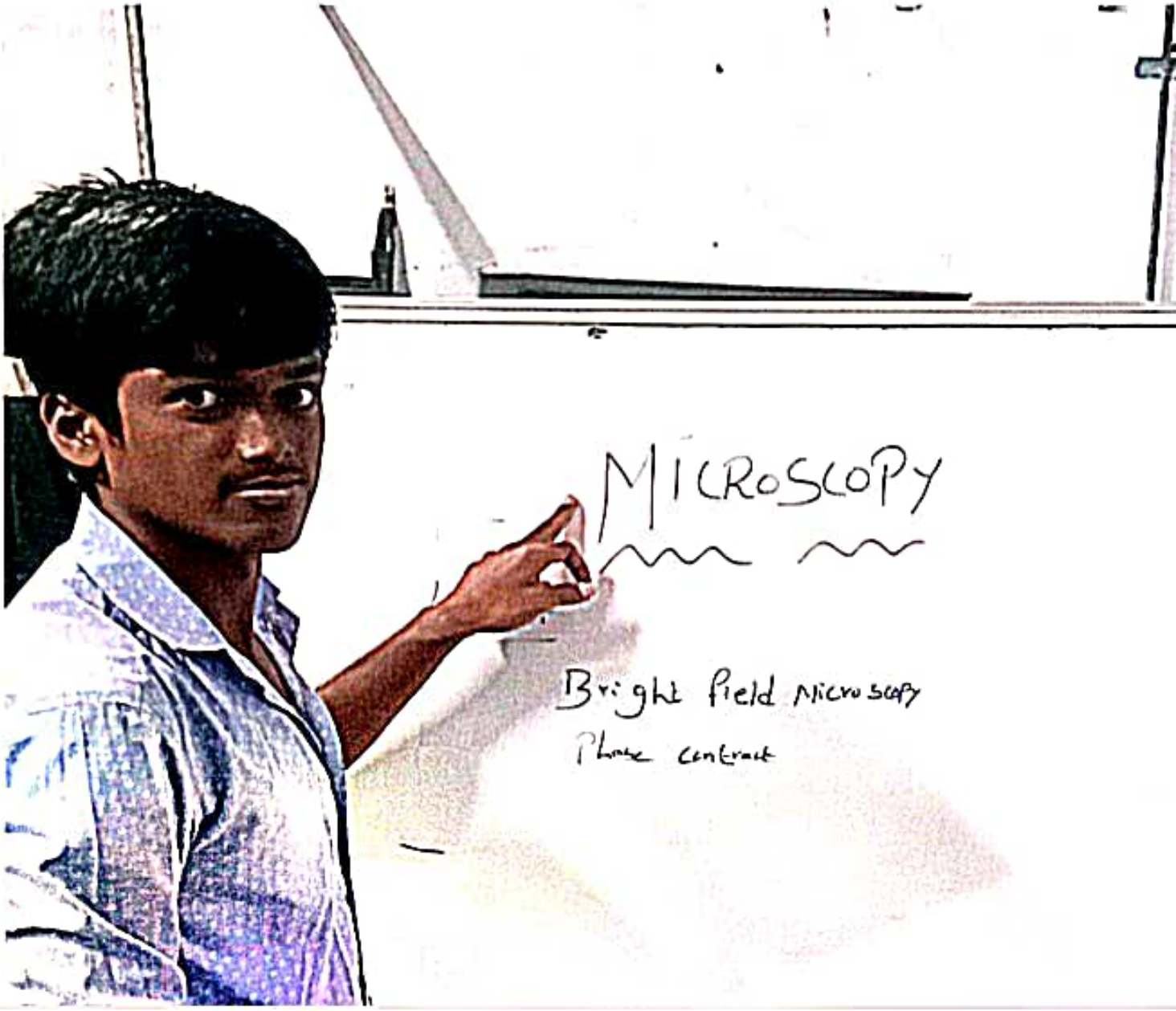
Semester : 2nd semester

Regd No :21313204

Topic : Microscopy

Date of seminar :18/08/2022

Name of the lecturer :Dr.syed vazine Tahaseen



Bio Chemistry

Seminar

TOPIC: MICROSCOPY

5/5

Sd/- Vijay

Submitted by :-

k. Vijay

1st YEAR

MBC

Second SEM

Microscopy

From the History of Microbiology, Antony Van Leuwenhoeck made the first simple microscope that enabled him to observe the presence of tiny living organisms in pond water that appeared like dots.

His simple microscope was made up of a double convex glasslens that was held between two silver plates.

A good microscope should have three properties:

1. **Good resolution:** Resolution power refers to the ability to produce separate images of closely placed objects so that they can be distinguished as two separate entities.

   The resolution power of:

   The unaided human eye is about 0.2 mm (200 µm)

   The light microscope is about 0.2 µm

   An electron microscope is about 0.5 nm

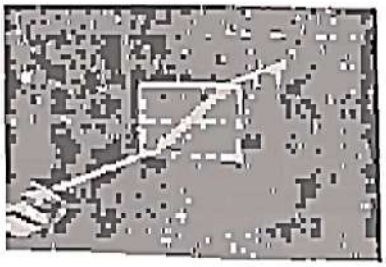
   the resolution depends on the refractive index of the medium . Oil has a higher refractive index than air.

2. **Good contrast:** This can be further improved by staining the specimen.
3. **Good magnification:** This is achieved by the use of convex lenses

There are mainly 5 common types of microscopes as follows:

1. Brigh-Field or Light Microscope
2. Dark Field Microscope
3. Phase Contrast Microscope
4. Fluorescence Microscope
5. Electron Microscope

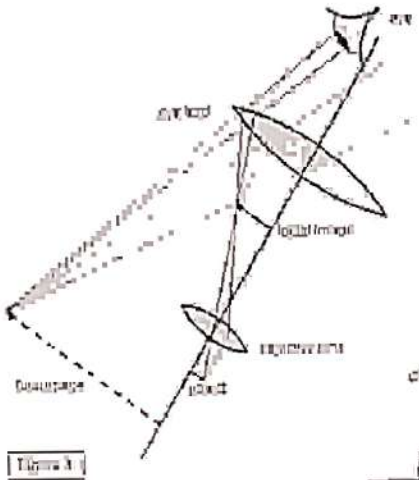
Light microscopes visualize an image by using a glass lens, and magnification is determined by, the lens's ability to bend light is determined by the **refractive index**, which is a measure of how great a substance slows the speed of light.

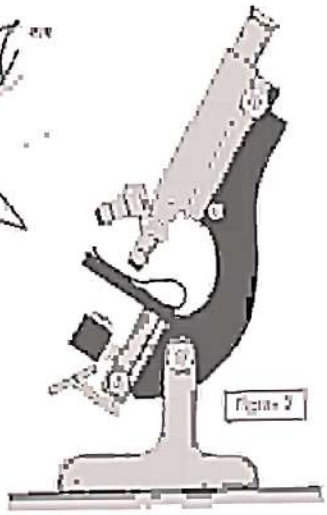


The direction [illegible] indexes of the two mediums that form the interface.

The lens (convex) on receiving the light rays focuses the rays at a specific point known as the **focal point (F-point)**.

The measure of distance from the center of the lens and the focal point is known as the **focal length.**





The strength of a lens is directly related to the focal length i.e short focal length magnifies objects more than lenses with a long focal length.

Power of lens = P

(measured in D - dioptres)

Focal length of lens = f

(measured in m - metres)

$$P = \frac{1}{f}$$

The resolution of a light microscope is determined by a **numerical aperture** of its len system and by the wavelength of the light it employs:

The numerical aperture of an optical system such as an objective lens is defined by

$$NA = n \sin \theta$$

Where n is the index of refraction of the medium in which the lens is working (1.00 for air, 1.33 for pure water, and typically 1.52 for immersion oil) and θ is the maximal half-angle of the cone of light that can enter or exit the lens

A minimum distance (d) between two objects that distinguishes them to be two separate entities, determined by the wavelengths of the light (Lambda, λ) and the numerical aperture (NA, n sin Θ)

$d=0.5\ \lambda/n \sin \Theta$

1. Bright field microscope

This is the most basic optical Microscope used in microbiology laboratories which produces a dark image against a bright background.

Made up of two lenses, it is widely used to view plant and animal cell organelles including some parasites such as *Paramecium* after staining with basic stains.

It is composed of:

- Two lenses which include the **objective lens** and the **eyepiece or ocular lens.**
- Objective lens is made up of six or more glasses, which make the image clear from the object
- The condenser is mounted below the stage which focuses a beam of light onto the specimen.
- They are held together by an **arm** and a stand at the bottom, known as the **base**, of the microscope. The arm and the base hold all the parts of the microscope.
- The stage where the specimen is placed, allowing movement of the specimen around for better viewing
- Two focusing knobs i.e the fine adjustment knob and the coarse adjustment knob, found on the microscopes' arm, which can move the stage or the nosepiece to focus on the image.
- The nosepiece has about three to five objective lenses with different magnifying power.
- It can move round to any position depending on the objective lens to focus on the image.
- **Calculation of magnification** = Magnification of objective lens ×magnification of the eyepiece lens

  [Objective lens at 40X-100X, magnification, eyepiece is at 8X-12X (10X standard)]

Principle

The phase contrast microscopy is based on the principle that small phase changes in the light rays, induced by differences in the thickness and refractive index of the different parts of an object, can be transformed into differences in brightness or light intensity. The phase changes are not detectable to human eye whereas the brightness or light intensity can be easily detected.

Optical Components of Phase Contrast Microscope (PCM)

The phase contrast microscope is similar to an ordinary compound microscope in its optical components. It possesses a light source, condenser system, objective lens system and ocular lens system

A phase contrast microscope differs from bright field microscope in having,

(i) Sub-stage annular diaphragm (phase condenser):-

An annular diaphragm is located below the condenser of the microscope. This annular diaphragm helps to create a narrow, hollow cone of light to illuminate the object.

(ii) Phase – plate (diffraction plate or phase retardation plate):-

This plate is located at the back focal plane of the objective lenses.

The phase plate has two portions, in which one is coated with light retarding material (Magnesium fluoride) and the other portion devoid of light retarding material but can absorb light. This plate helps to reduce the phase of the incident light

Working Mechanism of Phase Contrast Microscopy

The unstained cells cannot create contrast under the normal microscope.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- thupakula venkata Sai

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315204

Topic :- SDS-Page

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



SEMINAR

Bio-CHEMISTRY

Sd. Vale

5/5

NAME:- T. Venkata Sai

GROUP:- B.Sc (M.B.F)

Submitted To :-

Tahseen Madam

SDS PAGE

Electrophoresis:-

SD Page - Electrophoresis:-

The gels are porous and the size of the pores relative to that of the molecule to be separated and determine whether the molecule will enter the pore or not can be retarded.

→ **Poly acrilamide gels:-**

It is made up of N,N' methylene bisacrylamide

All these are neurotoxins.

[Acrylamine + N,N' methylene bis acrylamide = polyacrylamide]

→ **Electrophoretic mobility in Gels:-**

→ Mobility on gel in $[\xi = \log E - K_R \gamma_{cn}]$

ξ → mobility in sucrose solution

K_R → Retradation co-efficient

G_t → Total Gel concentration

$K_R = c [R+\gamma]$ where

c → constant

R → mean radius of macro molecules

γ → radius of gel fibers

→ Solubilizers:-

* Proteins contains more than one poly peptide chain these reffered to as oligomeric proteins.
* The subunits of these proteins are to be seperated from each other by using solubilizers such as
  → urea, SDS.

⇒ SDS:- (Sodium Dodecyl Sulphate)

* In an anionic detergent and disrupts macromolecules whose structures has been stabilized by the hidrophobic association.
* The degree of SDS protein binding is very high about 1.4g of protein and the charge on the SDS protein complex is almost due to the exposed sulphate ion that is for-ve charges.
* the protein assume the shape of long rod whose width is constant
* Since all the poly peptides chain's have an Equal negative charge. They will migrate the gel on the basis of their size.

procedures:-

→ It consist of 2 components:-

1. Buffer reservious
2. DC power supply

* The buffer reservious system has an upper and lower buffer reservious. They are concealed by the gel

* The sample is prepared in a high density components such as glycerol & tracking dye. is mixed the sample the dye migrates faster than the sample.

* the PH is at 8. which gives a -ve charge to most macro molecules.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- J. RAMPRASAD

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315206

Topic :- ION EXCHANGE CHROMATOGRAPHY

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



BIO-CHEMISTRY

SEMINAR.

Submitted To :

Syed. Vaziha Tahaseen Mam.

Submitted by:-

J. Ram Prasad.

(B.Sc. MBf)

I st year.

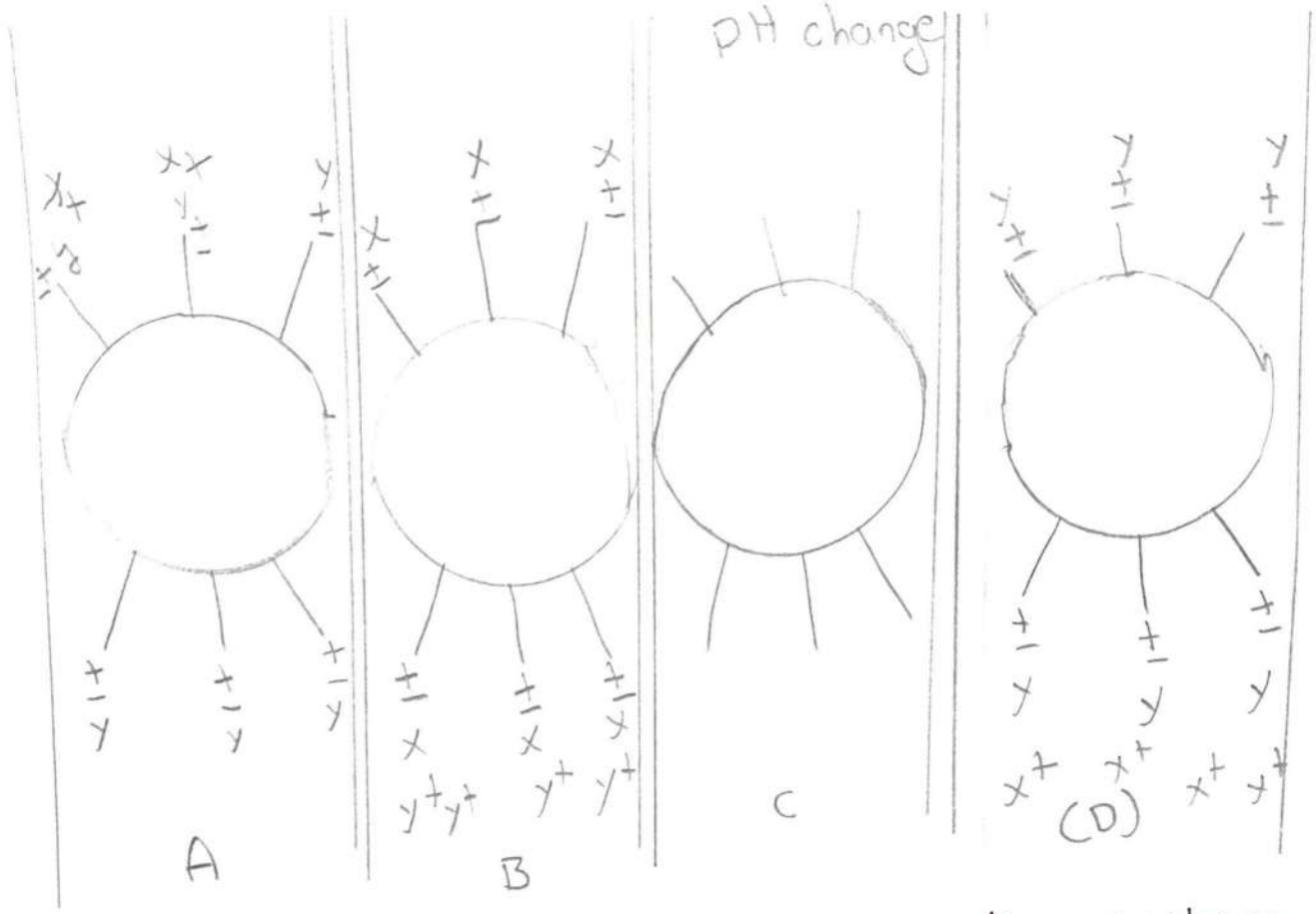
Ion exchange - chromatography

principle:

* In ion exchange it may be defind as the reversible exchange of ions in solutions with the ions that are electrostatically bound to inest support medium
* The medium may be covalently bond to positive (Anion) exchange negative cation exchange functional group@fixed ions to these counter ions are attached withthe electrostatic interactions.
* This technique extremely wefull in the separation of charged compounds

$$\mathcal{E}^- y^+ + x^+ \longrightarrow \mathcal{E}^- x^+ + y^+$$

* once the exchange of counter ion with the sample ion has been achieved
* the rest of the uncharged & like charged species can be washed out of column



Diagrams explanation :- example of cation exchange

* exchange has been prepared with y^+ as the counter ion. The ion to be separated from the sample is x^+
* cation x^+ has bound to column displacing y^+ counter ion.
* elusion by increasing PH of the solvent x^+ is converted to an uncharged species x and is displaced (or) by increasing the ion of y^+ in the solvent y^+ displaces x^+ which is eluted.

The principle discussed above also applies to macro-molecules such as protein and nucleic acid which are capable of possesing both +ve and -ve charges

These large molecules then can bind to both anion and cation exchanges since they posses both types of charge

* Macro molecul can however be made to bear more negative charge by increasing pH (resulting in a stronger binding to anion exchange or more positive charges by reducing the pH

* The 2 groups of material use to prepare in-exchange resin are polystyrein and cellulose

Examples of ion exchange of type & nature.

stoong cation	-	sulphonated polystyrene
weak cation	-	carboxymethyl cellulose
strong Anion	-	quaternary amino cellulose
weak Anion	-	diethylamino ethyl cellulose

pplications:

* Ion exchange chromatography has several applications some of which are listed below perhaps the most stimulating use of ion exchange chromatography is in amino acid analysis
In fact the amino acid autoanalyses is based on ion exchange principle.

* Ion exchange has been extensively used to determine the base composition of nucleic acids the mixture of nucleotides as a result of treatment with DNAses and RNAses can be readily separated by ion exchange chromatography.

* Effective method of water purification complete deionigation of water non-electrolyte solution is performed by exchanging solute cations for hydrogen ion and solute anion for.

for many biological applications, ultrapure metal ion free reagents are needed this is commerically performed by ion exchange chromatography.

* three are many situations where the concentration of trace metals in biological samples is below the limit detected by atomic emission (or) atomic absorption spectrophotometers these samples are passed over an ion exchanges resin that holds the metal ions after enough samples has been passed over the resin enough trace metal ions become concentrated over the exchanges

* A part from the above applications ion exchange chromatography has been used for the separations organic acids and bases.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: Ch. Likhitha

Class : 1.BSc.(MBF)

Semester : 2 semester

Regd no : 21315207

Topic : Types of culture media

Date of seminar : 18/08/2022

Name of the lecturer: Dr. Syed Vaziha Tahaseen



BIOCHEMISTRY Seminar

Topic - Types of culture Media

Submitted To:

Tahaseen Mam
HOD of
Department
of Biochemistry.

Sd/-

Submitted By:

CH. Likitha
B.Sc (MBF) I
R.No: 21315207

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Bacterial culture media

One of the most important reasons for culturing bacteria in vitro is its utility in diagnosing infectious diseases. Isolating a bacterium from sites in body normally known to be sterile is an indication of its role in the disease process. Culturing bacteria is also the initial step in studying its morphology and its identification. Bacteria have to be cultured in order to obtain antigens from developing serological assays or vaccines. Certain genetic studies and manipulations of the cells also need that bacteria be cultured in vitro. Culturing bacteria also provide a reliable way estimating their numbers (viable count). Culturing on solid media is another convenient way of separating bacteria in mixtures.

History:

Louis Pasteur used simple broths made up of urine or meat extracts. Robert Koch realized the importance of solid media and used potato pieces to grow bacteria. It was on the suggestion of Fannie Eilshemius, wife of Walther Hesse (who was an assistant to Robert Koch) that agar was used to solidify culture media. Before the use of agar, attempts were made to use gelatin as solidifying agent. Gelatin had some inherent problems; it existed as liquid at normal incubating temperatures (35-37°C) and was digested by certain bacteria.

Composition of culture media:

Bacteria infecting humans (commensals or pathogens) are chemoorganoheterotrophs. When culturing bacteria, it is very important to provide similar environmental and nutritional conditions that exist in its natural habitat. Hence, an artificial culture medium must provide all the nutritional components that a bacterium gets in its natural habitat. Most often, a culture medium contains water, a source of carbon & energy, source of nitrogen, trace elements and some growth factors. Besides these, the pH of the medium must be set accordingly. Some of the ingredients of culture media include water, agar, peptone, casein hydrolysate, meat extract, yeast extract and malt extract.

Classification:

Bacterial culture media can be classified in at least three ways; Based on consistency, based on nutritional component and based on its functional use.

1) Classification based on consistency:

Culture media are liquid, semi-solid or solid and biphasic.

A) Liquid media: These are available for use in test-tubes, bottles or flasks. Liquid media are sometimes referred as "broths" (e.g nutrient broth). In liquid medium, bacteria grow uniformly producing general turbidity. Certain aerobic bacteria and those containing fimbriae (Vibrio & Bacillus) are known to grow as a thin film called 'surface pellicle' on the surface of undisturbed broth. *Bacillus anthracis* is known to produce stalactite growth on ghee containing broth. Sometimes the initial turbidity may be followed by clearing due to autolysis, which is seen

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in penumococci. Long chains of Streptococci when grown in liquid media tend to entangle and settle to the bottom forming granular deposits. Liquid media tend to be used when a large number of bacteria have to be grown. These are suitable to grow bacteria when the numbers in the inoculum is suspected to be low. Inoculating in the liquid medium also helps to dilute any inhibitors of bacterial growth. This is the practical approach in blood cultures. Culturing in liquid medium can be used to obtain viable count (dilution methods). Properties of bacteria are not visible in liquid media and presence of more than one type of bacteria can not be detected.

B) Solid media: Any liquid medium can be rendered by the addition of certain solidifying agents. Agar agar (simply called agar) is the most commonly used solidifying agent. It is an unbranched polysaccharide obtained from the cell membranes of some species of red algae such as the genera Gelidium. Agar is composed of two long-chain polysaccharides (70% agarose and 30% agarapectin). It melts at 95°C (sol) and solidifies at 42°C (gel), doesn't contribute any nutritive property, it is not hydrolyzed by most bacteria and is usually free from growth promoting or growth retarding substances. However, it may be a source of calcium & organic ions. Most commonly, it is used at concentration of 1-3% to make a solid agar medium. New Zealand agar has more gelling capacity than the Japanese agar. Agar is available as fibres (shreds) or as powders.

C) Semi-solid agar: Reducing the amount of agar to 0.2-0.5% renders a medium semi-solid. Such media are fairly soft and are useful in demonstrating bacterial motility and separating motile from non-motile strains (U-tube and Cragie's tube). Certain transport media such as Stuart's and Amies media are semi-solid in consistency. Hugh & Leifson's oxidation fermentation test medium as well as mannitol motility medium are also semi-solid.

D) Biphasic media: Sometimes, a culture system comprises of both liquid and solid medium in the same bottle. This is known as biphasic medium (Castaneda system for blood culture). The inoculum is added to the liquid medium and when subcultures are to be made, the bottle is simply tilted to allow the liquid to flow over the solid medium. This obviates the need for frequent opening of the culture bottle to subculture.

Besides agar, egg yolk and serum too can be used to solidify culture media. While serum and egg yolk are normally liquid, they can be rendered solid by coagulation using heat. Serum containing medium such as Loeffler's serum slope and egg containing media such as Lowenstein Jensen medium and Dorset egg medium are solidified as well as disinfected by a process of inspissation.

2) Classification based on nutritional component:

Media can be classified as simple, complex and synthetic (or defined). While most of the nutritional components are constant across various media, some bacteria need extra nutrients. Those bacteria that are able to grow with minimal requirements are said to non-fastidious and those that require extra nutrients are said to be fastidious. Simple media such as peptone water, nutrient agar can support most non-fastidious bacteria. Complex media such as blood agar have ingredients whose exact components are difficult to estimate. Synthetic or defined media such as Davis & Mingioli medium are specially prepared media for research purposes where the composition of every component is well known.

3) Classification based on functional use or application:

These include basal media, enriched media, selective/enrichment media, indicator/differential media, transport media and holding media.

A) Basal media are basically simple media that supports most non-fastidious bacteria. Peptone water, nutrient broth and nutrient agar considered basal medium.

B) Enriched media: Addition of extra nutrients in the form of blood, serum, egg yolk etc, to basal medium makes them enriched media. Enriched media are used to grow nutritionally

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exacting (fastidious) bacteria. Blood agar, chocolate agar, Loeffler's serum slope etc are few of the enriched media.

C) **Selective and enrichment media** are designed to inhibit unwanted commensal or contaminating bacteria and help to recover pathogen from a mixture of bacteria. While selective media are agar based, enrichment media are liquid in consistency. Both these media serve the same purpose. Any agar media can be made selective by addition of certain inhibitory agents that don't affect the pathogen. Various approaches to make a medium selective include addition of antibiotics, dyes, chemicals, alteration of pH or a combination of these.

D) **Enrichment media** are liquid media that also serves to inhibit commensals in the clinical specimen. Selenite F broth, tetrathionate broth and alkaline peptone water are used to recover pathogens from fecal specimens.

E) **Differential media or indicator media:** Certain media are designed in such a way that different bacteria can be recognized on the basis of their colony colour. Various approaches include incorporation of dyes, metabolic substrates etc, so that those bacteria that utilize them appear as differently coloured colonies. Such media are called differential media or indicator media. Exmples: MacConkey's agar, CLED agar, TCBS agar, XLD agar etc.

F) **Transport media:** Clinical specimens must be transported to the laboratory immediately after collection to prevent overgrowth of contaminating organisms or commensals. This can be achieved by using transport media. Such media prevent drying (desiccation) of specimen, maintain the pathogen to commensal ratio and inhibit overgrowth of unwanted bacteria. Some of these media (Stuart's & Amie's) are semi-solid in consistency. Addition of charcoal serves to neutralize inhibitory factors. Cary Blair medium and Venkatraman Ramakrishnan medium are used to transport feces from suspected cholera patients. Sach's buffered glycerol saline is used to transport feces from patients suspected to be suffering from bacillary dysentery.

G) **Anaerobic media:** Anaerobic bacteria need special media for growth because they need low oxygen content, reduced oxidation -reduction potential and extra nutrients. Media for anaerobes may have to be supplemented with nutrients like hemin and vitamin K. Boiling the medium serves to expel any dissolved oxygen. Addition of 1% glucose, 0.1% thioglycollate, 0.1% ascorbic acid, 0.05% cysteine or red hot iron filings can render a medium reduced. Robertson cooked meat that is commonly used to grow Clostridium spps medium contain a 2.5 cm column of bullock heart meat and 15 ml of nutrient broth. Before use the medium must be boiled in water bath to expel any dissolved oxygen and then sealed with sterile liquid paraffin. Methylene blue or resazurin is an oxidation-reduction potential indicator that is incorporated in the thioglycollate medium. Under reduced condition, methylene blue is colourless.

Preparation and preservation

Care must be taken to adjust the pH of the medium before autoclaving. Various pH indicators that are in use include phenol red, neutral red, bromothymol blue, bromocresol purple etc. Dehydrated media are commercially available and must be reconstituted as per manufacturers' recommendation. Most culture media are sterilized by autoclaving. Certain media that contain heat labile components like glucose, antibiotics, urea, serum, blood are not autoclaved. These components are filtered and may be added separately after the medium is autoclaved. Certain highly selective media such as Wilson and Blair's medium and TCBS agar need not be sterilized. It is imperative that a representation from each lot be tested for performance and contamination before use. Once prepared, media may be held at 4-5°C in the refrigerator for 1-2 weeks. Certain liquid media in screw capped bottles or tubes or cotton plugged can be held at room temperature for weeks.

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SRR & CVR GOVERNMENT DEGREE COLLEG

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Semister :- 2nd semester

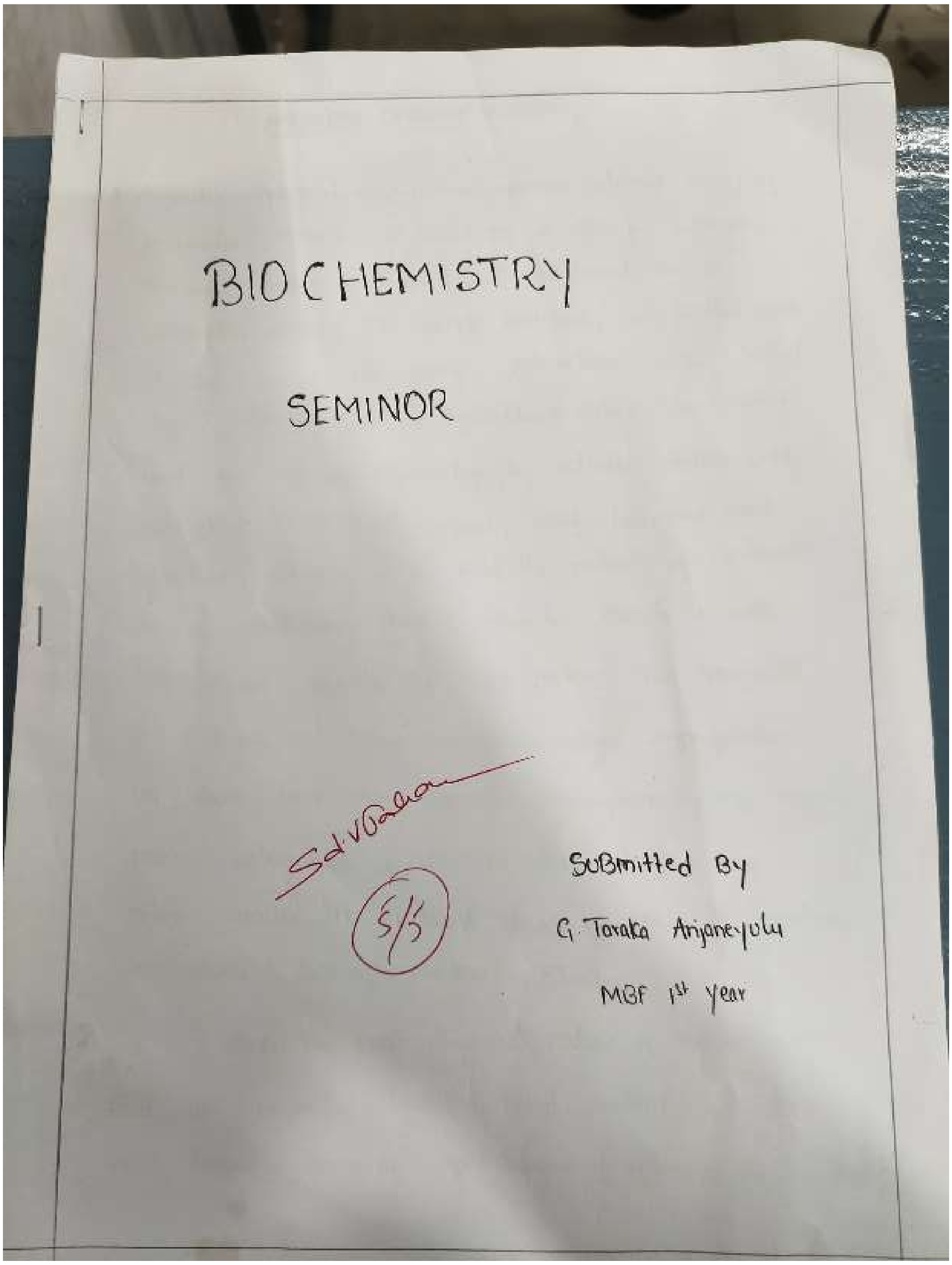
Regd No :- 21315218

Topic :- Affinity Chromatography

Date of seminar :- 18-08-2

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN




BIOCHEMISTRY
SEMINOR
Salvation
5/5
SuBmitted By
G. Tanaka Anjarenyoka
MBF 1st Year

AFFINITY CHROMATOGRAPHY

* Affinity chromatography encompasses achieves carry of purification methods all based on a specific affinity between protein & matrix bound. The ligand can be biologically specific like peptide Antibody (or) nucleic acid It can exploit non-specific interaction with lectins dye [Cibacron Blue] (or) hydrophobic moieties. The matrix used for affinity chromatography includes Sepharose-4B Bio-gel-A-150. In all affinity purification the most effective strategy is to bind the protein of interest to a stationary phase & then to decab it with an eluent specific for that protein. The specifically & mildness of these interaction allow Significations in short time. Non specific perturbation of the ligand protein interaction is in other cases though this often results in reduced levels of purity & Sometimes in some loss of protein Activity.

Since the exact physical nature of the interaction btw an affinity ligand & bind protein is often not known some of applications of affinity chromatography

include immuno affinity & poly Histage on recombinal Proteins.

① Immuno affinity chromatography An antibody specific for protein is immobilized on the column & used to affinity purify the specific protein

② poly His tage on recombinal protein a of his residues is place on C-terminal of specific recombinal protein to be produced in & that protein can be purified of column with Ni^{+2} ions held in chelated form on affinity column.



Affinity chromatography

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Gummadi Rajesh

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315224

Topic :- cell homogenisation

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



Bio Chemistry

Seminar :-

Submitted to

Hrahseen madam

5/5

Sd/Dave

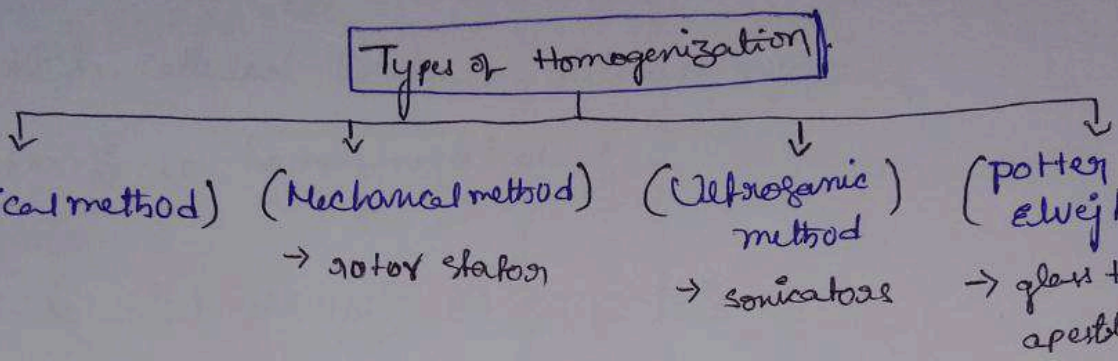
Submitted by

G. Rajesh.

Tissue Homogenization :-

:- The breakdown of intracellular structure is called "Homogenization"

Homogenization is 4 types :-



⇒ Mechanical homogenization :-

* Equipment like rotor and high pressure homogenizer are used.
* Mechanical homogenizer is also called "cell homogenizer"
* The Sample need to be fit between the rotor and stator in order to be homogenized.

⇒ Chemical homogenization :-

* "Buffers or Chemical" to prepare stability when isolating Specific biomolecules.
* yet some Chemical can be alone effectively homogenize tissue.
* "H_2O_2 Oxidizer" the cellular structure.

* Chemical such as Toluene, Ether, phenylethylalcohol, benzene, methanol, Chloroform Etc. form a Channel in cell membrane.
* These are lipid Solubilizer, forming pore through which Cellular Content releases out.

⇒ Ultra Sonic homogenization :-

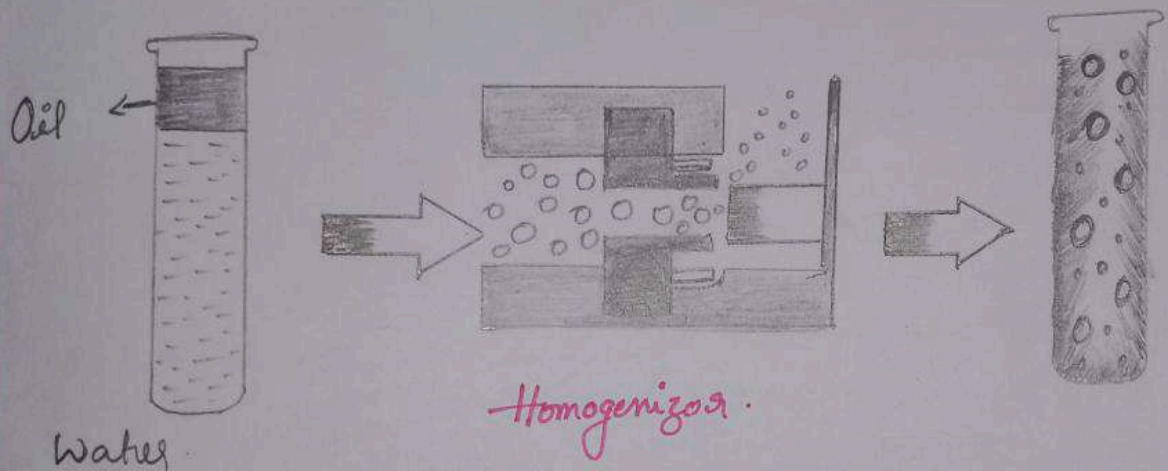
* It is also known as "Sonicator"
* In this, rupture tissue through a Combination of Cavitation and Ultra Sonic waves.
* this is a gentle technique used for animal Cells disruption but not for "plant cells and fungi".
* It will generate a Significant amount of heat so be sure to keep the Sample on "ice or Cool it".

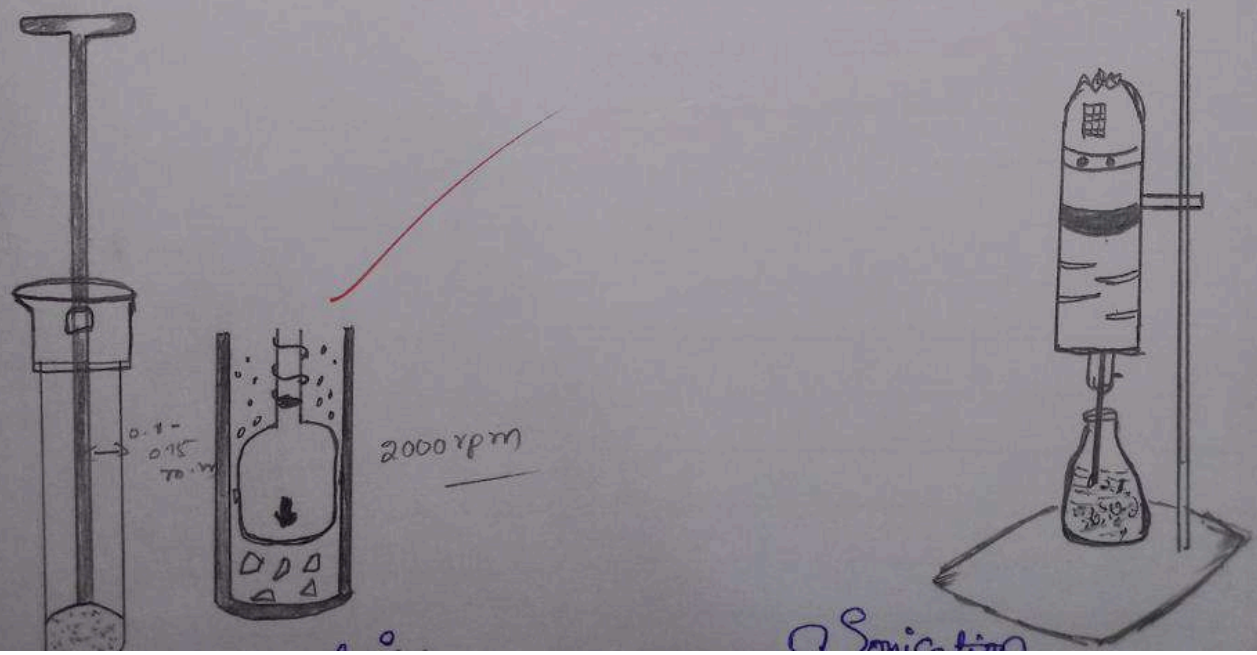
⇒ potter- Elvejham :-

* It Consists of glass tube into which fits a pestle of glass.
* the Clearance b/w the tube and pestle is b/w "0.1 and 0.15 mm".
* the pestle is driven by a motor at "2,000 rpm".

* In this instrument the tissue is roughly chopped and suspended in a relatively large volume of suitable medium.

* After homogenization the various cell components nuclei, mitochondria, microsomes etc can be separated.





SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- MALLIKARJUNA YASAM

Class :- 1st BSC [MBF]

Semister :- 2nd semester

Regd No :- 21315226

Topic :- ELECTRONIC MICROSCOPE

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



BIOCHEMISTRY

SEMINAR

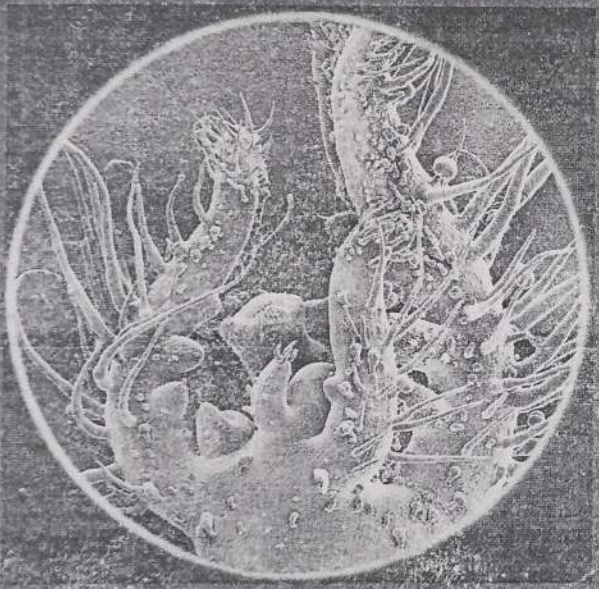
Submitted by

Mallikarjuna Yasam.
B.Sc in FMB
Reg No : 21315226

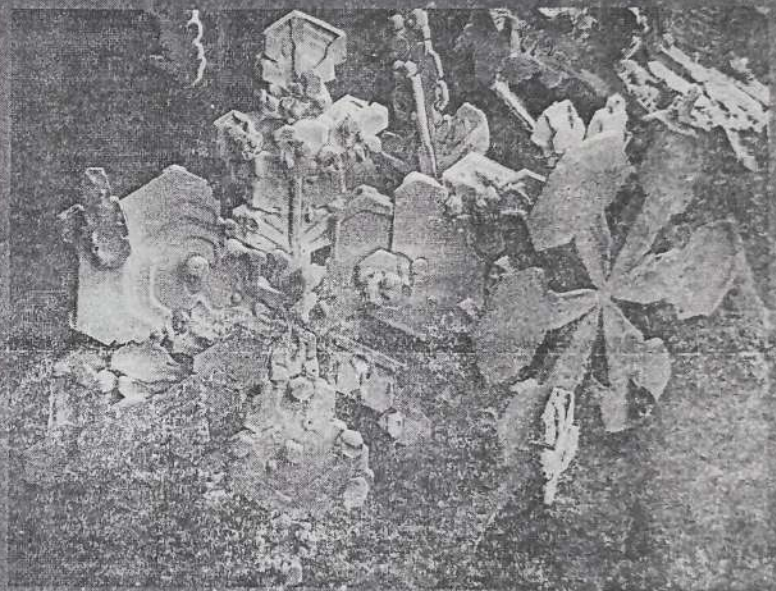
S. Vadlamudi 5/5

Electron Microscopes

A whole new world to be seen



SEM of a plant preparation in cryo conditions, -180 degrees Celsius.



SEM image of a snowflake, color has been added.

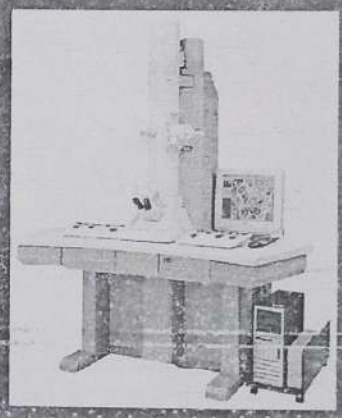
What is an electron microscope?

Most microscopes you may have seen are light microscopes, they use a lightbulb to illuminate the specimen. A light microscope is limited to a resolution up to 3 micrometers (magnification up to 1500X). After that, two objects close together do not look separate.



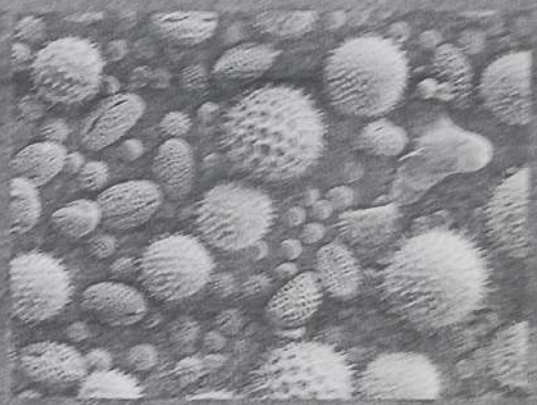
In electron microscopy, high resolution images are the result of using electrons as the source of illumination. The resolution is about 0.01 nanometers (magnification up to 300,000X).

There are two main types of electron microscopes (EM), the scanning EM (SEM), and the transmission EM (TEM).

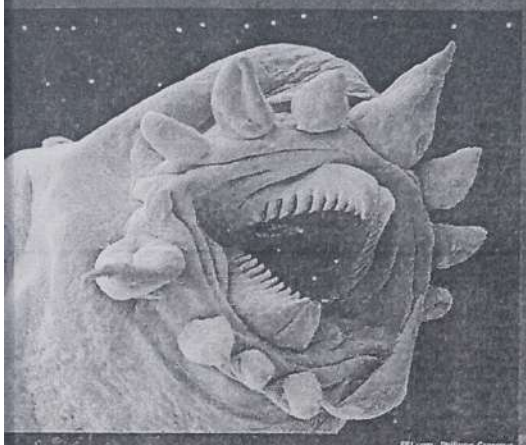


Scanning Electron Microscope(SEM)

The main parts to an SEM are: source of electrons, a column for them to travel with electromagnetic lenses, an electron detector, sample chamber, and a computer and display to view the images.

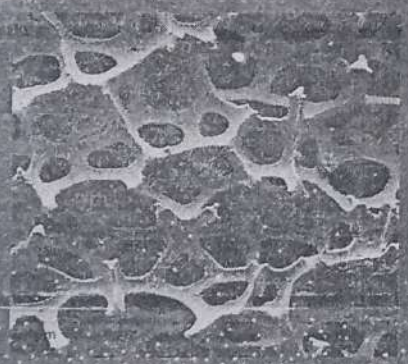


A high energy beam of electrons is aimed at the sample. As they interact with the sample, secondary electrons and X-rays are produced. Those signals are collected by the detectors and an image is formed on the computer screen.

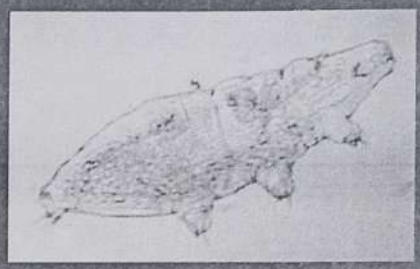


FEI.com: Philippe Crassous

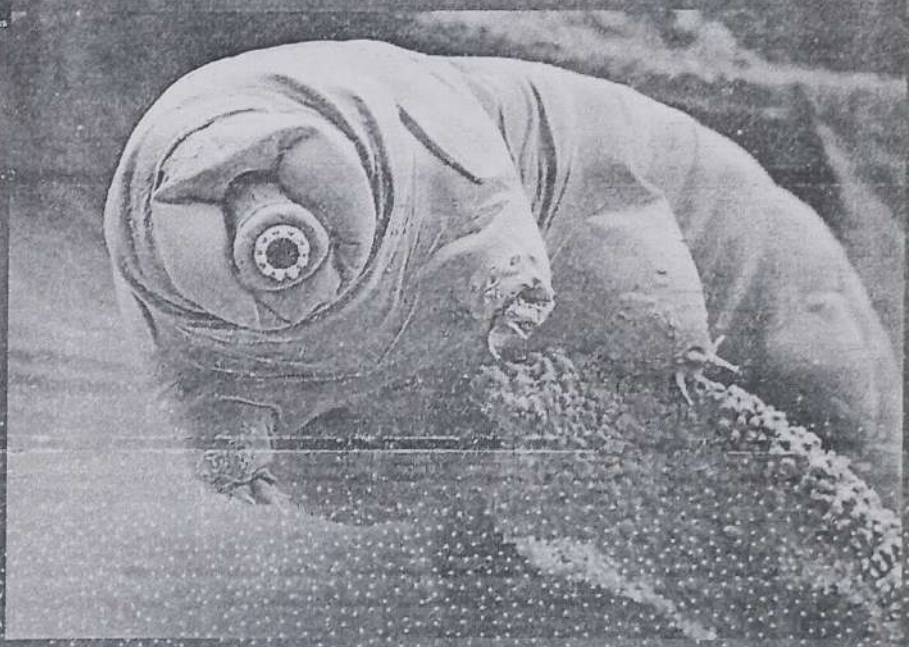
The image above is an SEM of a hydrothermal worm. This worm does not have a digestive tract, it can absorb carbon compounds directly.



SEM of 3D Graphene on Nickel Foam



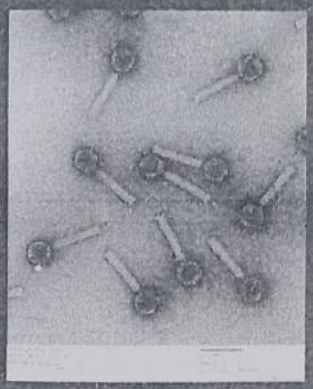
The image to the below is an SEM of a tardigrade (color has been added). They are a water-dwelling, eight-legged micro-animal. The "water bears" have been found everywhere, from mountains to mud volcanos. They are the most resilient known animals, they have even survived exposure to outer space. To the left is a light microscope image for comparison of the resolution.



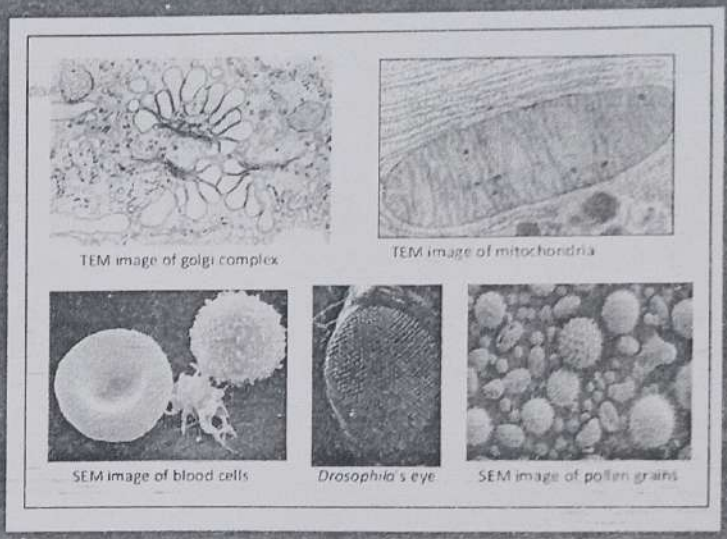
Transmission Electron Microscope (TEM)

The TEM is a little different than the SEM. A tungsten filament is used to make an electron beam in a vacuum chamber, then, instead of bouncing off the surface of the sample, the beam passes through it. The sample is a very thin slice of material, less than 100nm. When the electrons pass through, they hit a phosphor screen, CCD or film and an image is made.

TEM can have a resolution of 0.2nm, that is smaller than the size of most atoms. The TEM can show the structural arrangement of atoms in a sample material.



TEM of E. coli





Atomic resolution, demonstrated on a single crystal

High Resolution TEM (HR-TEM) image of a crystal showing the 3.82 Å lattice spacing very clearly. Small defects in the crystal on the atomic scale show up as differences in contrast, sharpness and position of the atoms.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Rajavarapu Sai vardani

Class :- 1st BSC [MBC]

Semister :- 2nd semester

Regd No :- 21313203

Topic :- Paper chromatography

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



Bio-Chemistry

SEMINOR

Submitted By:

R. Sai Vaidhavi

B.Sc (MBC)

5/5

15/7/22

DEPARTMENT OF BIOCHEMISTRY
SRM & CVR GOVT. COLLEGE
VIJAYAWADA 520 ---

Submitted To:

Tahassen Medam

Department of

Bio-Chemistry

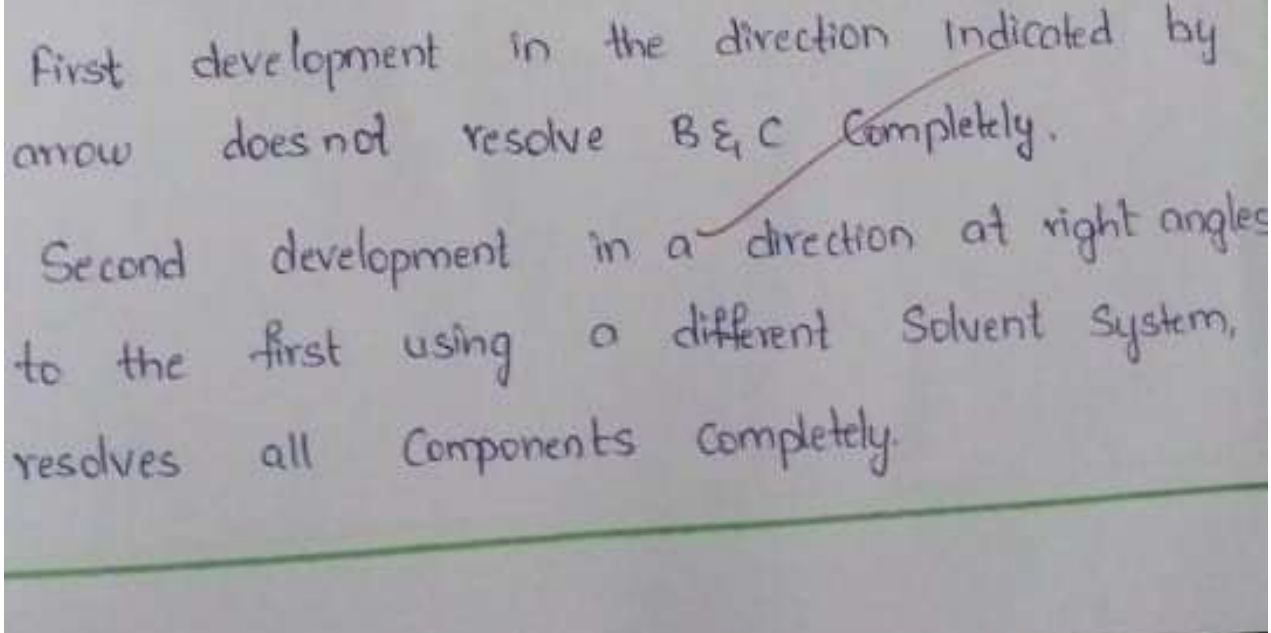
Chromatography principle:

* Chromatography is a separation technique used for the separation of bio molecules
* The scientist first time separated plant pigments by using chromatography technique.
* As the plant pigments colourful (chrom=colour), this technique is named as chromatography
* Chromatography consist of two phases:
    1) Stationary
    2) Mobile
* Stationary phase is non-movable phase
* Mobile phase is the movable phase.
* The mobile phase moves or percolates through the interstitial spaces of the stationary phase
* While the mobile phase moves through the stationary phase with solute there are repeated interactions of the solute molecules takes place (the compound to be separated) between two phases.
* The solute molecules that interact more with the stationary phase stays at the stationary phase.
* The solute molecules that interact more with the mobile phase moves with the mobile phase

wo Dimensional:-

The paper with the sample applied as a spot, lose to a corner is developed in normal fashion by ither ascending or descending procedure.

The paper is then removed and the solvent is llowed to evaporate. This paper is then turned 90 nd develop a second time with another solvent aving totally different eluting properties. Since the wo solvent used have different eluting properties The distribution co-efficient of individual Components n them will also differ. Thus Components which ould not be Separated using one Solvent alone. Can be easily Separated by this procedure.



scending:

the end of the paper near which the sample s located in the traugh at top of the tank nd rest of the paper evolved to hang ertically.

Separation is carried out has the solvent is oved out downward under gravity.

dial:

In this method the Sample is spotted at center at circularly cut out disc of paper.

The Centre of paper is connected with a wick to the solvent which is placed at base of jar (or) petry plate.

The Sample Components moves outwards radially forming Concentric circles (or) rings.

* The Sample is applied to paper as a small dot before dipping paper into the eluting Solvent.
* There are 4 techniques employed for the development of paper chromatography.

They are
- Ascending
- Descending
- Radial
- Two dimensional

Ascending :-

* Here the development is performed by Ascending paper chromatography.
* In this technique, paper is allowed to hang in a Suspended manner. The base of paper is in Contact with Solvent.
* The Solution moves vertically up by Capillary action and Separation is carried up by two forces acting in opposite direction.
  - Capillary force
  - Gravitational force
* The resolution of Sample is more better in ascending due to two oppositely acting forces.
* Due to these two forces the Sample Components are resolved better than in descending technique.

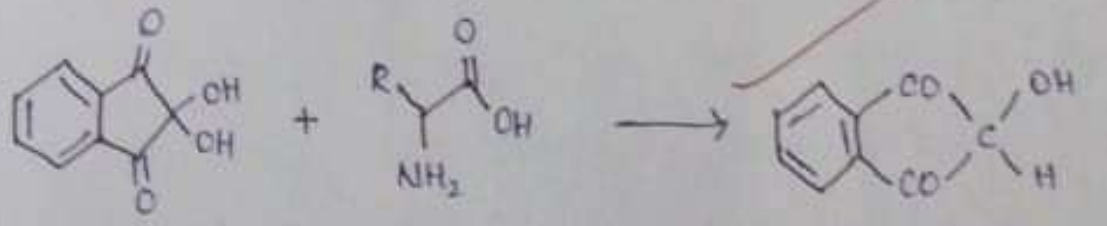
Examples of Solvent System used in paper chromatography

Solvents Systems Use	Ratio	Amino acids
• Butan-1-ol / Acetic acid & water	40/10/50 [4:1:5]	Amino acids
• Butan-1-ol / Pyridine / water	33/33/33 3:3:3 - 1:1:1	Amino acids
• Chloroform / Petroleum ether	30/70, 3:7	Plant pigment

Detection :-

* There are various methods of Detection available. If the sample components are coloured. The Analyses becomes simple as the distinctive Colour itself identifies the component.

* For Amino acid Ninhydrin Reagent Spread on the paper reacts with Ammines & Amino acids to form a purple colour [Ruheman's Complex]



Ninhydrin Amino acid Hydrin dantin

* The Solute molecules that have intermediate interactions with the stationary phase and mobile phase moves to intermediate distances like that the Separation is carried out. Therefore the solute molecule is partitioned between the two phases due to it interactions with either mobile phase or stationary phase.

* The interactions could be electrostatic interactions, Hydrogen bonds, Hyblophilic / Hydrophobic interactions, Wanderwall forces etc.. which are non-covalent interactions.

Types of Interactions [Nature of partition forces]

The types of interactions are Non-polar interaction interactions, hydrophobic (or) hydrophillic interactions. Electrostatic interaction, Vanderwall forces, Hydrogen bonds.

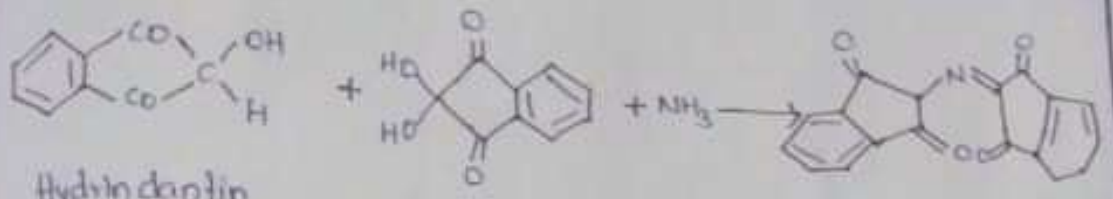
PAPER CHROMATOGRAPHY

Nature of the paper :-

The paper commonly used is highly purified Cellulose the impurities in the paper are removed out by treating it with 0.1 N Hcl. The paper holds the moisture by formation of Hydrogen bonds and acts as Stationary phase. water bounded to the cellulose fibers act as stationary phase.

Apparatus and paper development :-

* The apparatus consists of Support (for paper) a Solvent for trough and an airlight chamber.



Hydrindantin + Ninhydrin + NH_3 → Rheomann's purple

Other Methods of Detection are :-

1. Ultra violet and Infrared Absorption
2. Fluorescence
3. Radio Activity.

* The Identification of a given Compound may be made on Basic of Distance moved by the Solute Relative to the Distance moved by Solvent front.

The ratio is known as retardation factor (also known as relative flow) Rf

$$Rf = \frac{\text{The distance moved by Solute}}{\text{The distance moved by solvent front}}$$

Applications :

* The technique of paper chromatography has revolutionized bio-chemistry and it can be used for analysis of purity of pharmaceuticals.

* Adulterants and contaminants in food and drinks.
* The study of ripening and fermentation.
* The detection of drugs and dopes in animals and humans.
* The analysis of cosmetics.
* The analysis of reaction mixture in bio-chemical labs.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- AREPALLI UPENDRA

Class :- 1st BSC [MBF]

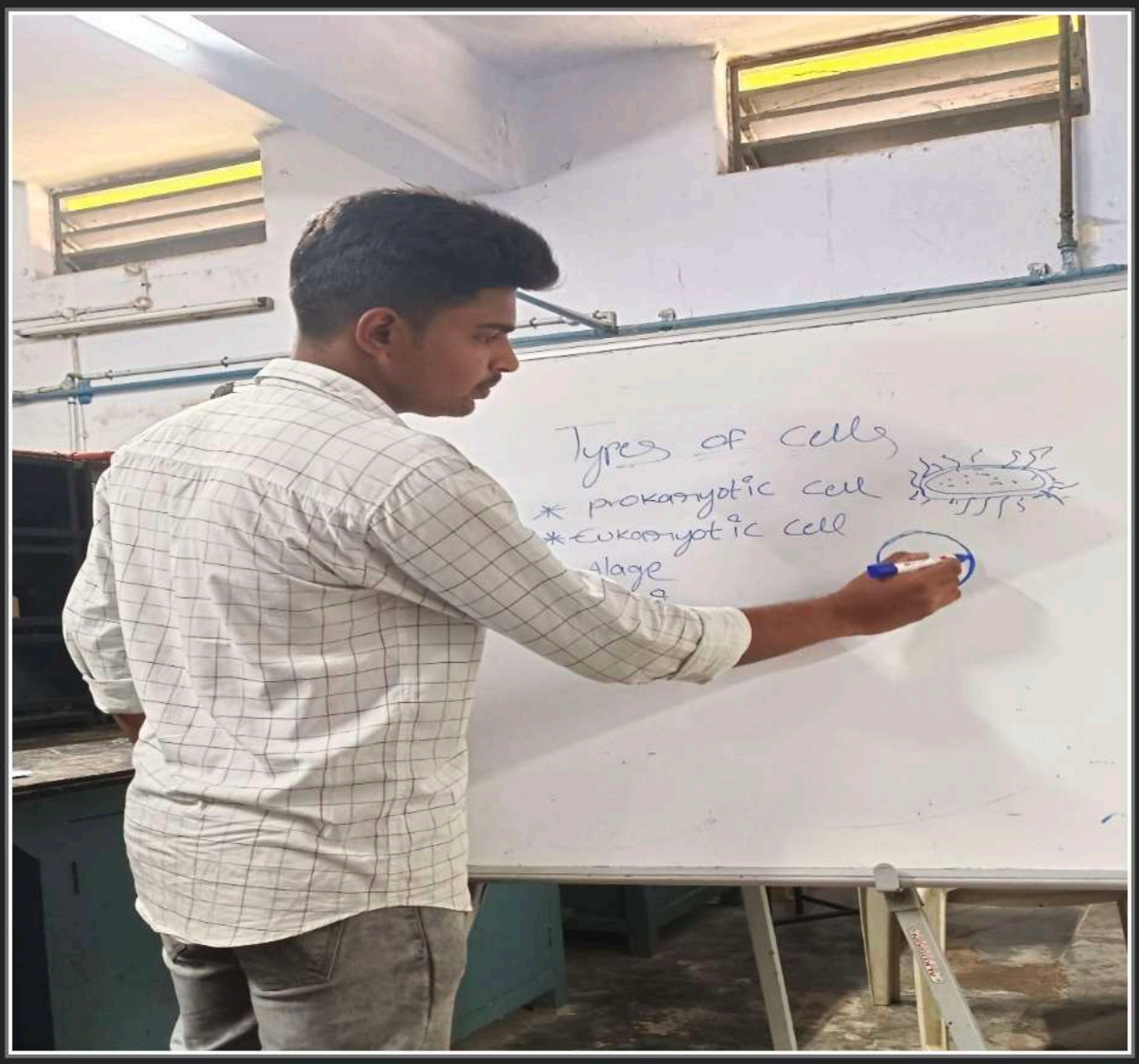
Semister :- 2nd semester

Regd No :- 21315205

Topic :- TYPES OF CELLS

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. SYED VAZIHA TAHASEEN



BIO-CHEMISTRY SEMINOR

Submitted By:

D. Upendra

B.Sc (MBF)

5/5

Submitted To:

Tahaseen Medam

Department of

Bio-chemistry

Plant Cell	Animal Cell.
1. Cell wall present	1 Cell wall is absent
2. Nucleus usually lies near periphery due to vacuole.	2. Nucleus present near the centre
3. Mitochondria are genually spherical or oval in shape	3. Mitochondria are genually tubular in shape.
4. Single large central vacuole is present	4. Many vacuoles occur, which are smaller in size
5. Cytoplasm during cell devision usually divides by cell plate method.	5. Cytoplasm divides by furrowing or cleavage method.
6. plant cells are capable forming all the amino acids, coenzymes & vitamins	6. Animal cells cannot form all the aminoacids, coenzymes and vitamins
7. plastids are present, except fungi.	7. plasticls are absent.
8. Lysosomes present less in number	8. Lysosomes present are more in number.
9. Centrosomes and centrioles	9. Centrosomes and

Algae	Fungi
1. Algae belong to the kingdom protista	1. Fungi belong to the kingdom Fungi.
2. They are mostly aquatic and found in both fresh and marine water	2. They are terrestrial and mostly found on the dead matter with proper warmth and moisture
3. Only Cyanobacteria are prokaryotic algae. Other Algae are eukaryotes	3. All fungi are eukaryotes.
4. It possesses Chlorophyll for photosynthesis	4. It does not possess any photosynthetic pigments.
5. Being an autotroph, algae possess chlorophyll and other photosynthetic pigments.	5. Fungi are heterotrophs, they digest external food by secreting enzymes
6. They cannot live in the dark	6. They can live in the dark.
7. The cell wall is composed of Cellulose.	7. The cell wall is composed of chitin
8. It stores food in the form of starch	8. It stores food in the form of glycogen & oil globules.
9. It consists of uninucleated cells	9. It consists of multinucleated cells

Prokaryotic Cell	Eukaryotic Cell
1. The nucleus of prokaryotic cell is not distinct	1. The nucleus of eukaryotic cell is distinct with nuclear membrane, nucleoli and nucleoplasm.
2. prokaryotic cells are about 1 to 10 μm in size	2. Eukaryotic cells are about 5 to 100 μm in size.
3. Due to the absence of nuclear membrane, the nuclear material comes in contact with the cytoplasm	3. Due to the presence of nuclear membrane, nucleoplasm and cytoplasm never come in physical contact with each other
4. The cell organells if present all without membranes.	4. The cell organelles are always bonds with membranes.
5. Mitochondria are absent in prokaryotic cell	5. Mitochondria are present in eukaryotic cell.
6. Chlorophyll is present in the vesicles and not in plastids	6. Chlorophyll is always inside the chloroplast
7. prokaryotic cells are found in blue-green algae & bacteria	7. Eukaryotic cells are found in highly evolved plants & animals
8. There is indistinct nucleoid in which prokaryotic DNA is present. There is a single chromosome	8. The nucleus is distinct with more than one chromosomes

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VIJAYAWADA, KRISHAN DIST., A.P

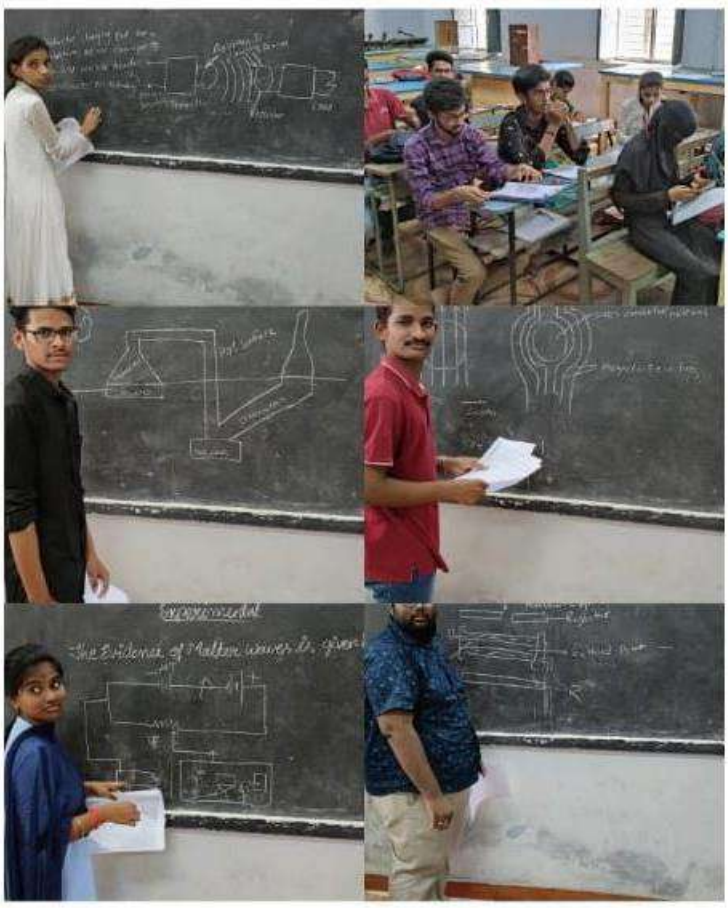
NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

2021-22

II B.Sc (MPCs)

STUDENT SEMINARS



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SMEINAR

NAME OF THE STUDENT : **P. Satya Naga Vara Prasad**

CLASS : **II B.SC (MPC)**

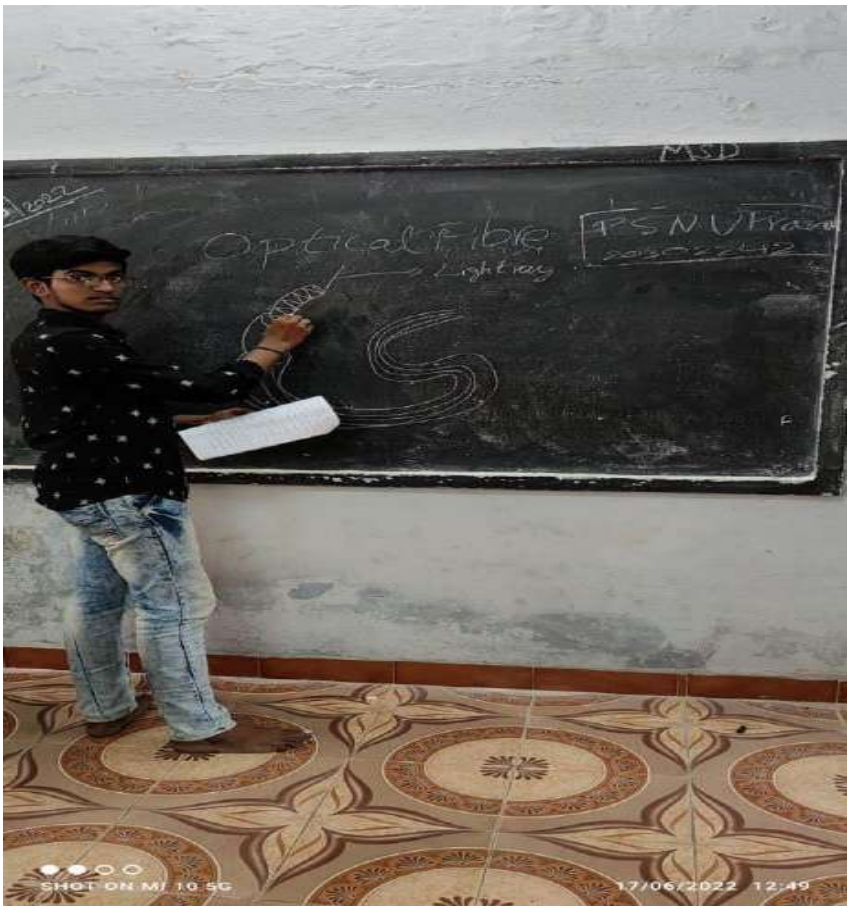
SEMESTER : **IV SEMESTER**

Regd. No. **20302242**

TOPIC : **OPTICAL FIBER**

DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B.Nagamani**



P. Sulyanaga, Vemavaram, Prakasam dt. 523260

Optical fiber

An optical fiber is a flexible, transparent fiber made by drawing glass or plastic to a diameter slightly thicker than that of a human hair. Optical fibers are used most often as a means to transmit light between the two ends of the fiber and find wide usage in fiber-optic communications, where they permit transmission over longer distand at higher bandwidths than electrical cables. Fibers are used instead of metal wires because signals travel along them with less loss; in addition, fibers are immune to electromagnetic inferenco, a problem from which metal wires suffer. Fibers are also used for illumination and imagi are often wrapped in bundles so they may be used to carry light into, or images out of confined spaces, as in the case

36/50

Paper-5

Optic-fiber

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SMEINAR

NAME OF THE STUDENT : **M.KEERTHIKA**

CLASS : **II B.SC (MPC)**

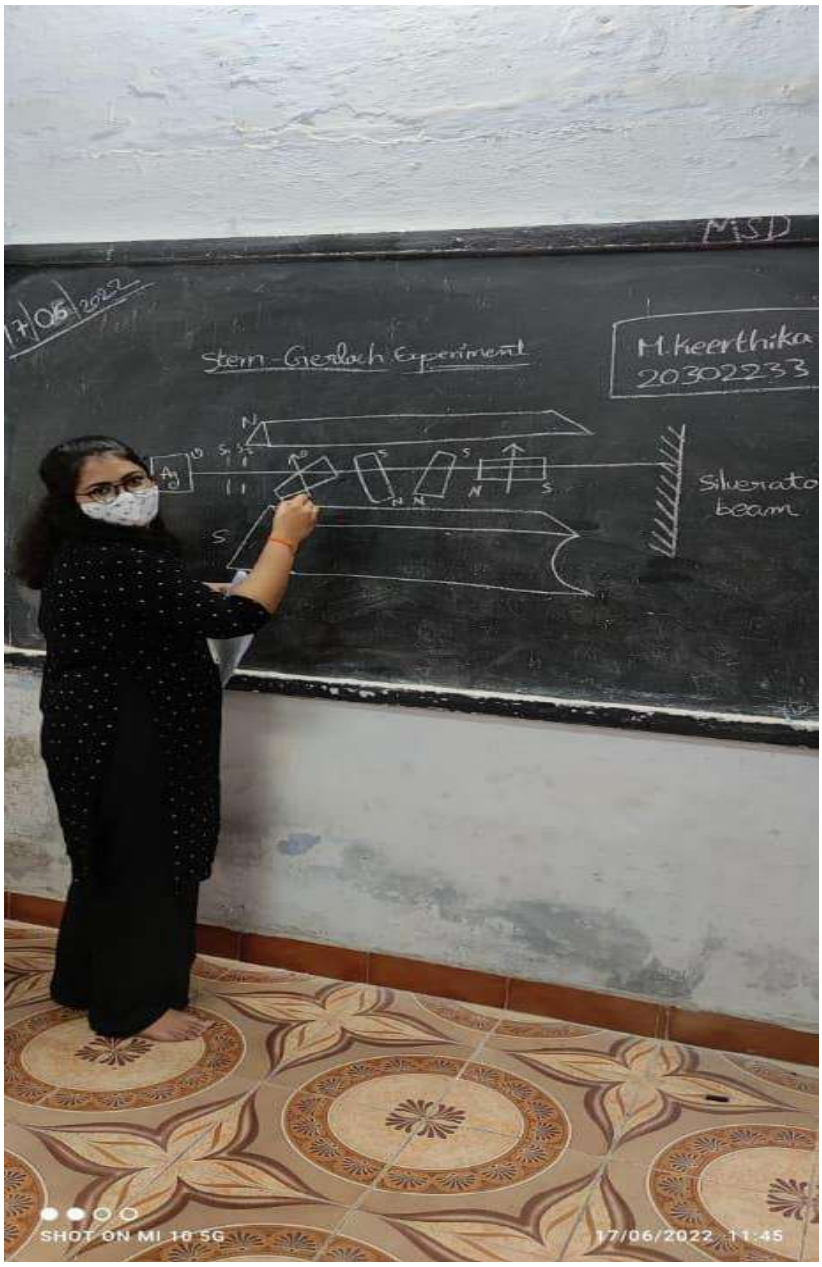
SEMESTER : **IV SEMESTER**

Regd. No. **20302233**

TOPIC : **STERN GERLACH EXPERIMENT**

DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**

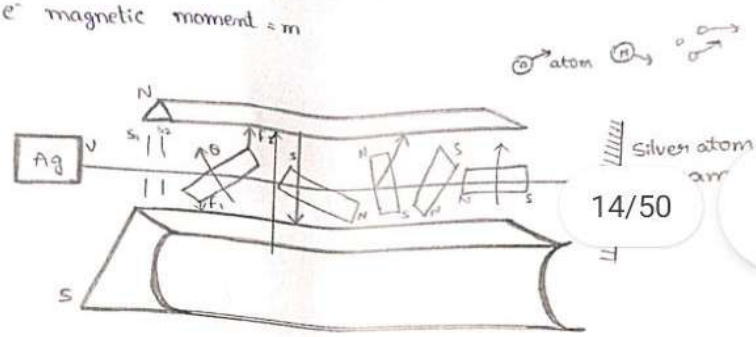


M. Keerthika Ex : 2030222 33 (1)

Stern Gerlach Experiment

Inhomogeneous magnetic field on an e^- paralled Ag atom beam is made by heating Ag in small electric oven add and beam is through slits S_1 & S_2 . st.beam

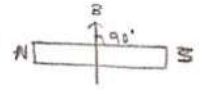
e^- magnetic moment = m



$F = F_1 - F_2$

Where F_1 = force on 'S' pole,

F_2 = force on 'N' pole of e^- silver atom



$m = MB\cos\theta$

$M = lm$

atomic magnets have all possible orientations



classical theory

an infinite no. of lines

continuous narrow strip



$= \frac{1}{2} \frac{m\cos\theta\left(\frac{\partial B}{\partial y}\right)\left(\frac{l}{v}\right)}{m}$

Experimental

2 lines

Silver e^- magnets has only 2 possible orientations $\left(B + \frac{\partial B}{\partial y} l\cos t\right)$

$F_2 = \mu B$

$F_1 = \mu\left(B + \frac{\partial B}{\partial y} l\cos\theta\right)$

Seminar

Name :- CH. RATNA DURGESWAR

Group :- II BSc [MPCS]

Subject :- Physics

Paper :- IV

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **D.DURGA**

CLASS : **II B.SC (MPC)**

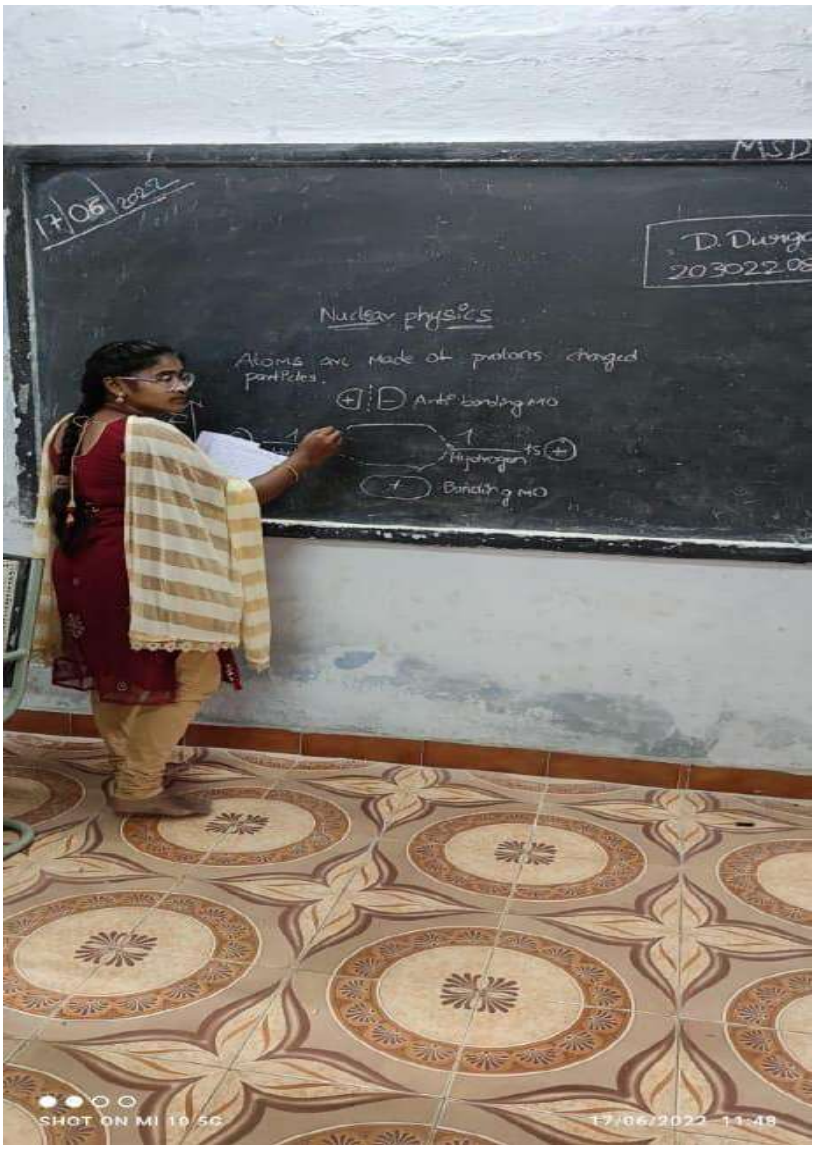
SEMESTER : **IV SEMESTER**

Regd. No. : **20302208**

TOPIC : **Properties of Nucleus**

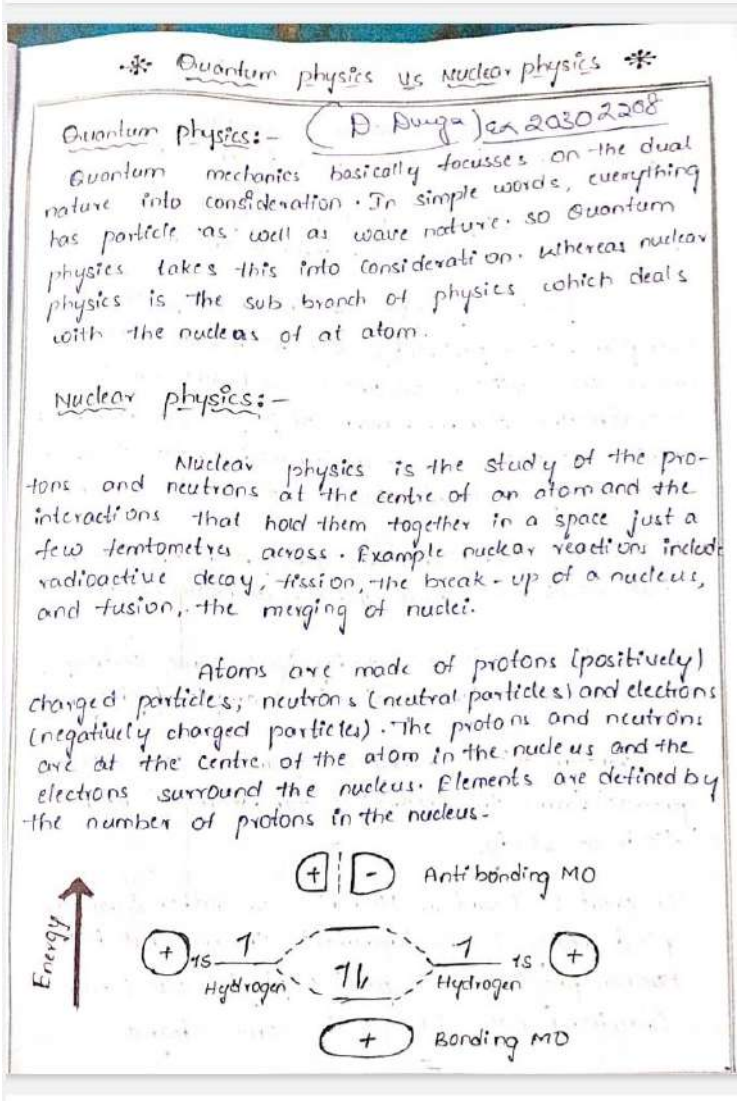
DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR



✻ Quantum physics vs Nuclear physics ✻

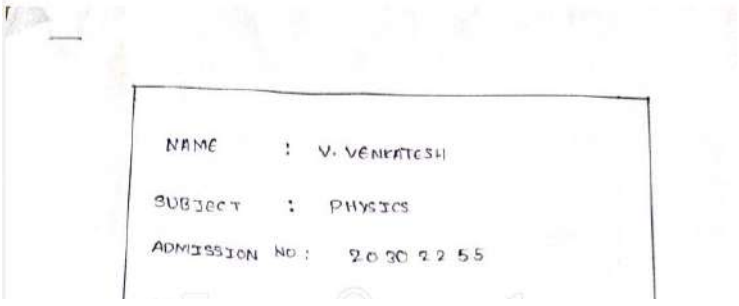
Quantum physics:- (D. Durga) ea 2030208

Quantum mechanics basically focusses on the dual nature into consideration. In simple words, everything has particle as well as wave nature. so Quantum physics takes this into consideration. whereas nuclear physics is the sub branch of physics which deals with the nucleas of at atom.

Nuclear physics:-

Nuclear physics is the study of the protons and neutrons at the centre of an atom and the interactions that hold them together in a space just a few femtometres across. Example nuclear reactions include radioactive decay, fission, the break-up of a nucleus, and fusion, the merging of nuclei.

Atoms are made of protons (positively) charged particles; neutrons (neutral particles) and electrons (negatively charged particles). The protons and neutrons are at the centre of the atom in the nucleus and the electrons surround the nucleus. Elements are defined by the number of protons in the nucleus.



NAME : V. VENKATESH

SUBJECT : PHYSICS

ADMISSION NO : 2030225 5

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **G.ADILAKSHMI**

CLASS : **II B.SC (MPC)**

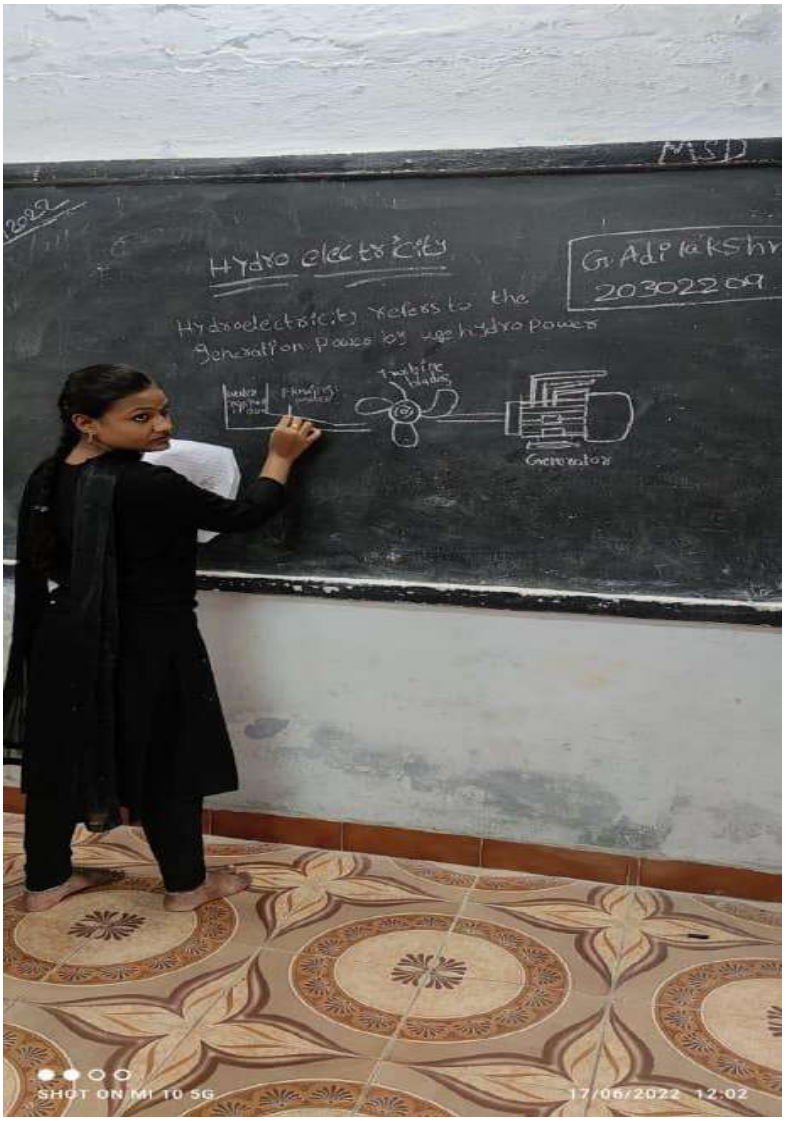
SEMESTER : **IV SEMESTER**

Regd. No. : **20302209**

TOPIC : **HYDRO ELECTRICITY**

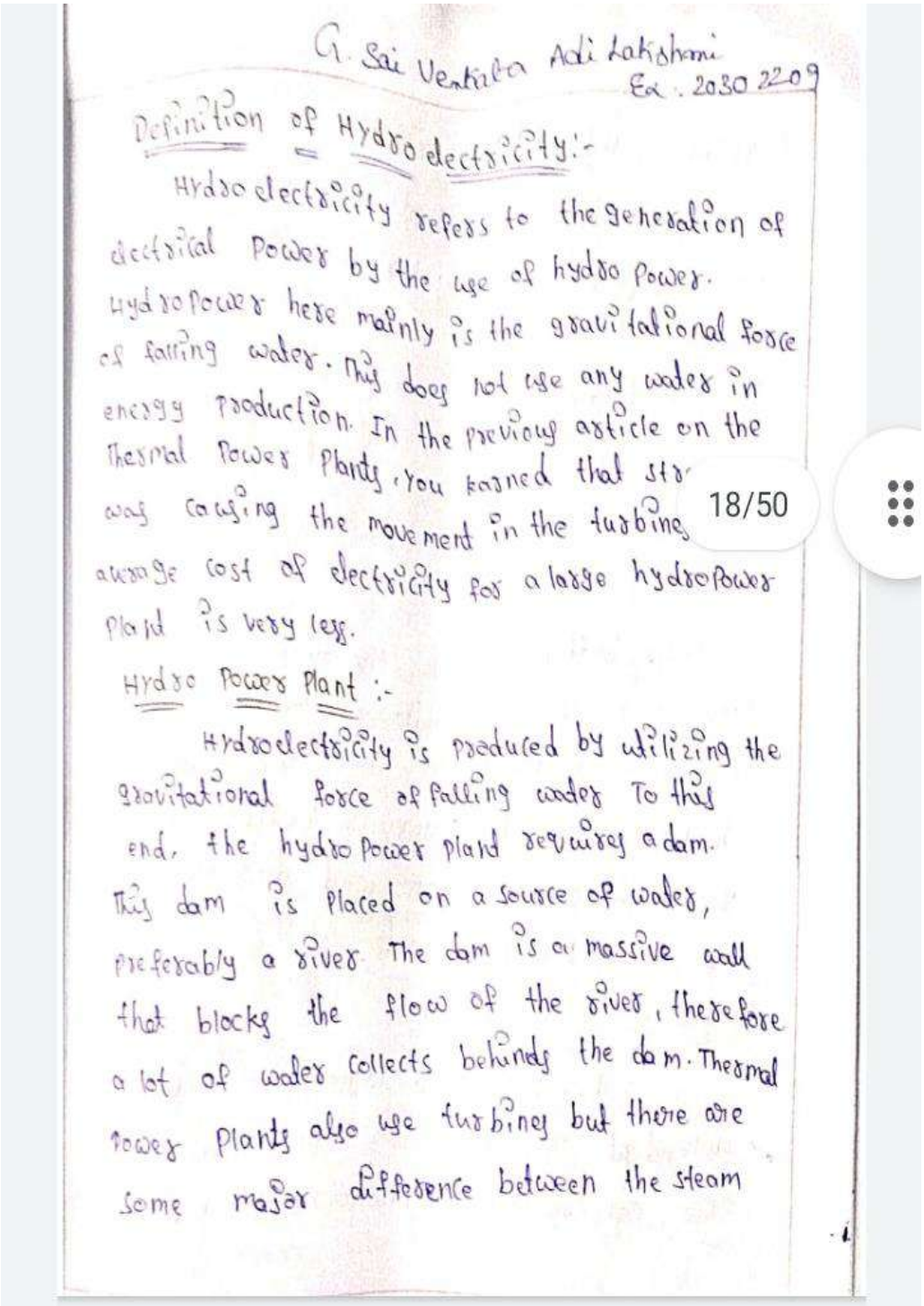
DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



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STUDENT SEMINAR



G. Sai Venkata Adi Lakshmi
Ex. 2030 2209

Definition of Hydro electricity:-

Hydro electricity refers to the generation of electrical power by the use of hydro power. Hydropower here mainly is the gravitational force of falling water. This does not use any water in energy production. In the previous article on the Thermal Power Plants, you learned that str... was causing the movement in the turbines, ... average cost of electricity for a large hydropower plant is very less.

18/50

Hydro Power Plant :-

Hydroelectricity is produced by utilizing the gravitational force of falling water To this end, the hydro power plant requires a dam. This dam is placed on a source of water, preferably a river. The dam is a massive wall that blocks the flow of the river, therefore a lot of water collects behinds the dam. Thermal power plants also use turbines but there are some major difference between the steam

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STUDENT SEMINAR

NAME OF THE STUDENT : **Sd. Yusub**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20302249**

TOPIC : **BCS THEORY**

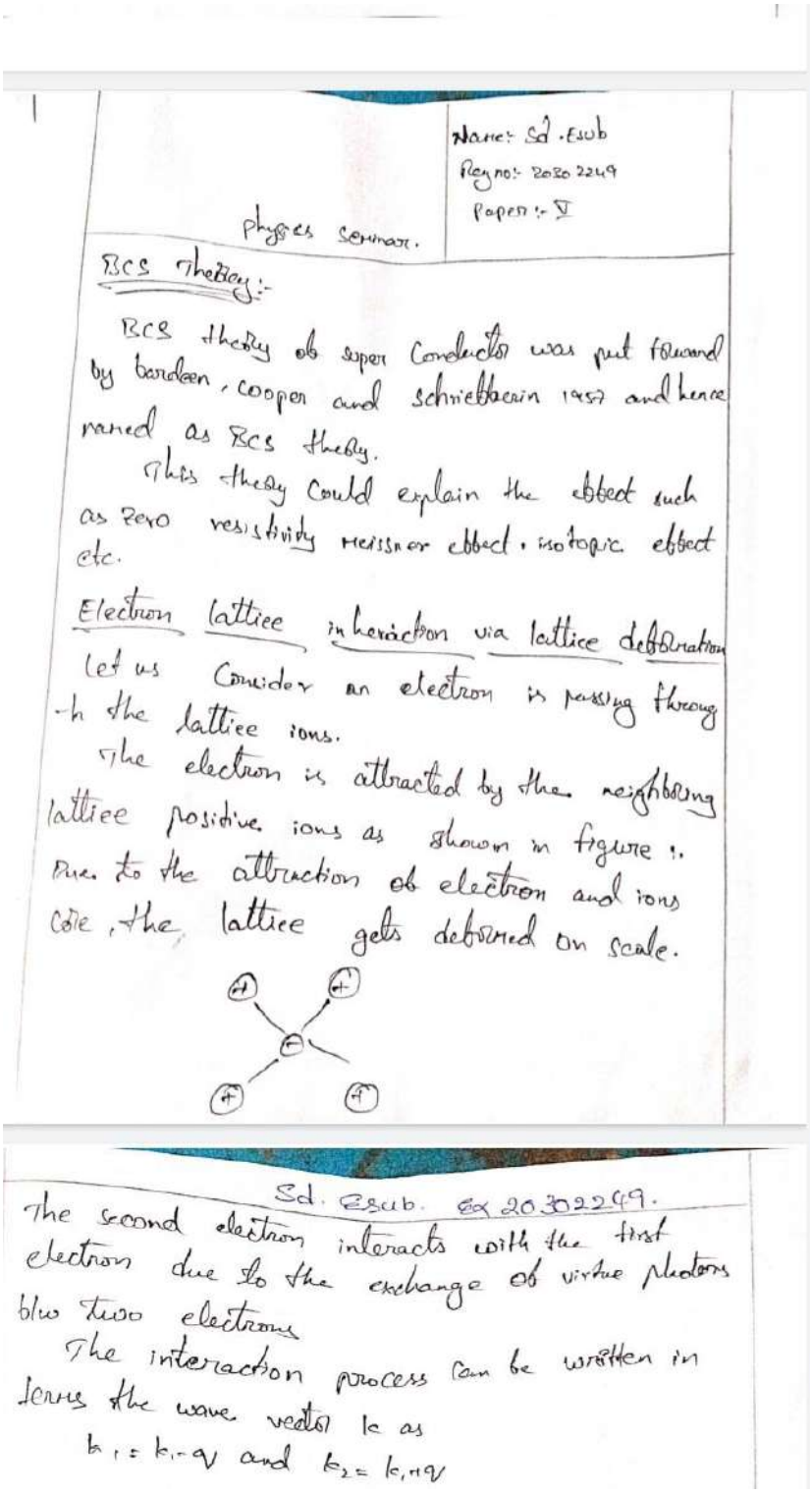
DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR



Name: Sd. Esub
Reg no: 2030 2249
Paper :- V

physics seminar.

BCS Theory :-

BCS theory of super Conductor was put forward by bardeen, cooper and schrieffaerin 1957 and hence named as BCS theory.

This theory could explain the effect such as zero resistivity meissner effect, isotopic effect etc.

Electron lattice interaction via lattice deformation

Let us Consider an electron is passing through the lattice ions.

The electron is attracted by the neighbouring lattice positive ions as shown in figure :.

Due to the attraction of electron and ions core, the lattice gets deformed on scale.

Sd. Esub. 2030 2249.

The second electron interacts with the first electron due to the exchange of virtue photons blw two electrons

The interaction process can be written in terms the wave vector k as

$k_1 = k - q$ and $k_2 = k + q$

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STUDENT SEMINAR

NAME OF THE STUDENT : **K.KARUNAKAR**

CLASS : **II B.SC (MPC)**

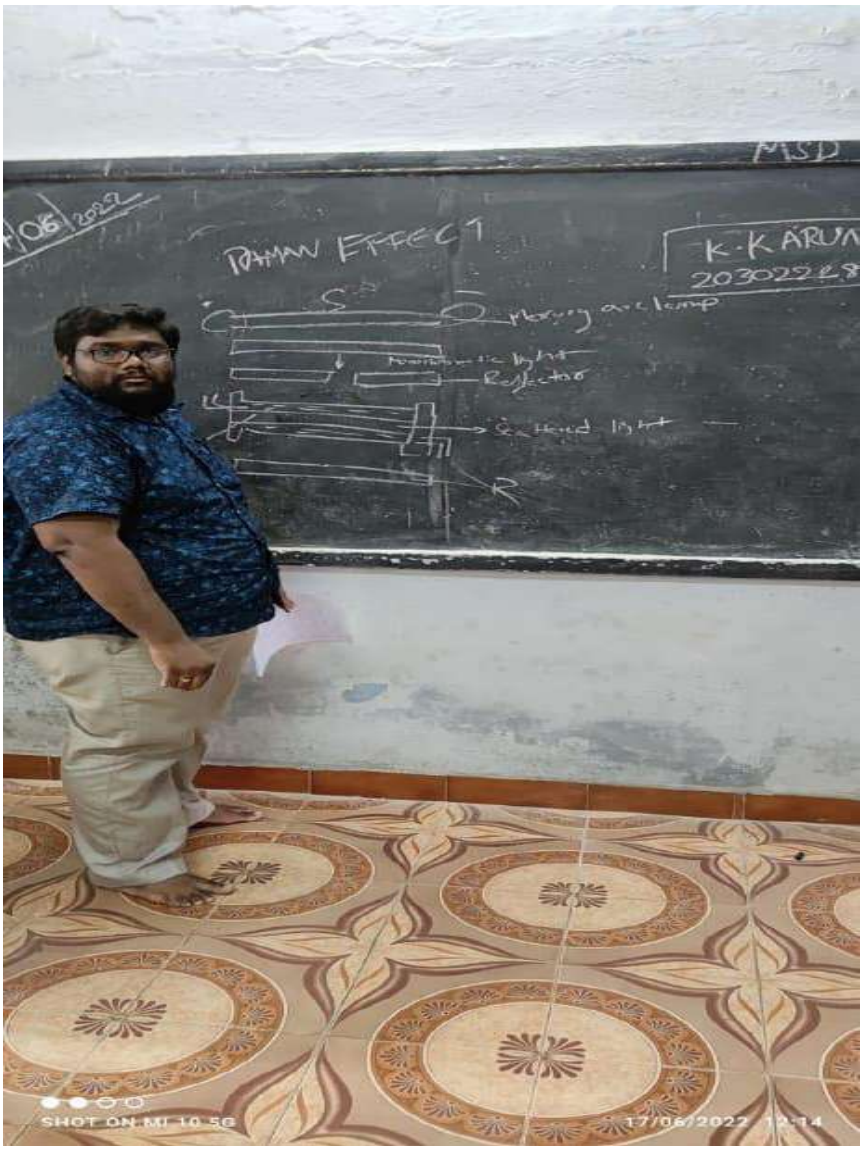
SEMESTER : **IV SEMESTER**

Regd. No. : **20302228**

TOPIC : **RAMAN EFFECT**

DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



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STUDENT SEMINAR

If incident light on a photosensitive surface of a certain frequency, photons absorbed by the semiconductor give bound electrons enough

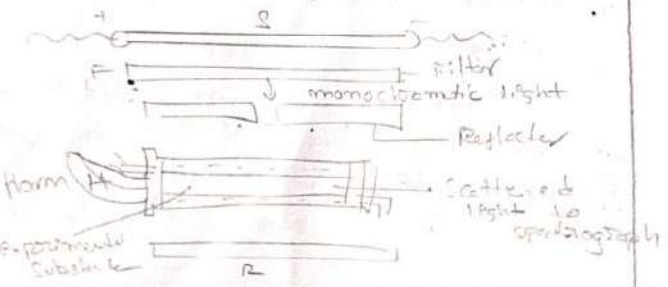
K. karunakar
BSc(MPCs), IV Sem
2030 2228

Physics Seminar - V

RAMAN EFFECT

When monochromatic beam of Incident light is passed through a gas, liquid or colourless transparent solid body the light is scattered.

In 1928 Sir C.V. Raman observed that the spectrum of scattered light consists of frequencies greater and smaller than that of incident beam frequency this known as Raman effect.



K Karunakar Ex 2030 2228

-> The Raman tube is consists the experimental liquid is placed. The Raman tube length 10 to 15 cm and diameter 1 to 2 cm.

-> The tube is closed at one end by an optically plane glass plate 'W' and another end it is drawn into a horn

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STUDENT SEMINAR

NAME OF THE STUDENT : **CH. RATNA DURGESWAR**

CLASS : **II B.SC (MPC)**

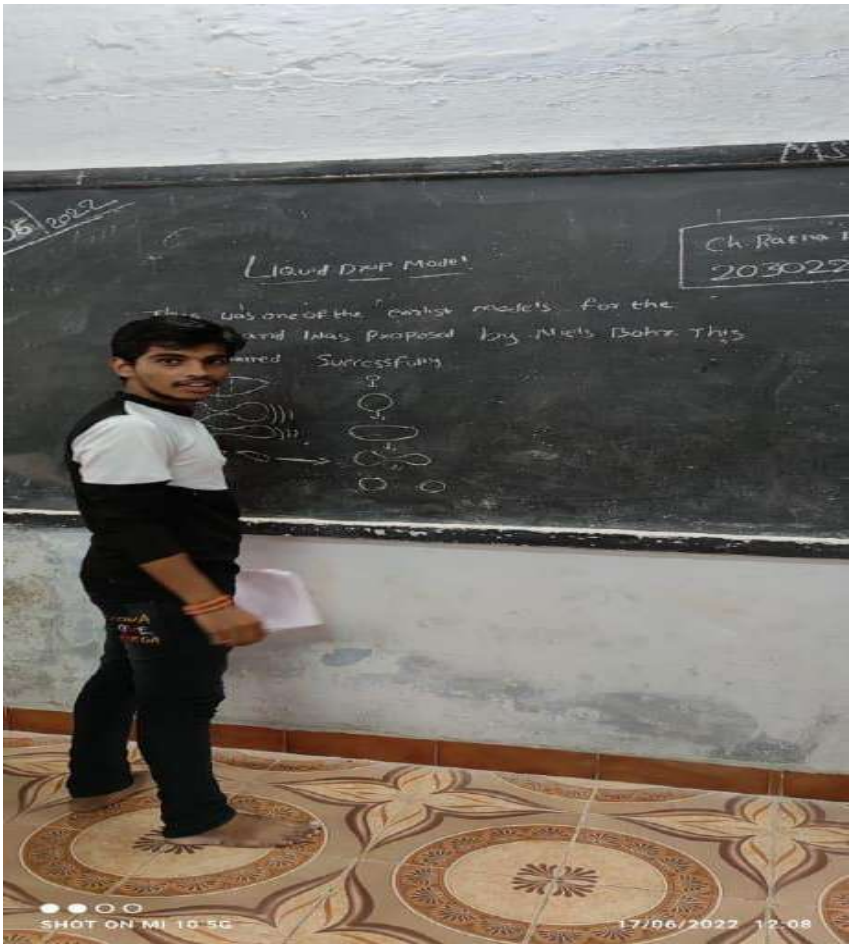
SEMESTER : **IV SEMESTER**

Regd. No. **20302207**

TOPIC : **LIQUID DROP MODEL**

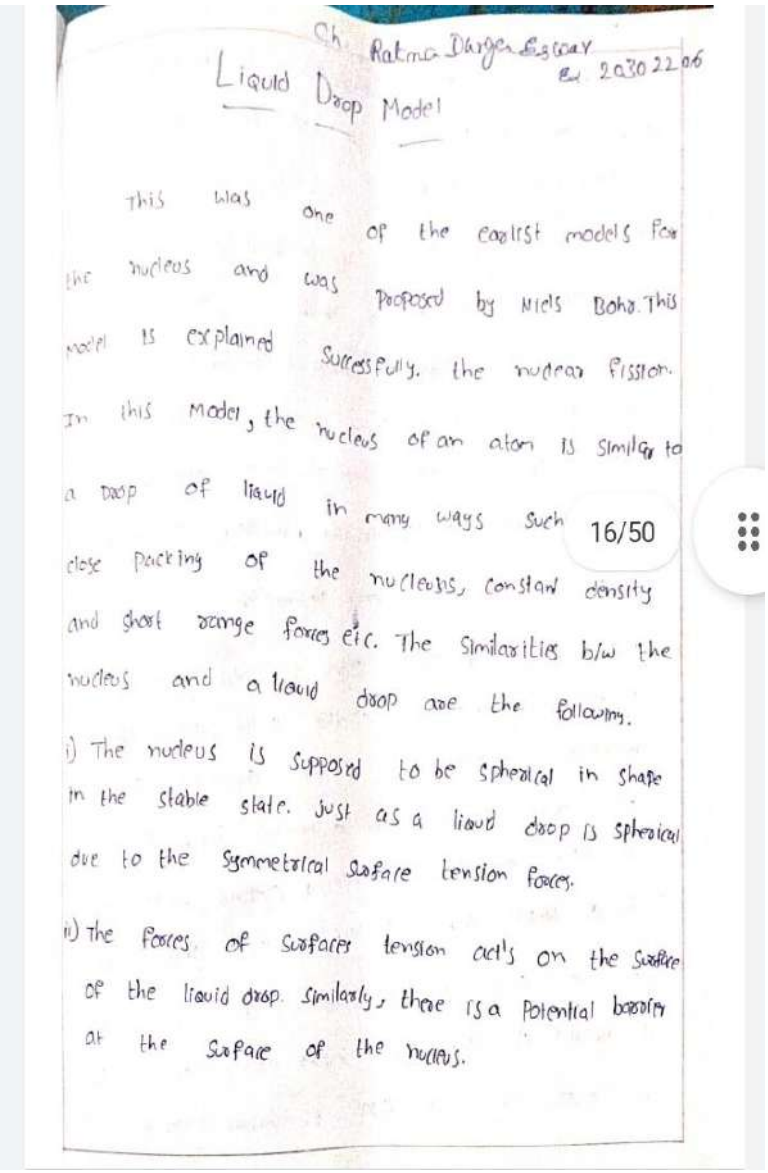
DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR



Ch. Ratna Durga Sravan
Reg 203022206

Liquid Drop Model

This was one of the earlist models for the nucleus and was proposed by Niels Bohr. This model is explained successfully the nuclear fission. In this model, the nucleus of an atom is similar to a drop of liquid in many ways such close packing of the nucleons, constant density and short range forces etc. The similarities b/w the nucleus and a liquid drop are the following.

i) The nucleus is supposed to be spherical in shape in the stable state. just as a liquid drop is spherical due to the symmetrical surface tension forces.

ii) The forces of surfaces tension act's on the surface of the liquid drop. similarly, there is a potential barrier at the surface of the nucleus.

16/50

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STUDENT SMEINAR

NAME OF THE STUDENT : **V. VENKATESH**

CLASS : **II B.SC (MPC)**

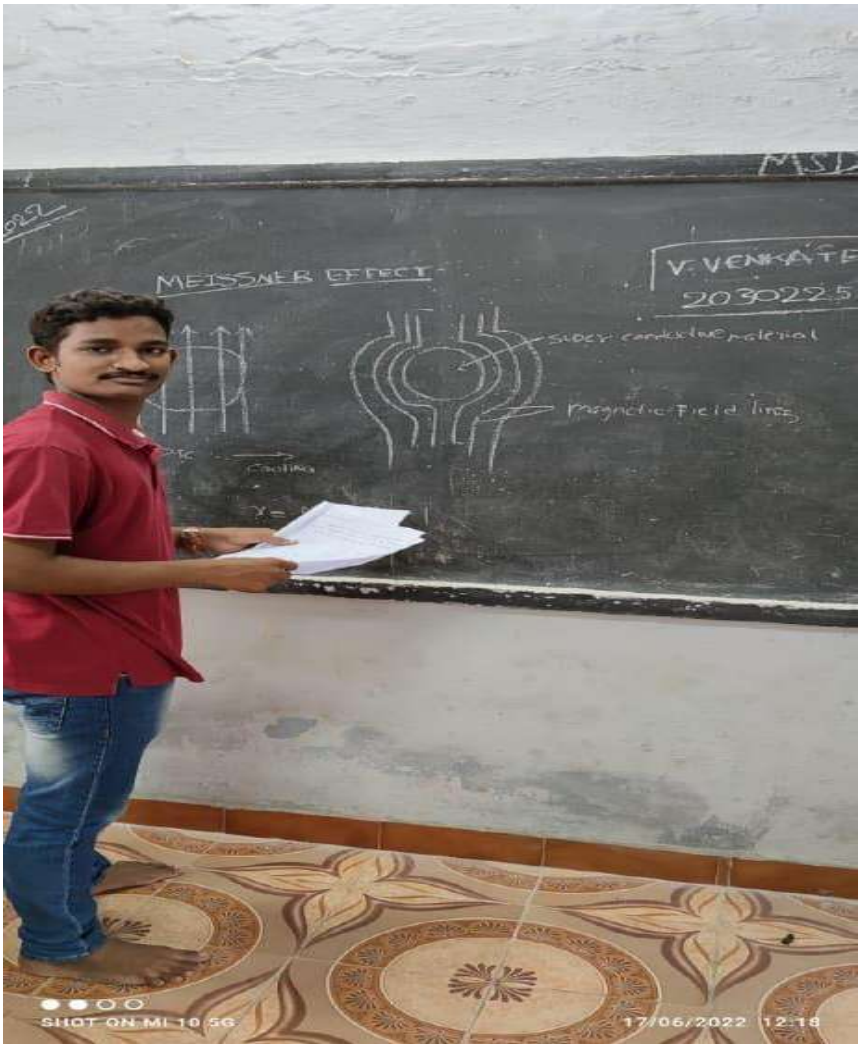
SEMESTER : **IV SEMESTER**

Regd. No. : **20302254**

TOPIC : **MEISSNER EFFECT**

DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SMEINAR

NAME OF THE STUDENT : **SK. MOTHI**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. : **20302247**

TOPIC : **WAVE ENERGY CONVERTER**

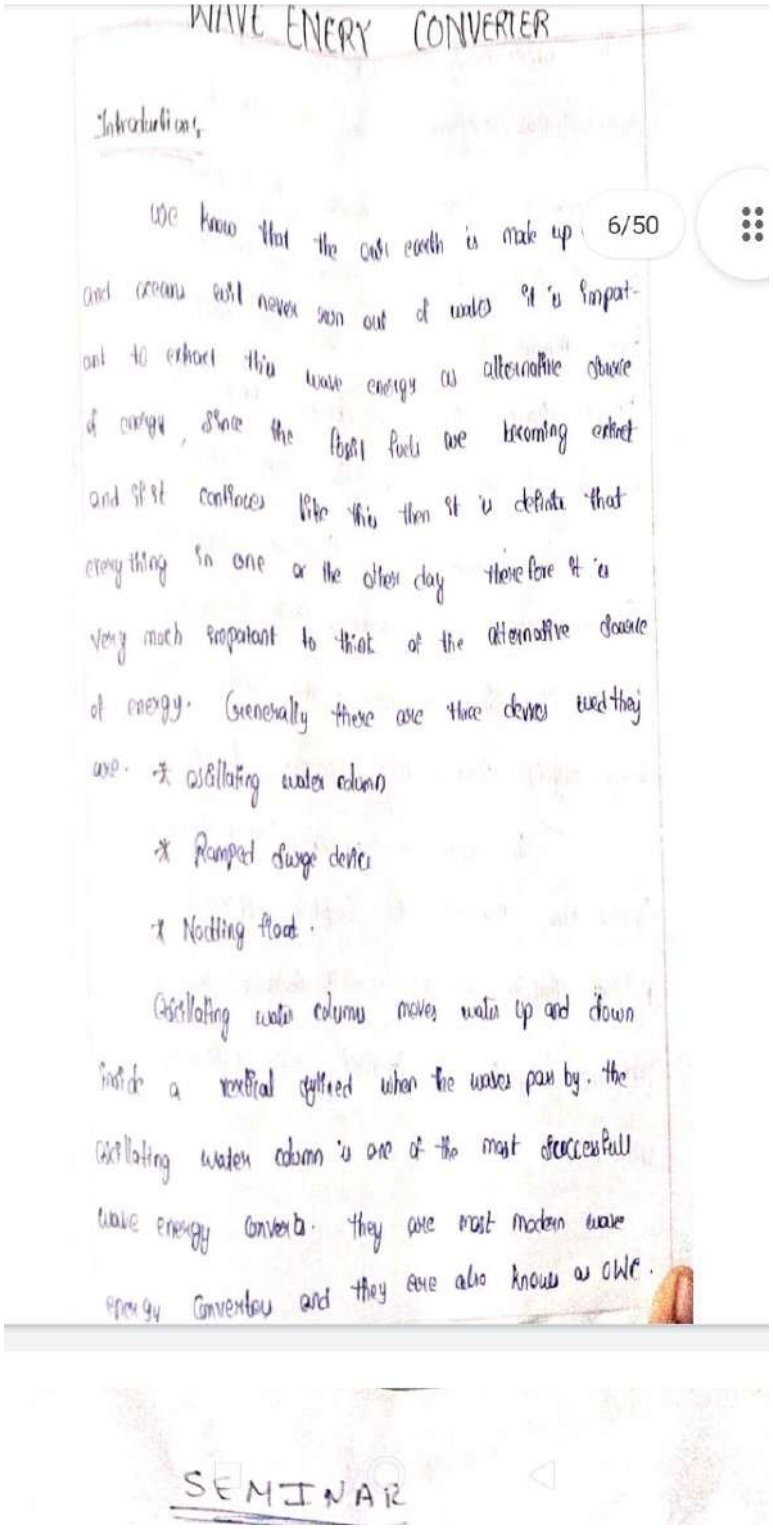
DATE OF SEMINAR :**17.06.2022**

NAME OF THE LECTURER : **B. Nagamani**



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STUDENT SMEINAR



WAVE ENERY CONVERTER

Introduction:

We know that the earth is make up and oceans will never seen out of water it is important to extract this wave energy as alternative source of energy, since the fossil fuels we becoming extinct and if it continues like this then it is definite that everything in one or the other day therefore it is very much important to that of the alternative source of energy. Generally there are three devices used they are. * oscillating water column

* Pumped surge device

* Nodding float.

Oscillating water columns moves water up and down inside a vertical cylinder when the waves pass by. the oscillating water column is one of the most successfull wave energy converts. they are most modern wave energy Convertors and they are also known as OWC.

6/50

SEMINAR

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STUDENT SMEINAR

NAME OF THE STUDENT : **P.JAYASRI**

CLASS : **II B.SC (MPC)**

SEMESTER : **IV SEMESTER**

Regd. No. **20302239**

TOPIC : **WIRELESS POWER TRANSFER**

DATE OF SEMINAR :**17.06.2022**

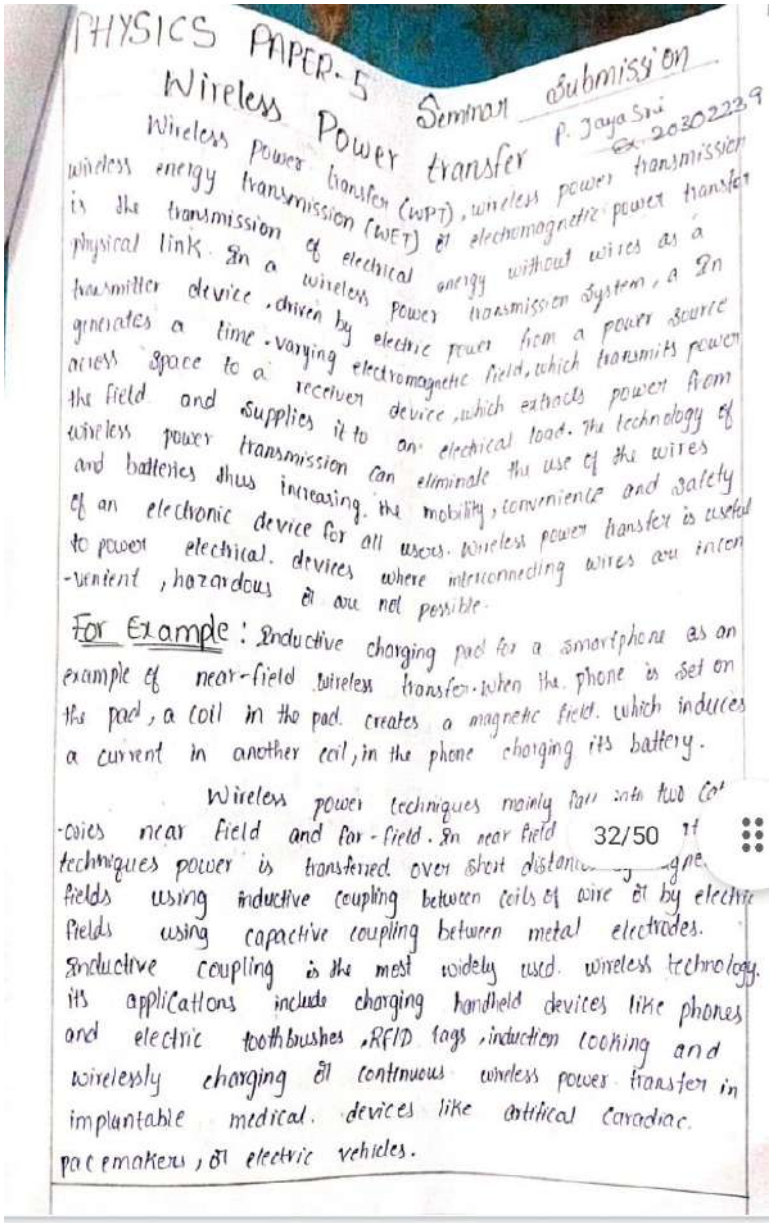
NAME OF THE LECTURER : **B. Nagamani**

:



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STUDENT SMEINAR



PHYSICS PAPER-5 Seminar Submission

Wireless Power transfer

P. Jaya Sri
Ex. 2030223 9

Wireless power transfer (WPT), wireless power transmission wireless energy transmission (WET) or electromagnetic power transfer is the transmission of electrical energy without wires as a physical link. In a wireless power transmission system, a transmitter device, driven by electric power from a power source generates a time-varying electromagnetic field, which transmits power across space to a receiver device, which extracts power from the field and supplies it to an electrical load. The technology of wireless power transmission can eliminate the use of the wires and batteries thus increasing the mobility, convenience and safety of an electronic device for all users. Wireless power transfer is useful to power electrical devices where interconnecting wires are inconvenient, hazardous or are not possible.

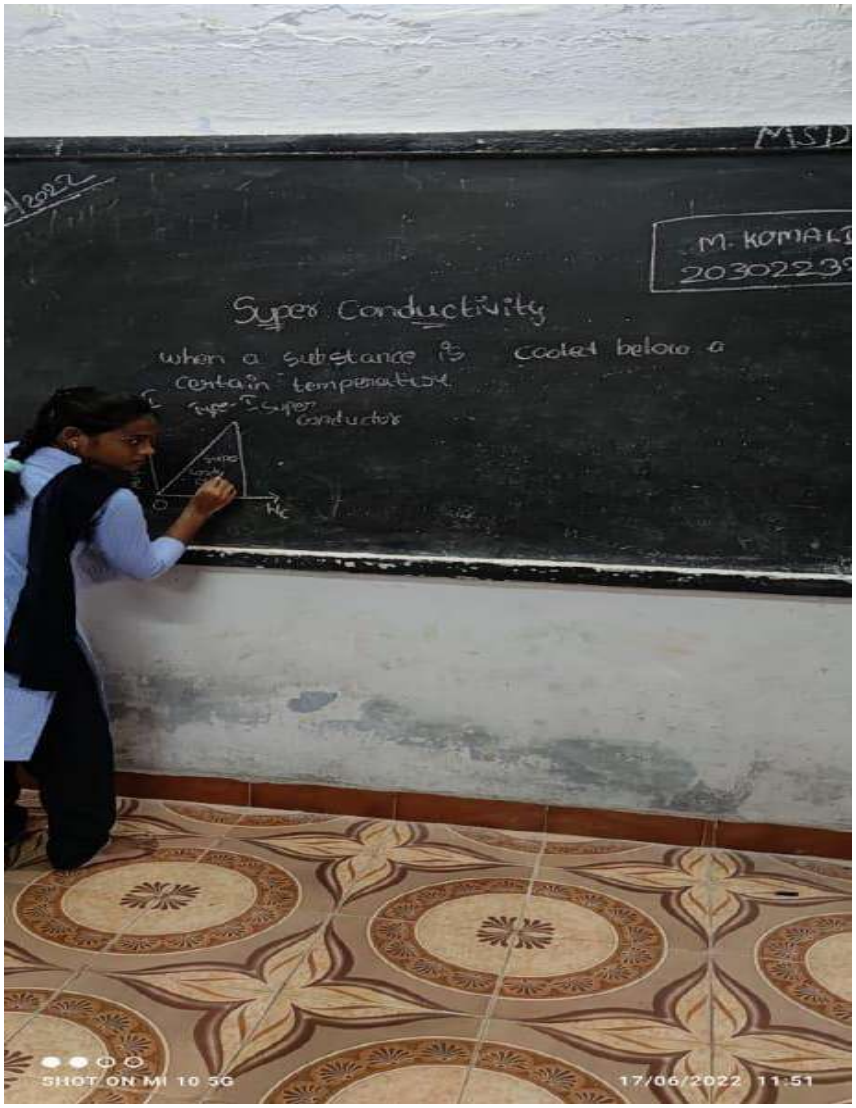
For Example: Inductive charging pad for a smartphone as an example of near-field wireless transfer. When the phone is set on the pad, a coil in the pad creates a magnetic field which induces a current in another coil, in the phone charging its battery.

Wireless power techniques mainly fall into two categories near field and far-field. In near field techniques power is transferred over short distances by magnetic fields using inductive coupling between coils of wire or by electric fields using capacitive coupling between metal electrodes. Inductive coupling is the most widely used wireless technology. its applications include charging handheld devices like phones and electric toothbrushes, RFID tags, induction cooking and wirelessly charging of continuous wireless power transfer in implantable medical devices like artificial cardiac pacemakers, or electric vehicles.

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STUDENT SMEINAR

NAME OF THE STUDENT	**: M. KOMALI**
CLASS	**: II B.SC (MPC)**
SEMESTER	**: IV SEMESTER**
Regd. No.	**: 20302232**
TOPIC	**: SUPER CONDUCTIVITY**
DATE OF SEMINAR	**:17.06.2022**
NAME OF THE LECTURER	**: B. Nagamani**



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STUDENT SMEINAR

M. Komali Ex. 203022232

Super Conductivity :-

When the substance is cooled below a certain temperature, its resistivity suddenly drops to zero and behaves like super conductor. This phenomena is called super conductivity.

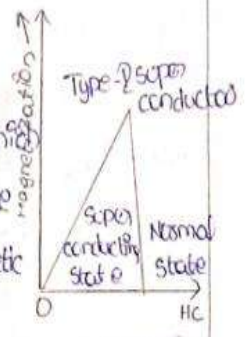
The temperature at which the resistance disappears is called the transition temperature (or) critical temperature.

Based on magnetic behaviour, the superconductors are classified into two categories. They are.

1) Type - I soppen conductor or soft superconductor and
2) Type - II or hard soppercnductors.

Type-I Super conductors :

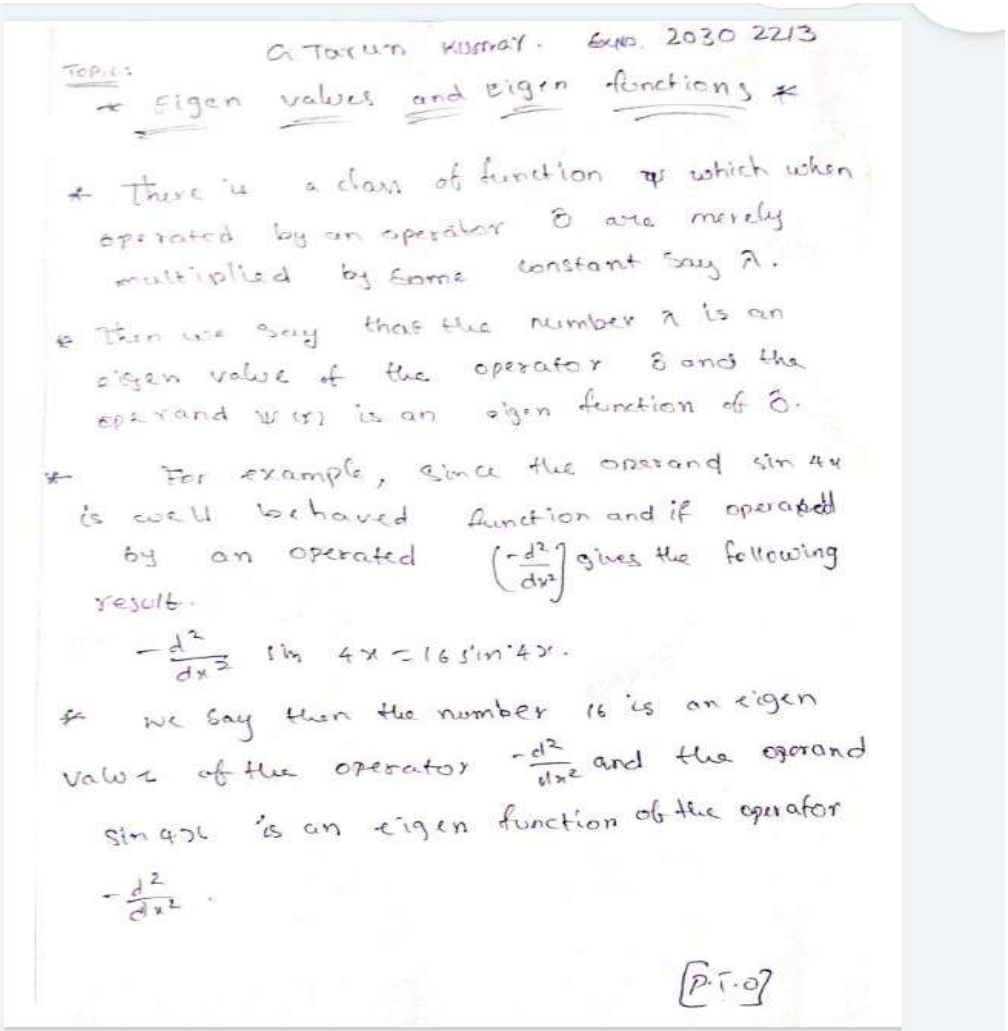
1) Type-I Superconductor is one in which the transition from superconducting state to normal state in presence of magnetic field occurs sharply at the critical value H_c.



2) In presence of an external magnetic field $H < H_c$, type - I superconductor in super conducting state is perfect diamagnet.

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STUDENT SMEINAR



G. Tarun Kumar. Regno. 2030 2213

TOPIC:

* Eigen values and Eigen functions *

* There is a class of function ψ which when operated by an operator $\hat{O}$ are merely multiplied by some constant say λ.

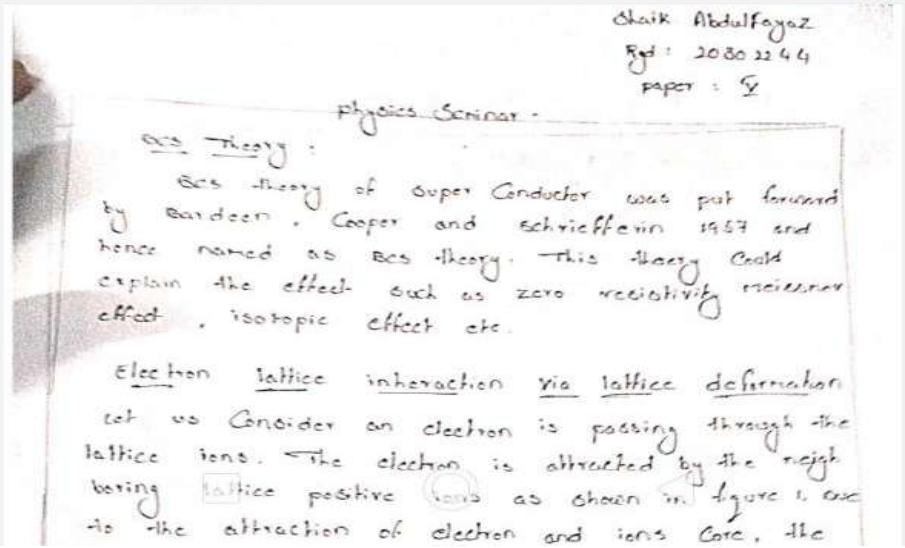
* Then we say that the number λ is an eigen value of the operator $\hat{O}$ and the operand $\psi(x)$ is an eigen function of $\hat{O}$.

* For example, since the operand $\sin 4x$ is well behaved function and if operated by an operated $\left(-\frac{d^2}{dx^2}\right)$ gives the following result.

$$-\frac{d^2}{dx^2} \sin 4x = 16 \sin 4x.$$

* We say then the number 16 is an eigen value of the operator $-\frac{d^2}{dx^2}$ and the operand $\sin 4x$ is an eigen function of the operator $-\frac{d^2}{dx^2}$.

[P.T.O]



Shaik Abdulfayaz
Regd: 2030 22 44
paper: V

physics Seminar.

BCS Theory:

BCS theory of Super Conductor was put forward by Bardeen, Cooper and schrieffer in 1957 and hence named as BCS theory. This theory could explain the effects such as zero resistivity meissner effect, isotopic effect etc.

Electron lattice interaction via lattice deformation

Let us Consider an electron is passing through the lattice ions. The electron is attracted by the neighboring lattice positive ions as shown in figure 1. Due to the attraction of electron and ions Core, the

SRR & CVR GOVERNMENT DEGREE COLLEG

(AUTONOMOUS)

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

REPORT OF STUDENT SEMINARS CONDUCTED IN THE ACADEMIC YEAR

2020-21

GROUP: III B.SC(MPC)

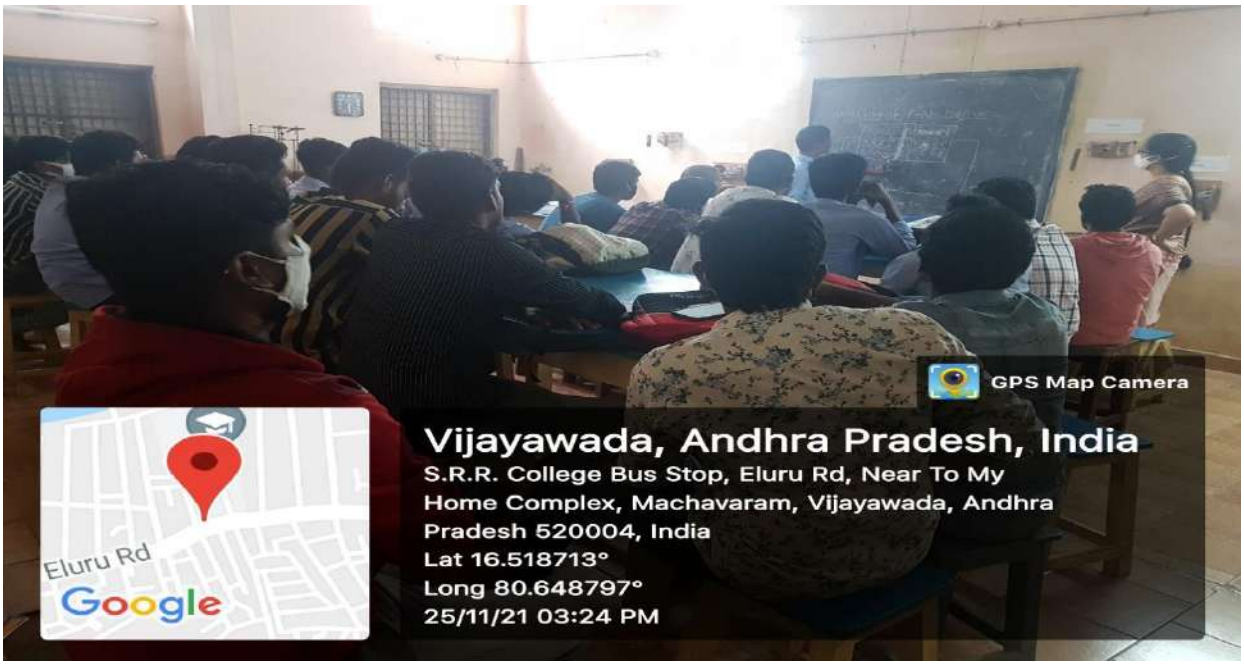
SEMESTER : III– ELECTRICITY , MAGNETISM & ELECTRONICS

NAME OF THE FACULTY : Smt T.V.Vakula Priya, Lecturer in physics

DATE: 25/11/21

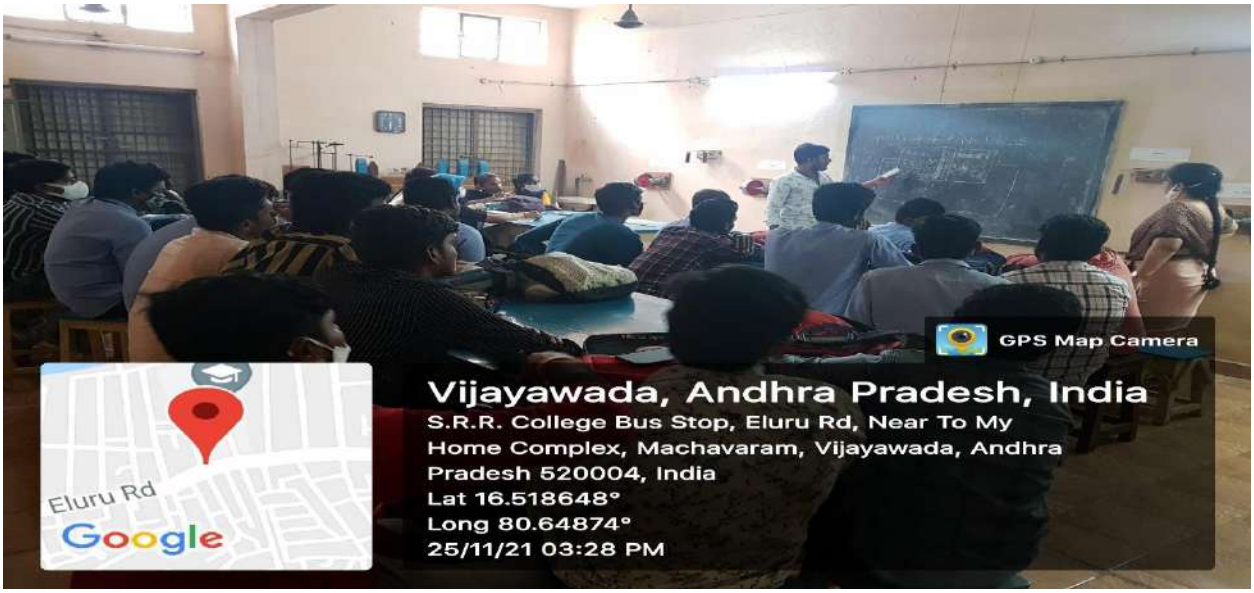
Name of the Student: Ch.Durga Prasad

Topic: Working Of PN JUNCTION Diode-Forward bias



Name of the Student: M.Vijay kumar

Topic: Working of PN JUNCTION Diode- Reverse bias



SRR & CVR GOVERNMENT DEGREE COLLEG

(AUTONOMOUS)

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

REPORT OF STUDENT SEMINARS CONDUCTED IN THE ACADEMIC YEAR

2021-22

GROUP: I B.SC(MPCs)

SEMESTER : I – MECHANICS ,PROPERTIES OF MATTER

NAME OF THE FACULTY : Smt T.V.Vakula Priya, Lecturer in physics

DATE: 06/12/21

Name of the Student: P.PALLAVI SRI

Topic: FUSION TECHNOLOGY



Name of the Student: V.Sravanthi

Topic: Michelson morley Expt



Name of the Student: I. Mahesh

Topic: Work- Energy Theorem





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VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)



DEPARTMENT OF PHYSICS & ELECTRONICS

2021-22

II B.Sc (MPC)

STUDENT SEMINARS

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **B.MOUNIKA**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303220**

TOPIC : **MOD -16 ASYNCHRONOUS COUNTER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**

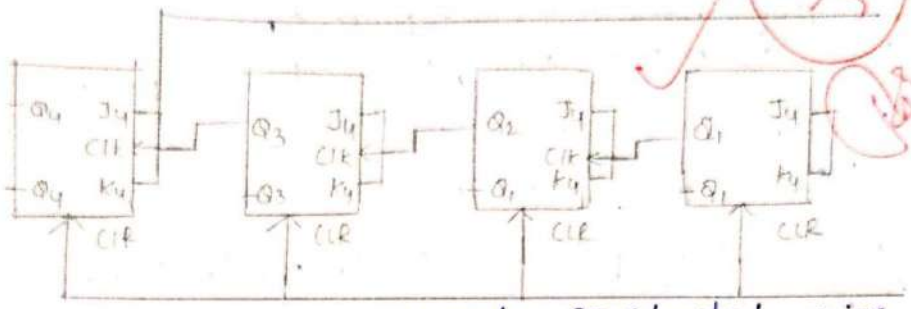


Electronics

Assignment

Name:- B. Mounika
Group:- B.Sc (MECS)
Roll No:- 21303220

4) Describe the mod-16 Asynchronous counter.



Mode-16 Asynchronous counter constructed using JK flipflop as shown in fig. It contains four JK flip flops and where inputs are connected in "Toggle mode". Toggle mode means both inputs are High(1). The clock pulse of the flip flop-1 Connected. The clock pulse of the flipflop-2 by output of the flip flop-1. Clock pulse of the flipflops 3 triggered by flip flop 2. 4th flipflop Triggered by output of the 3rd flip-flop. 4-3x flip flops are connected to else input

Initially CLR input is 0 then outputs of an flip-flops are 0. This is called Reset. Therefore $Q_4, Q_3, Q_2, Q_1 = 0000$

After giving the 2nd clock pulse output of the first flip-flop changes to '0' and '1'. Output of the 3rd & 4th flip flops does not Change.

$\therefore Q_4 = 0,\ Q_3 = 0,\ Q_2 = 1,\ Q_1 = 0.$

Scanned with CamScanner

Similarly, after 3rd clock pulse outputs are $Q_4=0$, $Q_3=0$, $Q_2=1$, $Q_1=1$. After 4th clock pulse o/ps are $Q_4=0$, $Q_3=1$, $Q_2=0$, $Q_1=0$

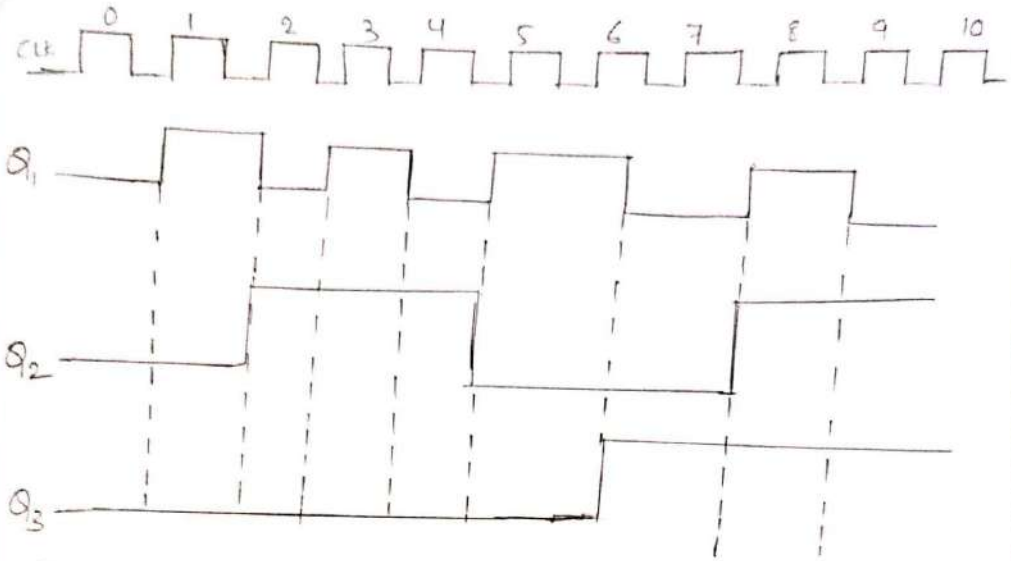
Similarly after 15th clock pulse o/ps are $Q_4=1$, $Q_3=1$, $Q_2=1$, $Q_1=1$ After 16th clock pulse all o/ps are remains zero (0).

$\therefore Q_4=0$, $Q_3=0$, $Q_2=0$, $Q_1=0$.

The counting procedure is shown in Table & timing diagram is shown in figure.

Clock pulse	Q_4	Q_3	Q_2	Q_1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	0	1	1	1
16	0	0	0	0

Scanned with CamScanner



Timing diagrams of Asynchronous counter [Mode-16]

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STUDENT SEMINAR

NAME OF THE STUDENT : **Y.CHARMI**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303209**

TOPIC : **4-BIT SYNCHRONOUS COUNTER**

DATE OF SEMINAR : **26.08.2022**

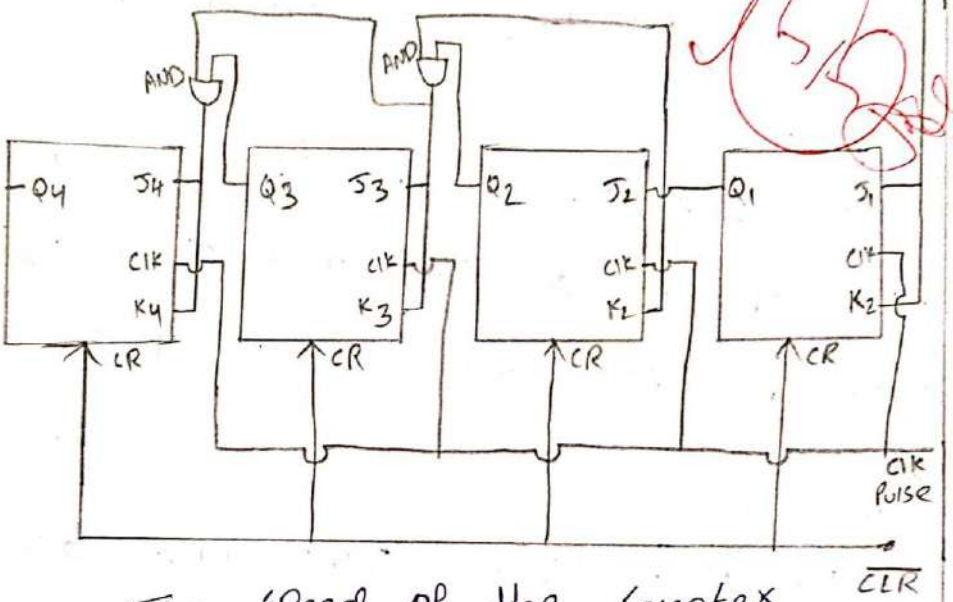
NAME OF THE LECTURER : **J.NAGESWARA RAO**



Y. CHARMI
BSC[M.E.C.S]
21303209

SEMINAR

4-bit synchronous counter (16-mod)



The speed of the counter depending on clock pulse frequency and propogation delay of the flip-flops In case of ripple counter's. The clock pulse is given to the 1st flip-flop only. If clock pulse given to all flip-flops at a time how's speed increases.

After second clock pulse the 1st flip-flop and 2nd Flip-Flop and in toggle mode so, output changes FF3 4 FF4 does NOT change.

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=0$

After 3rd clock pulse flip flop 1 only in toggle mode so $Q_1=1$, and remaining flip-flops does not change

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=1$

similarly after 15th clock pulse outputs are

$\therefore Q_4=1, Q_3=1, Q_2=1, Q_1=1$

After 16th clock pulse all flip-flops RESET to 0,0,0,0.

This type of counter is called synchronous counter.

4-bit (or) 16-mod synchronous counter using JK Flip-Flops as shown in the figure.

In which clock pulse is given to all flip-flops at a time and clear ($\overline{CLR}$) Pulse is also connected to all flip-flops.

The first flip-flop J & K inputs are connected through AND gates

If CLR (clear Pulse) sent the all the Flip-Flops are set to 0,0,0,0.

If 1st clock Pulse sent the flip-flop 1 output changes to '1'. due to toggle mode.

Remaining all outputs are '0'

$\therefore Q_4 = 0, Q_3 = 0, Q_2 = 0, Q_1 = 1$

Scanned with CamScanner

CLOCK PULSE	Q4	Q3	Q2	Q1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

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STUDENT SEMINAR

NAME OF THE STUDENT : **P.OMESH DURGA RAM**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303204**

TOPIC : **HALF SUBTRACTOR**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**

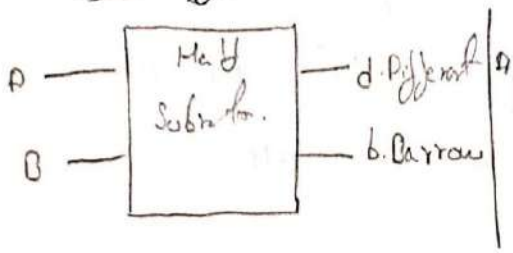


Seminor : Electronic Sem-II

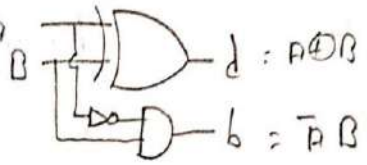
OMESH DURGA RAM.P
2130320, (HEC)S

Half Subractor

Block digram.



Circuit digram.



Truth table

Input		output	
A	B	Different	Barrow
0	0	0	0
0	1	1	1
1	0	1	0
1	1	0	0

A digital circuit is used to subract two bits is called Half Subractor. Half Subractor contains two inputs & two outputs. The two inputs are minuend A & Subtrahand B. It means the Subtrahand B is subtracted from Minuend A. The two output are "Difference (d)" & "Barrow (b)" taken in the next column. The

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Subtraction of two Binary bits for Half Subtractor or shown in table. when we observed the truth table "difference (D)" is output same as 'XOR' gate

the "Borrow (B)" for output is equal to the $\bar{A}B$. Therefore "difference (D)" = $\bar{A}B + B\bar{A}$

Borrow 'b' = $\bar{A}B$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **M.BHNU PRAKASH**

CLASS : **I B.SC (MECs)**

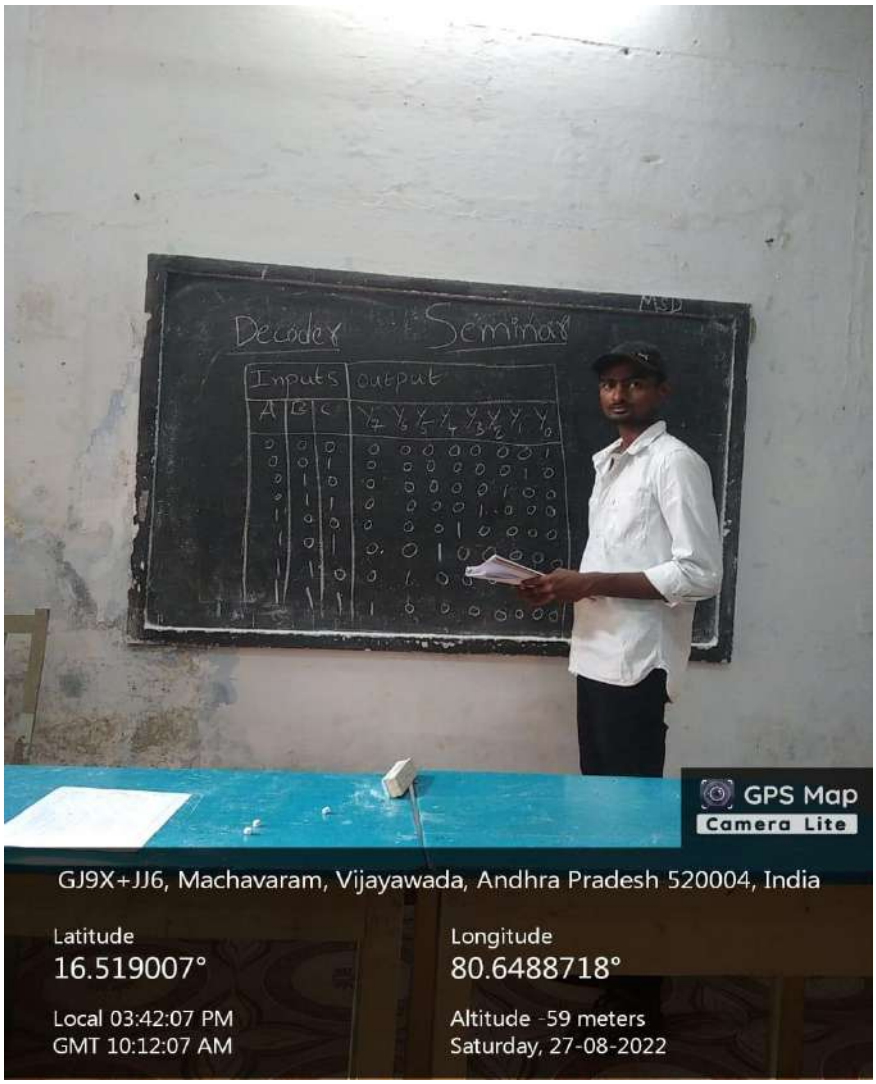
SEMESTER : **II SEMESTER**

Regd. No. : **21303218**

TOPIC : **DECODER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**

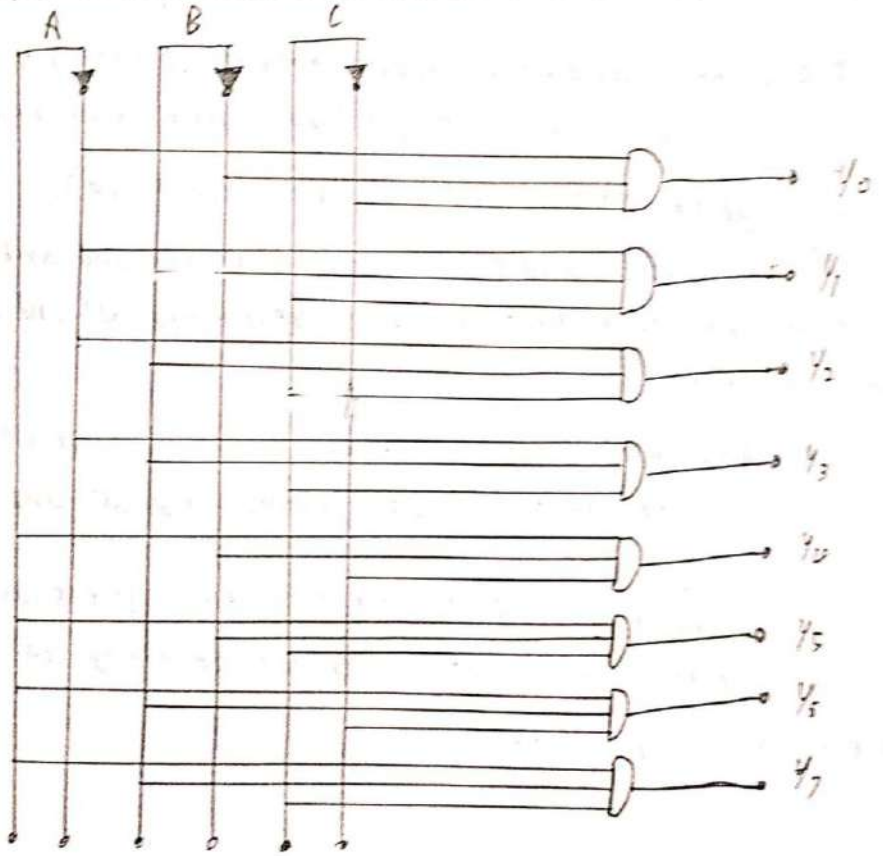


M. Bhanu prakash

SEMINAR

ADMSBD3218

Input			out puts							
A	B	C	Y_7	Y_6	Y_5	Y_4	Y_3	Y_2	Y_1	Y_0
0	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	1	0
0	1	0	0	0	0	0	0	1	0	0
0	1	1	0	0	0	0	1	0	0	0
1	0	0	0	0	0	1	0	0	0	0
1	0	1	0	0	1	0	0	0	0	0
1	1	0	0	1	0	0	0	0	0	0
1	1	1	1	0	0	0	0	0	0	0



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Decoder is an electronic circuit used two convert from binary number system into other number system sum as decimal octal, Hexa Decimal etc.

Decoder is exactly oposit to the encoder. decorder is a combinational logic circuit. If contains two inputs present 4 out puts If three inputs it contains 8 output (2^3). similarly for n inputs it contains 2^n out puts. 3x8. decoder circuit is shown in fig ②.

the truth table of the decoder is shown in Fig ① In which a, b, c inputs and $y_0, y_1, y_2, y_3, y_4, y_5, y_6, y_7$ are outputs

If A=0, B=0, and C=0 then output of the first and gate is high (1) because all inputs are five remaining all and geate are outputs in low state (0).

If A=0, B=0, and C=1 then the second and gate only in high state that is $y=1$. remaining all and gates in Low state.

If A=0, B=1 and C=0 then the third and gate is in high state that is $y_2=1$ remaining all and gates in 0 stats

Similary if A=1, B=1, and C=1 then the eight and is only in high state. that is $y_7=1$. remining all any gates are in 0 state.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **M.NARENDRA**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303203**

TOPIC : **4-BIT SYNCHRONOUS COUNTER**

DATE OF SEMINAR : **26.08.2022**

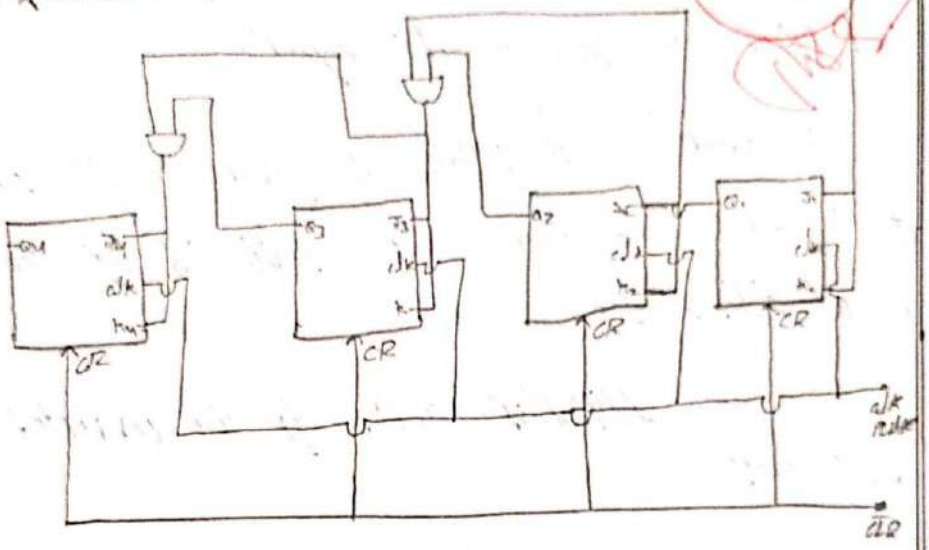
NAME OF THE LECTURER : **J.NAGESWARA RAO**



M. NARENDRA
B.Sc (MECs)
2/303203

Seminar

4-Bit synchronous counter (16-mod):-



The speed of the counter depending on clock pulse frequency and propagation delay of the flip flops. In case of ripple counters. The clock pulse is given to the 1st flip-flop only. If clock pulse given to all flip-flops at a time how's speed increased.

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After second clock pulse third flip-flop and 4th flip-flop are in toggle mode so, output change flip flops and flip flop is does not change

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=0$

After 5th clock pulse flip-flop 1 only in toggle mode so $Q_1=1$, and remaining flip-flops does not change.

$\therefore Q_4=0, Q_3=0, Q_2=1, Q_1=1$

Similarly after 15th clock pulse out pulse are

$Q_4=1, Q_3=1, Q_2=1, Q_1=1$

After 16th clock pulse all flip flops RESET so 0,0,0,0.

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This type of counter is called synchronous counter. 4-bit (or) 16-mod synchronous counter using JK flip-flops as shown in the figure.

In which clock pulse is given to all flip-flops at a time and clear (CLR) pulse is also connected to all flip flops.

The first flip-flop Q4 is connected through AND gate.

If CLR (clear pulse) send the all the flip flop are reset to 0,0,0,0.

If 1st clock pulse sent the flip flop 1 output changes so J is set to toggle mode.

Remaining all outputs are '0'.

$\therefore Q_4=0,\ Q_3=0,\ Q_2=0,\ Q_1=1.$

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clock pulse	Q_4	Q_3	Q_2	Q_1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **Y.NITHISH**

CLASS : **I B.SC (MECs)**

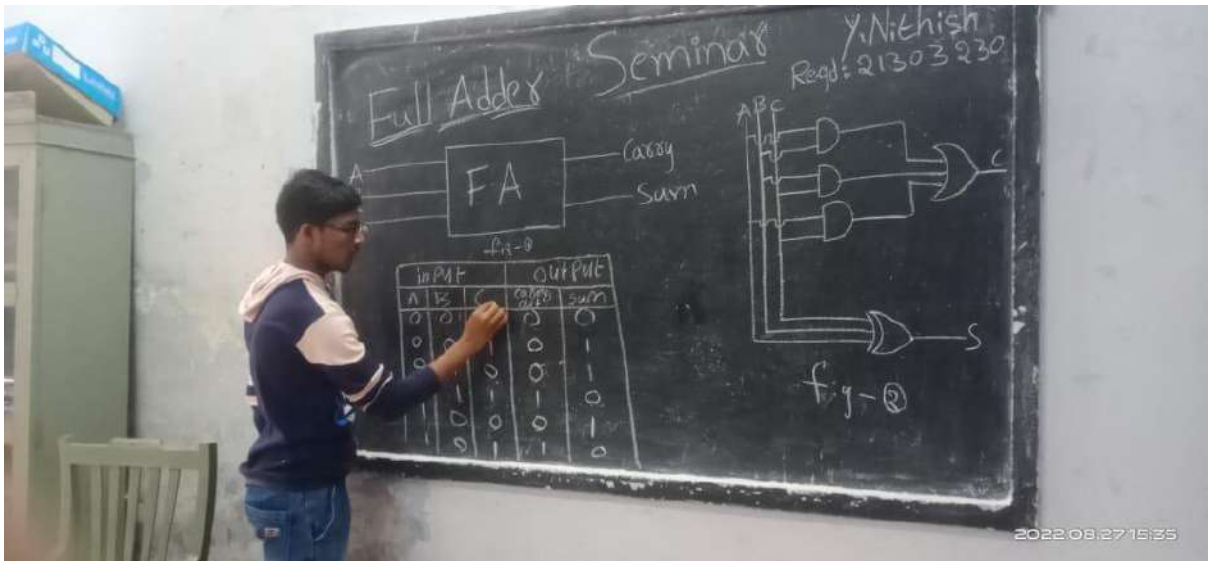
SEMESTER : **II SEMESTER**

Regd. No. : **21303230**

TOPIC : **FULL ADDER**

DATE OF SEMINAR : **28.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Y. Nithish
1BSc. MECs
213032330

SEMINAR

Full Adder

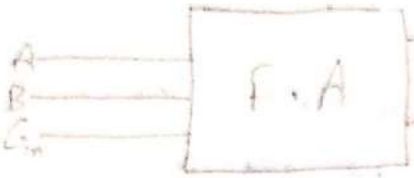


fig - ①

Truth table :-

Inputs			outputs	
A	B	Cin	Cout	Sum
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1

The half adder can add 2 bits only in the right most column. But half adder cannot add 3 bits available in the next column. Because there is no 3rd input in the half adder. A digital circuit constructed to add 3 bits is called full adder.

As shown in the fig - ① full adder circuit containing 3 inputs and 2 outputs. In three inputs, the 3rd input is used for Carry in. In 2

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outputs, the 1st output gives Carry & 2nd output gives Sum. The truth table of the full adder is as shown in table.

when we observe the truth table Carry out $C = AB + BC + CA$ and Sum $S = \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}\bar{C} + ABC$

The full adder can we Constructed using AND gate, OR gate & Ex-OR gate as shown in fig ②

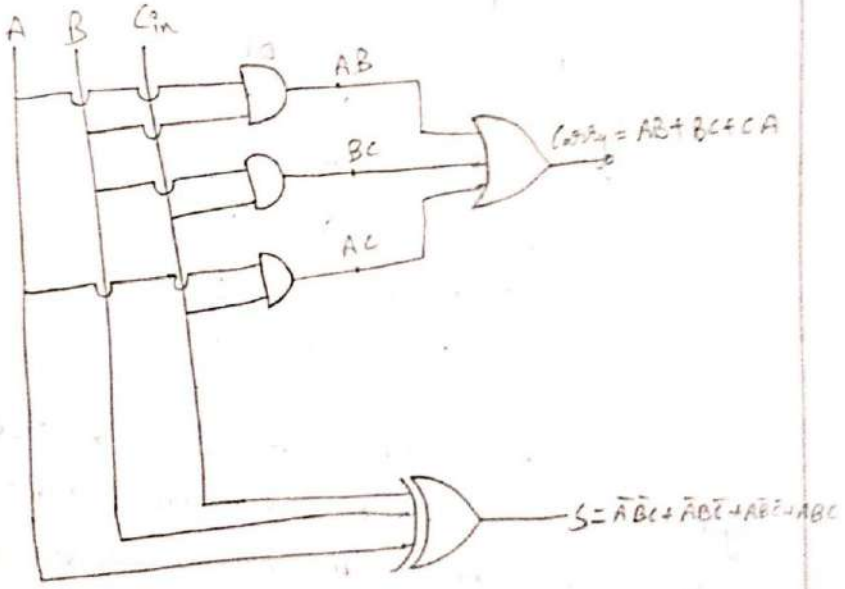


fig ②

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **B.SRINU**

CLASS : **I B.SC (MECs)**

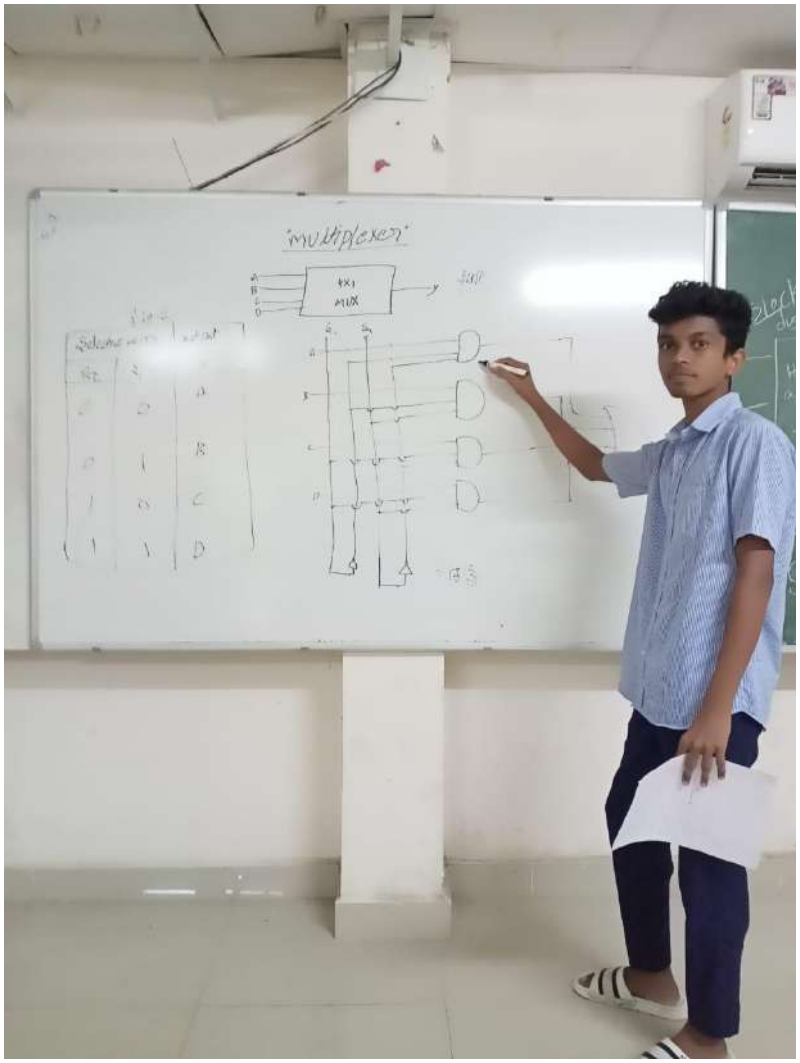
SEMESTER : **II SEMESTER**

Regd. No. : **21303227**

TOPIC : **HALF ADDER**

DATE OF SEMINAR : **28.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



B. Srinu
V. Siva nageswara Rao
213027.

seminar

Half adder

A digital circuit which can add two bits only is called Half adder. The the half adder contains two inputs and two outputs

out puts are carry (c) and sum (s)

The block diagram of the half adder is shown in fig ①

The truth table of the table half adder is shown in table

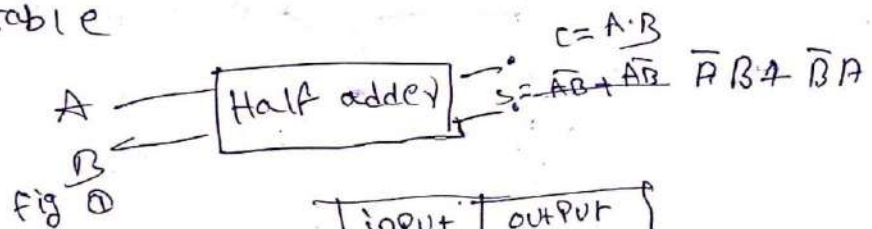


fig ①

input		output	
A	B	C	S
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

When observe the truth table of the half adder two carry (c) colum out put is 1 when both in put are 1 state it mean AND gate is capable to show carry (c)

The out put sum (s) one state only both the in puts diffrent This the out put of the Ex-OR gate diffrens This the out put of the Ex-OR gate so the action of the sum made by X-OR gate.

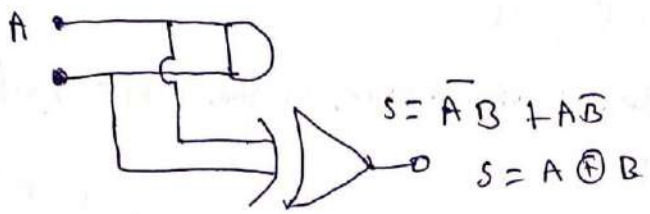
Scanned with CamScanner

By the combination And gate and x-or gate,

fig (2) $\therefore$ carry $(C) = A.B$

sum $(S) = \bar{A}B + A\bar{B}$

(or) $S = A \oplus B$ (or) $(A+B)\overline{AB}$.



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STUDENT SEMINAR

NAME OF THE STUDENT **: K.RAMU**

CLASS **: I B.SC (MECs)**

SEMESTER **: II SEMESTER**

Regd. No. **: 21303222**

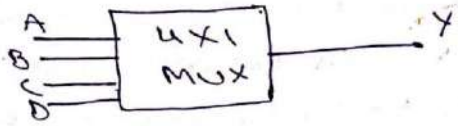
TOPIC **: MULTIPLEXER**

DATE OF SEMINAR **: 28.08.2022**

NAME OF THE LECTURER **: J.NAGESWARA RAO**

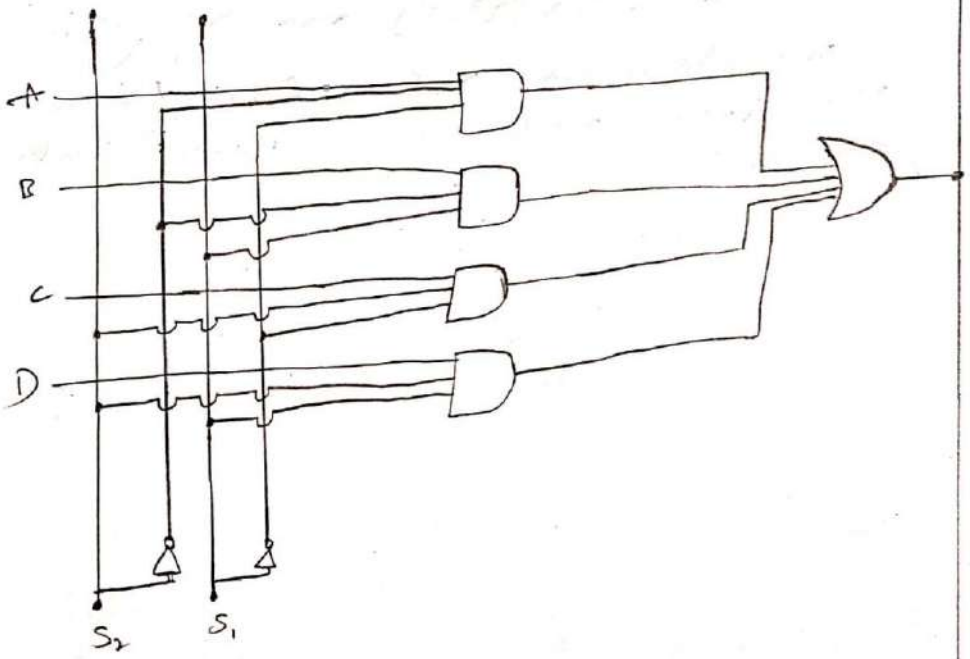
Seminar

Multiplexer:-



Selective wires		OUTPUT
S_2	S_1	Y
0	0	A
0	1	B
1	0	C
1	1	D

fig ①



Multiplexer:-

The block diagram of the multiplexer is shown in fig ①.

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The data selected from input lines depending on the selection wires S_1 and S_2 in case of 4X1 Multiplexer. If A, B, C and D are inputs to send into output. The truth table is as shown in fig ①.

The electric circuit designed for 4X1 Multiplexer is as shown in fig ②.

If $S_1=0$ and $S_2=0$ then input A only reflex at the output Y. Remaining all inputs are improve at three 3 AND gates.

If $S_1=0$ and $S_2=1$ the input C present at output Y. If $S_1=1$ & $S_2=1$ the input D present at output Y. If there are 8 input lines, 3 selections wires are S_1, S_2 and S_3 $[2^3=8]$ are required.

If there are ~~n~~ (input) selection wires the data may select from 2^n input lines.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **SK.DAVOOD**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303217**

TOPIC : **ROM**

DATE OF SEMINAR : **29.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Sk. Davood.
1st Bsc. (MEcs)
Electronics

Regd No: 21303217

Seminor
ROM

*Working of ROM

ROM is sustained by a small, long-life battery in the computer. It contains two basic components :-

① The ~~decter~~ decoder and
② OR logic gater

In ROM, the decoder receives input in binary form, the out put will be the decimal equivalent. The OR gates in ROM use the decoder decimal out put as their input.

ROM Performs like a disk array. It contains a grid of rows and columns that are used to turn the system on and off every element of the array correlates with a specific memory element on the ROM chip. A diode is used to connect the corrypond-ing elements.

When a request is received, the address input is used to find the specific

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Elet

* Internal structure of ROM:-

The internal structure comprises two basic components: decter and OR gates. A decoder is a circuit that decodes the binary from to a decimal form. So, the input is in binary form, and the out put is its decimal equivalent. All the OR gates present in the ROM will have out puts of the decoder as their out put. Let us take an example of 64 x 4 ROM. The structure is shown in following image.

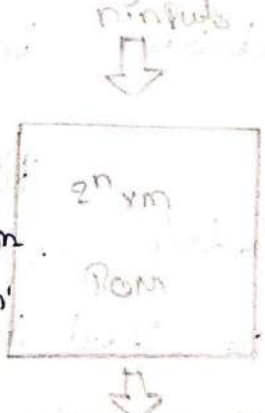
The access times is the time taken to latch the required memory location and carry out the read / write operation. In the modern computer, since nondestructive memories are used, the read time and the write time is equals. In destructive memories, the read time greater than the write time as every read involves a write also.

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The value that is read from the ROM should match the contents of the chosen array element.

* Block diagram of ROM

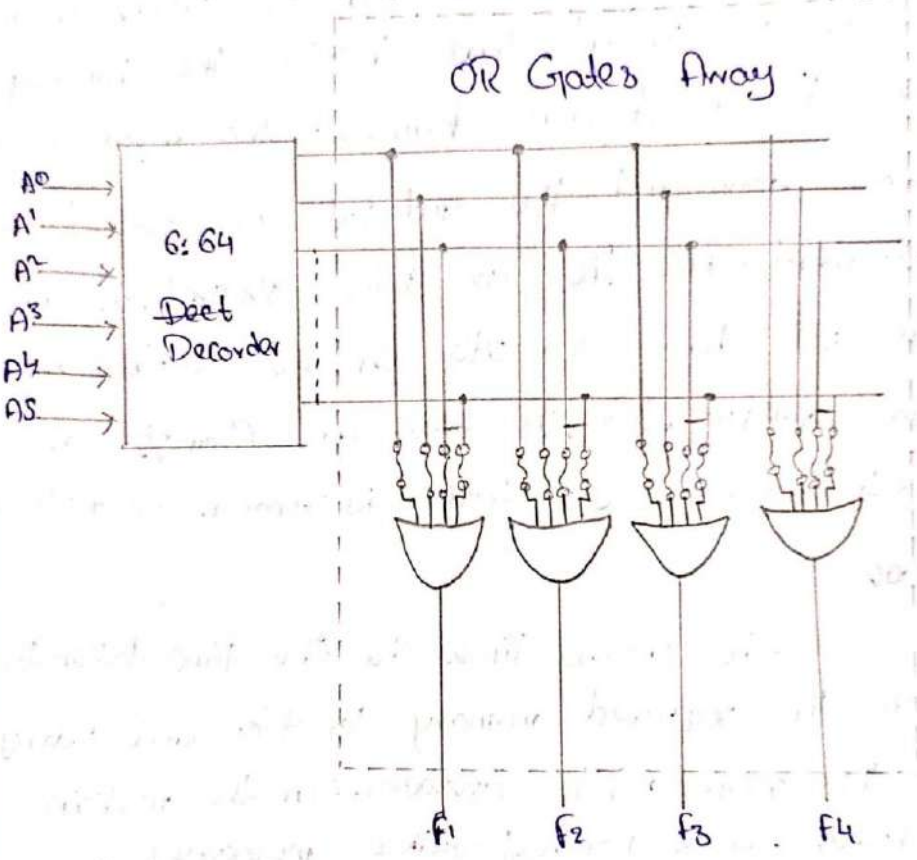
The block of ROM has 'n' input lines and 'm' output lines. Each bit combination of input variables is known as an address. Each bit combination that comes out through output lines is called a word. The number of bits per word is equal to no. of output lines, m.



The address of a binary number refers to one of the addresses of n variables. So, the number of possible addresses with n input variables is 2^n.

An output word has unique address and as there are 2^n distinct addresses in a ROM, there are 2^n separate words in the ROM. The words on the output lines at a given time depends on the address value applied to the input lines.

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STUDENT SEMINAR

NAME OF THE STUDENT : **G.MOHAN BABU**

CLASS : **I B.SC (MECs)**

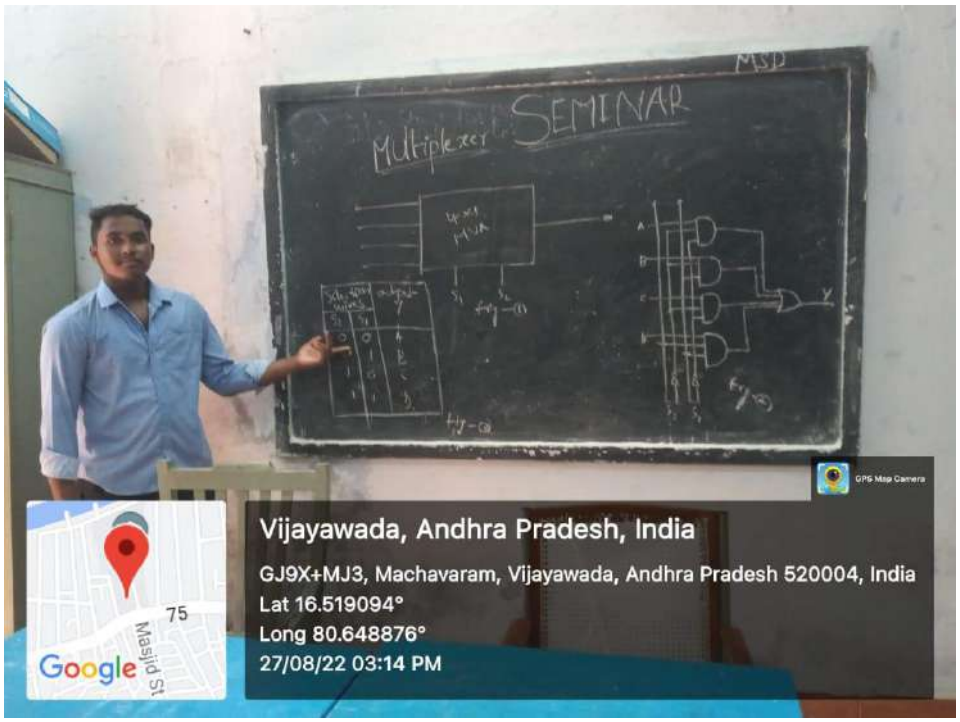
SEMESTER : **II SEMESTER**

Regd. No. : **21303221**

TOPIC : **MULTIPLEXER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Eletronics.

SEMINAR.

G. Mohan Babu
group r B.Sc [MECs]
Reg no: 2130322 1

Multiplexer

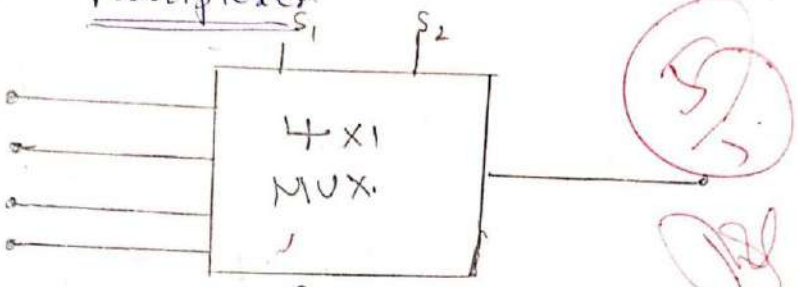


fig ①

Selection wires		output Y
S_2	S_1	
0	0	A
0	1	B
1	0	C
1	1	D.

fig-③

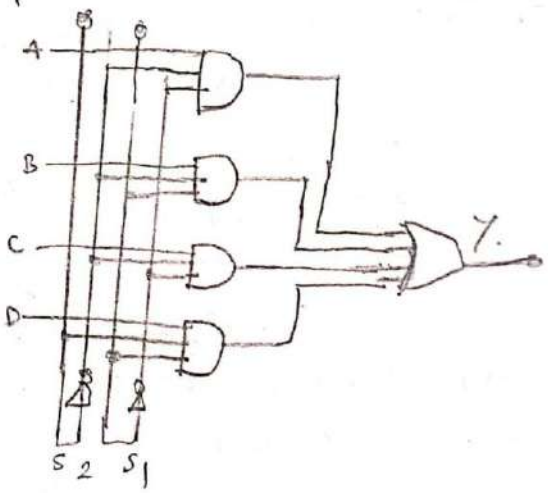


fig ②

Multiplexer is an eletronic circuit to send data from number of line into a single line.

for example the data is sending from 4 lines into 1 line is called sending from multiplexer it's shown in figure ①

The data selected from input lines depending on the selection wise S_1 & S_2 is base of 4x1 multiplexer

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→ If A, B, C, D are input to send into output y the truth table is as shown in figure ②

→ The electronic circuit diagram for 4x1 multiplexer is as shown in figure ③

→ if $S_1 = 0$ and $S_2 = 0$ then input A only reflects at the output y

→ removing all inputs are in active at three AND gates

→ if $S_1 = 1$, $S_2 = 0$ the input B present at output y.

→ If $S_1 = 0$, and $S_1 = 1$ the input C present at output y

→ If $S_1 = 1$, and $S_2 = 1$ the input D present at output y.

if the are 8 input lines 3 selection wise S_1, S_2, S_3 ($2^3 = 8$) are required

If there n selection wise the data may select from 2^n lines

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **Y.ANIL KUMAR REDDY**

CLASS : **I B.SC (MECs)**

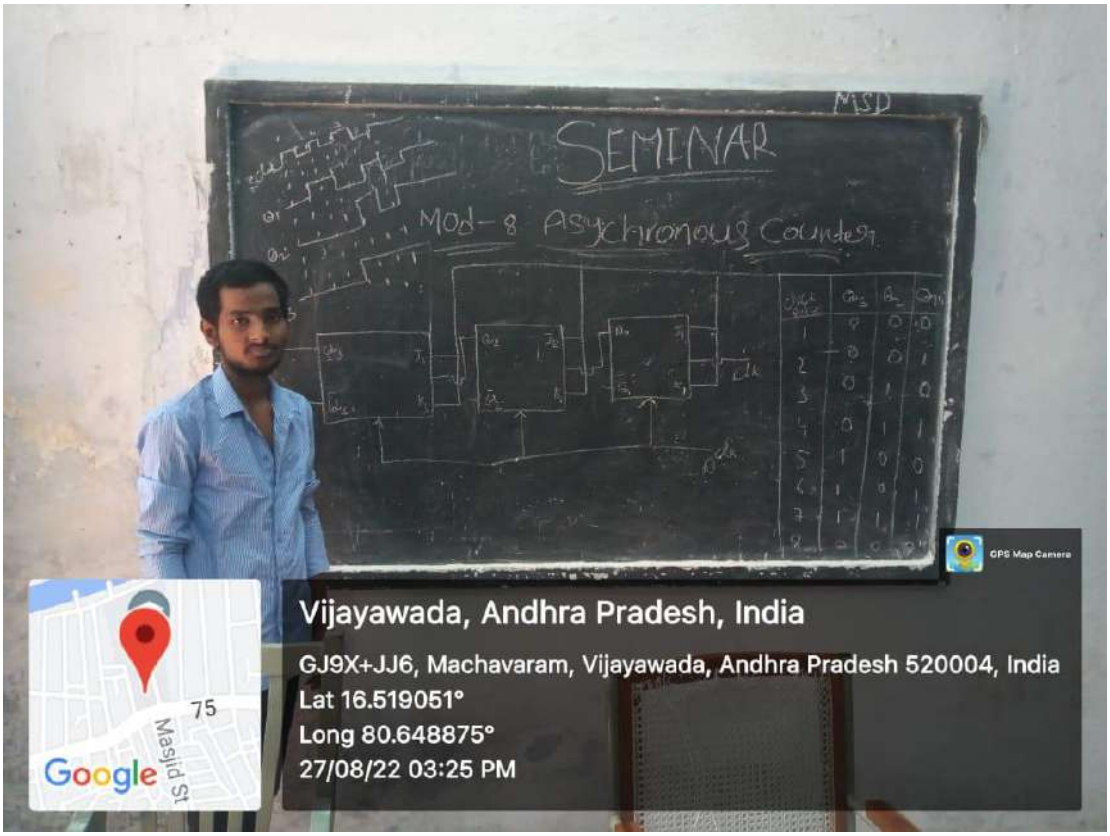
SEMESTER : **II SEMESTER**

Regd. No. : **21303202**

TOPIC : **MOD-8 ASYNCHRONOUS COUNTER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



electronic

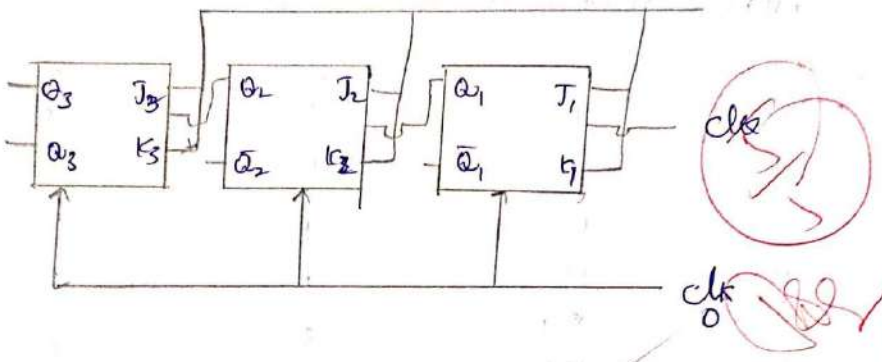
21303202

SEMINAR

B.Sc (MECS)

Y. ANIL KUMAR REDDY

Mod – 8 Asychronous Counter :-



Modular (Mode) of the counter means the counter can count how may number. In case of 8 mode counter requires, 3 flip flops ($2^3 = 8$). In case of 16 mode counter, 16 number it requires 4 flip flop ($2^4 = 16$). we can construct 5 mode, 10 mode, 15 mode counter, by doing modifications in the counter.

Each mode ripple counter using 3 JK flip flop connected in toggle mode. 1 (state) the second flip-flop triggered by the output of the second flip flop. If all flip flop are connected are 0. This called Reset position.

$\therefore Q_3 = 0, Q_2 = 0, Q_1 = 0$

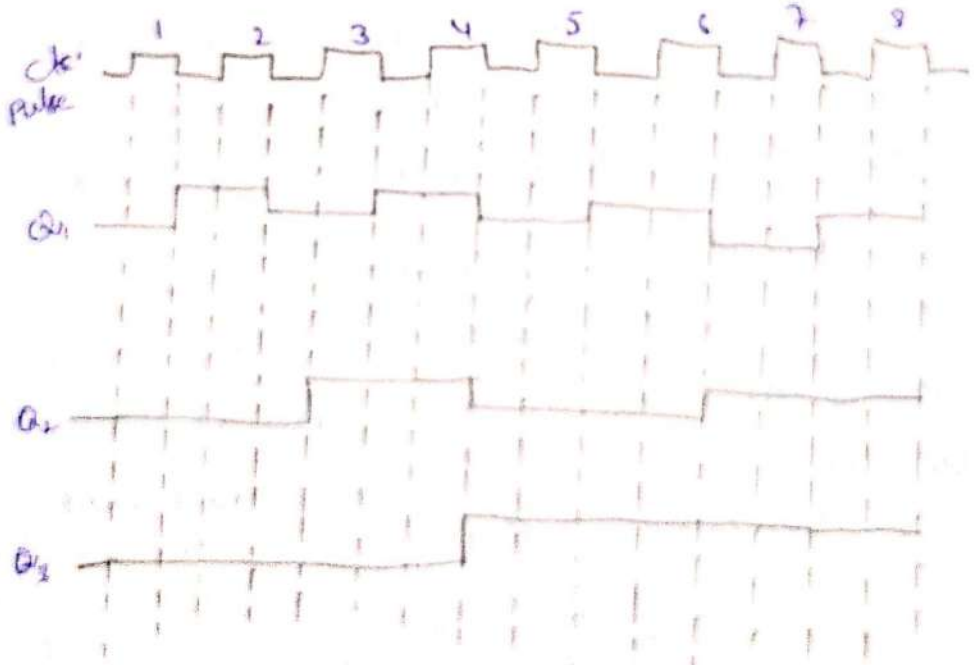
If 1st clock pulse given due to the toggle mode output of the 1st flip flop and third same position.

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$\therefore Q_3 = 0, \quad Q_2 = 0, Q_1 = 1$

Similarly after each clock pulse output of the flip flops changes as shown in table. 3 mode ripple counter is shown in fig 1

clock pulse	Q_1	Q_2	Q_3
1	0	0	0
2	0	0	1
3	0	1	0
4	0	1	1
5	1	0	0
6	1	0	1
7	1	1	1
8	0	0	0



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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **R.MAHESH BABU**

CLASS : **I B.SC (MECs)**

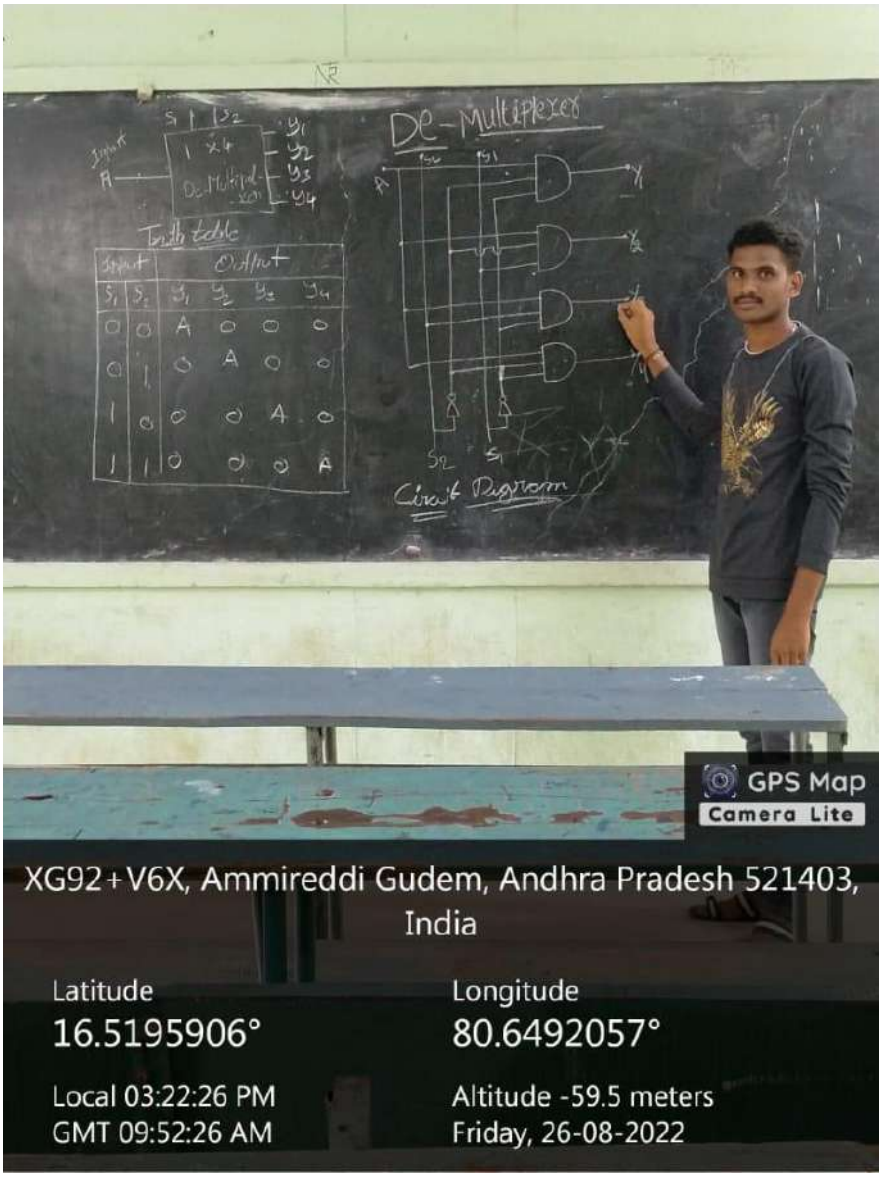
SEMESTER : **II SEMESTER**

Regd. No. : **21303219**

TOPIC : **DE MULTIPLEXER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar

Name :- RAVURI MAHESH BABU
group :- 1st year 2nd sem [MECS] B.Sc
Reg no :- 21303219
Subject :- Electronics

1. Briefly Explain De-multiplexer ?

Ans :-

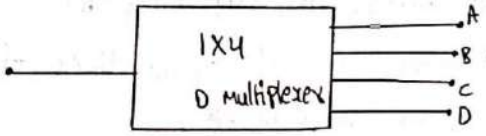


fig ①

S_2	S_1	Y_1	Y_2	Y_3	Y_4
0	0	A	0	0	0
0	1	0	A	0	0
1	0	0	0	A	0
1	1	0	0	0	A

fig - ②

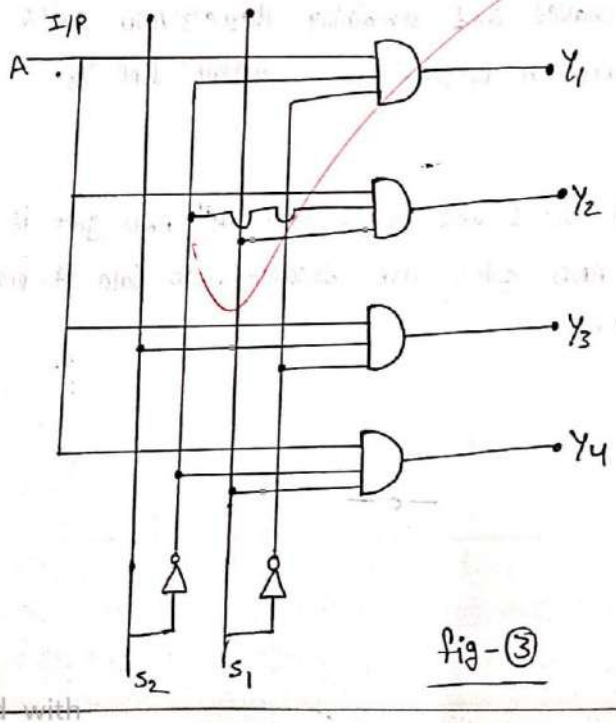


fig - ③

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De multiplexer is the opposit of the multiplexer. In which the data can be transfor from the input line into any one of the 'n' output lines. Fig ① shows the int symbol of the 1×4 De multiplexer. If there are four output lines then two selecting wires are required two transfor the data. If there are '8' output lines we required '3' selecting wires. similarly using 'n' selecting wires the data can transfor two 2^n output lines. The truth table of the De-multiplexer is as shown in fig ②.

The digital circuit of De-multiplexer using logic gates is as shown in fig ③. If $S_1=0$ and $S_2=0$ then 1st AND gate is enable and remaining '3' AND gates are desabled. so input 'A' passes through output wire Y_2. If $S_1=0$ and $S_2=1$ than 3rd AND gate is enabled and remaining theree '3' AND gates are desabled. so data 'A' passes through output line Y_3.

If $S_1=1$ and $S_2=1$ then 4th AND gate is enabled remaining '3' AND gates are desabled. So data A passes through output line Y_4.

—o—

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **M.CHANDRA SEKHAR**

CLASS : **I B.SC (MECs)**

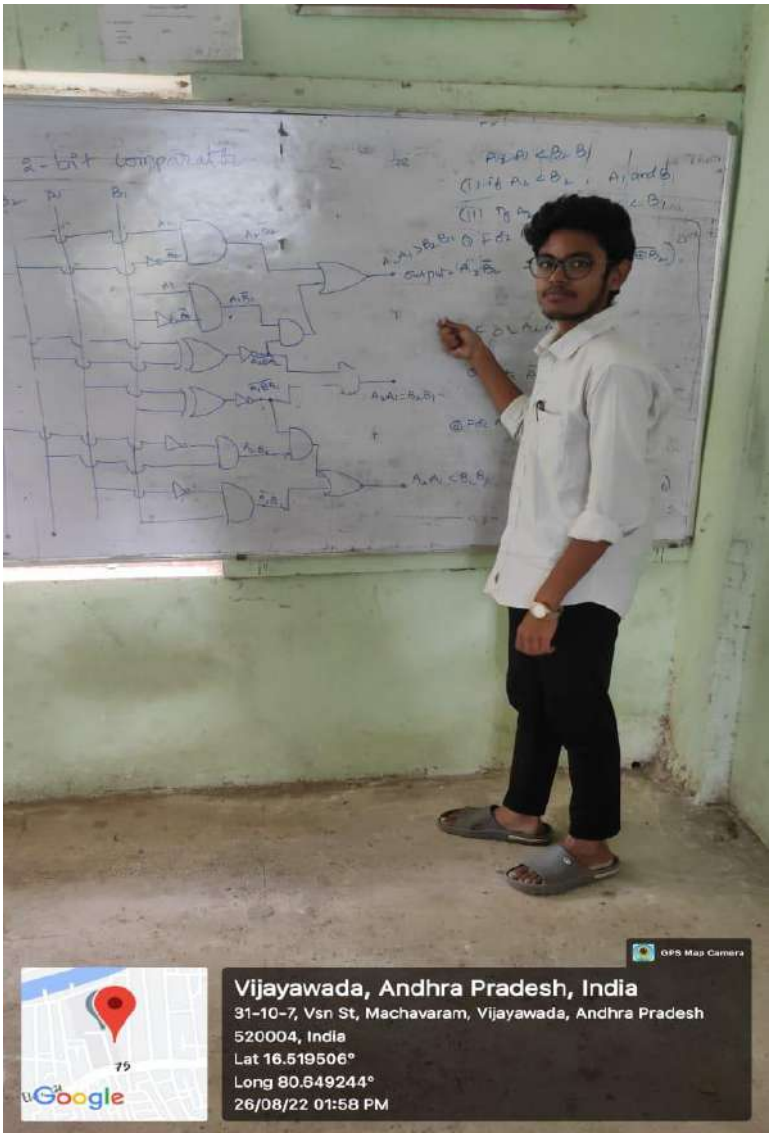
SEMESTER : **II SEMESTER**

Regd. No. : **21303207**

TOPIC : **BINARY COMPARATOR**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Electronic's Seminar

Name :- M.Chandra Sekhar
Group :- I - BSc [MECs]
Subject :- Electronics
Reg. NO :- 21303207

Magnitude Comparator (or) Binary Comparator

A logic circuit that compare two binary numbers is called comparator. If A and B are two binary numbers, than we can compare 3 conditions such as A>B (or) A=B (or) A<B.

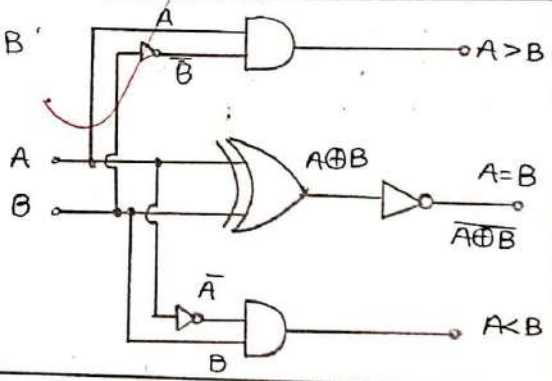
The truth table of the 1 bit Comparator is as shown in table. The logical circuit diagram of the 1-bit comparator is as shown in fig.

INPUTS		OUTPUTS		
A	B	A>B	A=B	A<B
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0

If A>B the output is $A.\bar{B}$

If A=B the output is $\overline{A \oplus B}$ (or) $\bar{A}B + A\bar{B}$

If A<B the output is $\bar{A}.B$



2- bit Comparator

INPUTS		OUTPUTS		
A_2B_2	A_1B_1	$A_2A_1 > B_2B_1$	$A_2A_1 = B_2B_1$	$A_2A_1 < B_2B_1$
$A_2 > B_2$	X X	1	0	0
$A_2 = B_2$	$A_1 > B_2$	1	0	0
$A_2 < B_2$	X X	0	0	1
$A_2 = B_2$	$A_1 < B_1$	0	0	1
$A_2 = B_2$	$A_1 = B_1$	0	1	0

An electronic circuit to compare two binary numbers is called a comparator. Let us assume 2 bit numbers (A_2A_1 and B_2B_1) be compared.

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(If $A_2A_1 > B_2B_1$ following conditions must be statisfied.

(I) If $A_2 > B_2$ independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 > B_1$ If $A_2A_1 = B_2B_1$ following conditions must be satisfied.

$A_2 = B_2$ and $A_1 = B_1$

If $A_2A_1 < B_2B_1$ following conditions must be satisfied

(I) If $A_2 < B_2$, independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 < B_1$

All conditions stown in the truth table.

In this table x represent's the indepent of the values of A_1 and B_1.

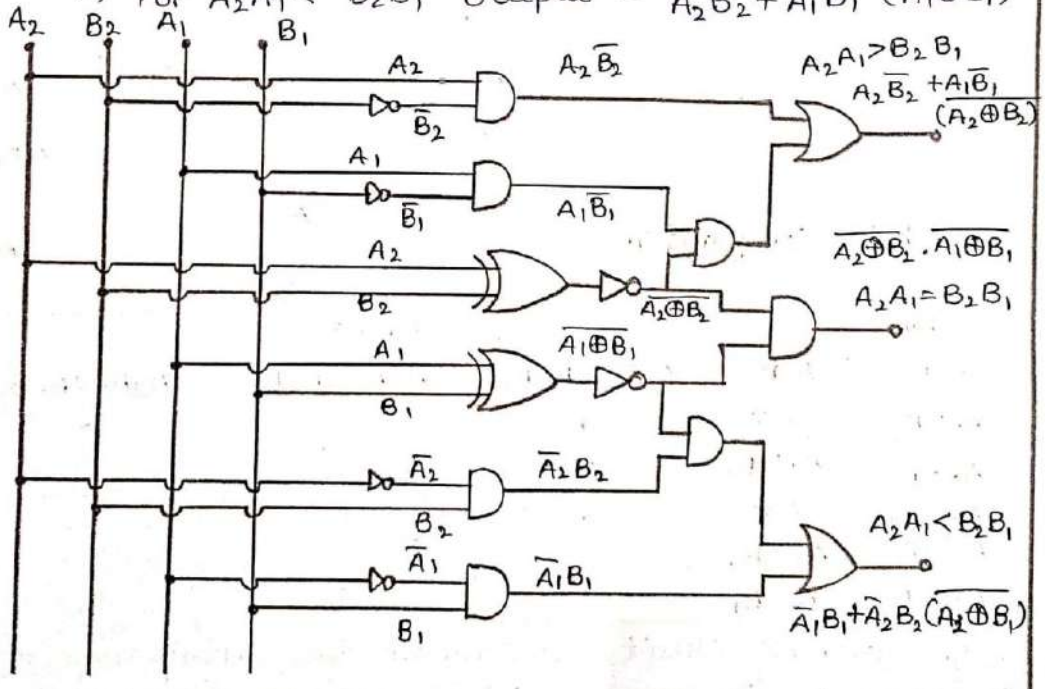
The circuit diagram regarding 2 bit comparator's is as shown in figure.

The output of the 2 bit comparator is

1, For $A_2A_1 > B_2B_1$ Output = $A_2\bar{B}_2 + A_1\bar{B}_1\,(\overline{A_2 \oplus B_2})$

2, For $A_2A_1 = B_2B_1$ Output = $(\overline{A_2 \oplus B_2}).(\overline{A_1 \oplus B_1})$

3, For $A_2A_1 < B_2B_1$ Output = $\bar{A}_2B_2 + \bar{A}_1B_1\,(\overline{A_1 \oplus B_1})$



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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **K.YELESH**

CLASS : **I B.SC (MECs)**

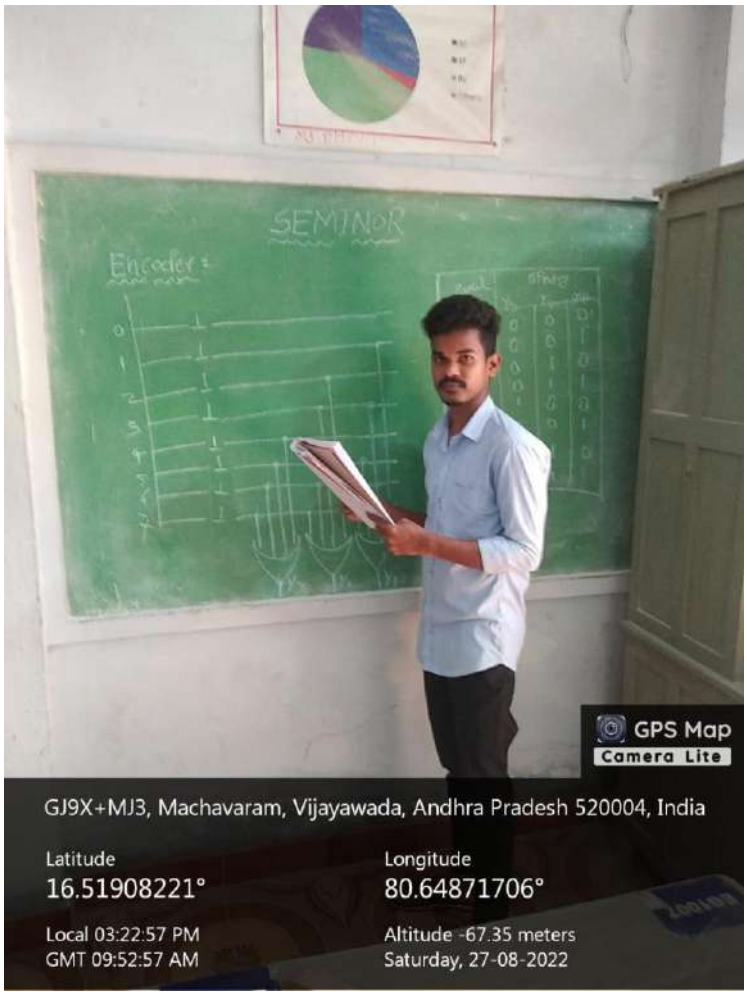
SEMESTER : **II SEMESTER**

Regd. No. : **21303215**

TOPIC : **ENCODER**

DATE OF SEMINAR : **27.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Name :- K. Yelesh
group :- B.Sc (MECs)
Reg No :- 21303215

SEMINOR

Encoder :-

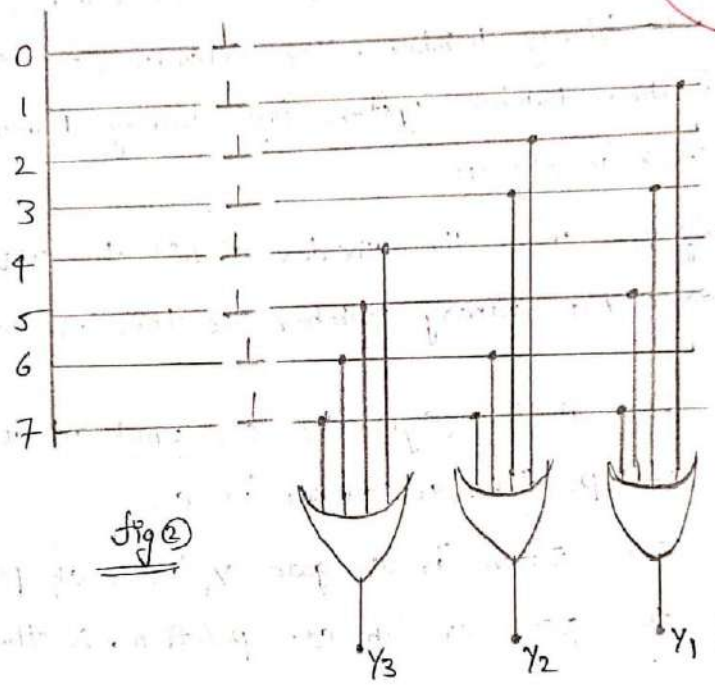


fig ②

Decimal	Binary Y_3	Y_2	Y_1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

fig - ①

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Electronic seminar

Encoder is an electronic circuit to convert from 1 number system into binary number system. It means Encoder can change either desimal number OR octal number Hexa decimal number into binary number. The convertion of eight numbers from desimal number system into binary number system is as shown in fig ①.

fig ② shows the encoder circuit to convert 8 numbers into 3 bit binary number so this is called 8 into 3.

As shown in the fig ① if 0's which is an, all OR gates in off position. so output is 000.

If one switch is an gate Y_1 is in on position and remaining two gates are in off position. so the out put is 001.

If two switch is of the secound OR gate Y_2 is on remaining 2 gates in off position. so the out put is 010.

similarly if 7 switches is on all OR. gates in on position so the output is 111.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **T.INDRA**

CLASS : **I B.SC (MECs)**

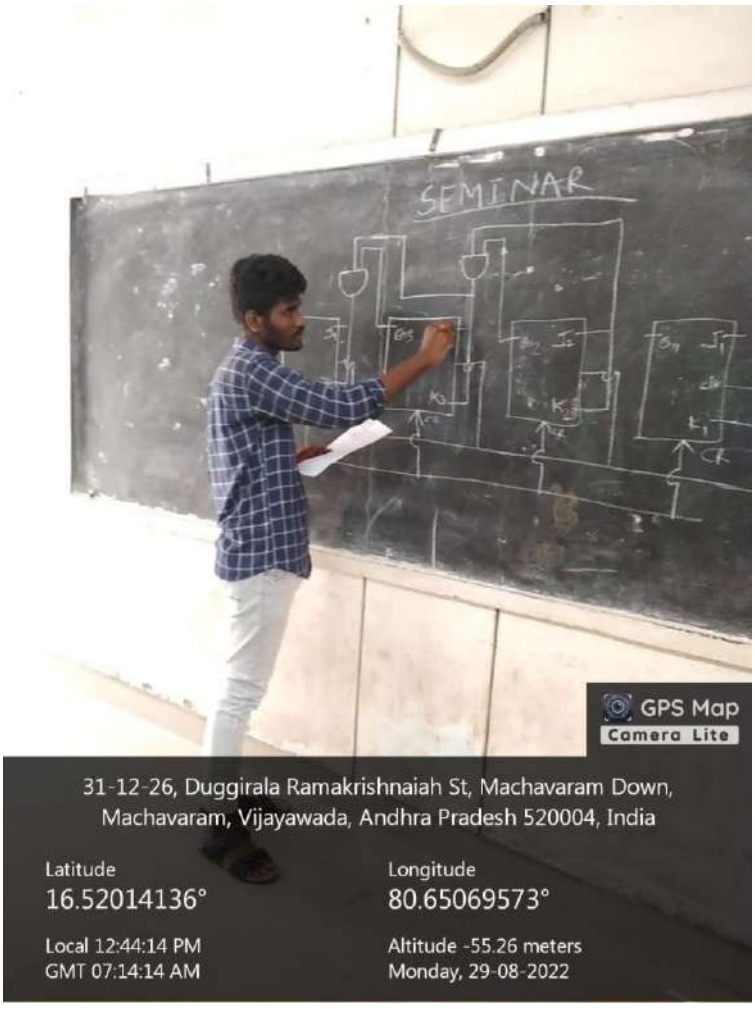
SEMESTER : **II SEMESTER**

Regd. No. : **21303216**

TOPIC : **ENCODER**

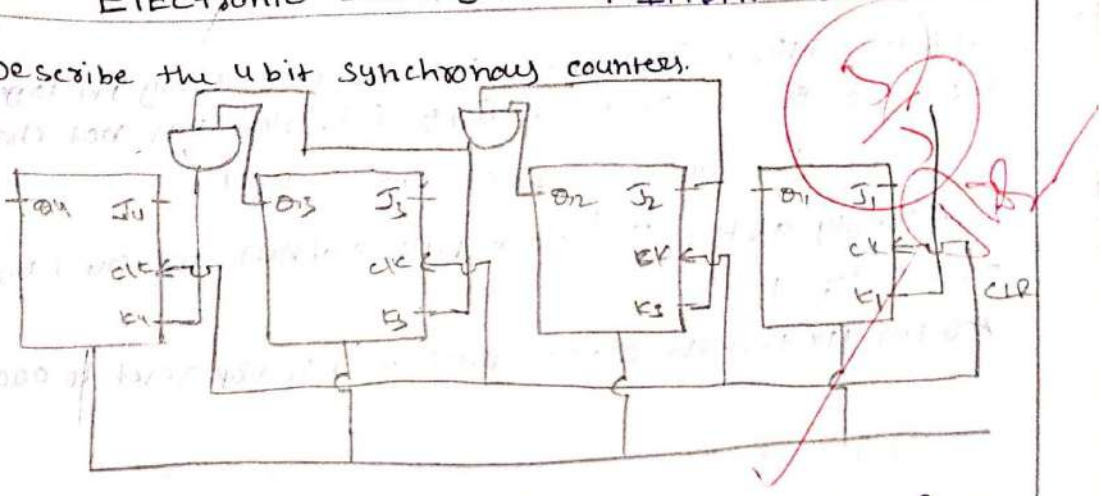
DATE OF SEMINAR : **29.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



ELECtronic seminar T.INDRA Reg:-213032216

① Describe the 4 bit synchronous counters.



The speed of the counter depending on clock pulse frequency and propagation delay of the flip flop In case of tripple counter The clock pulse is given to the first flip flop only It clock pulse given to all flip flop at a time whose speed increase This type of counter is called synchronous counters.

4 bit or 16-mode synchronous counter using JK flip flop as shown in the figure In which clock pulse is given to all flip flop at a time and clear pulse is also connected to all flip flop.

The first flip flop is always connected in toggle mode flip flop 3 & flip flop inputs are set connected through AND gates It clear pulse all the flip flop are set to 0000

1 It first clock pulse set the flip flop 1 output changes to 1 due to toggle mode so output changes FF_3 & FF_4 does not change

$\therefore Q_4=0 \quad Q_3=0 \quad Q_2=0 \quad Q_1=1$

after second clock pulse the first flip flop and second flip flop are in toggle mod so output changes

$Q_4=0 \quad Q_3=0 \quad Q_2=1 \quad Q_1=0$

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After third clock pulse the flip flop 1 only in toggle mod so $Q_1 = 1$ and remaing flip flops does not change

$\therefore Q_4 = 0 \quad Q_3 = 0 \quad Q_2 = 1 \quad Q_1 = 1$

Similarly after 15th clock pulse outputs are $Q_4 = 1$ $Q_3 = 1$ $Q_2 = 1$ $Q_1 = 1$

After sixteenth clock pulse all flip flop reset to 0000.

Clock Pulse	Q_4	Q_3	Q_2	Q_1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	0

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **CH.HONEY**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303210**

TOPIC : **MULTIPLEXER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar on Electronics

Name :- Gh. Honey.
Group: M.E.Cs (B.Sc)
Reg! - 21303210

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Multiplexer is an electronic circuit to send data from number of lines into a single line. For example, the data is sending from four lines into one line is called 4x1 multiplexer. The block diagram of the multiplexer is as shown in figure - ①.

The data selected from input lines depending on the selection wires S_1 and S_2 in case of 4x1 multiplexer. If A, B, C & D are inputs to send into output Y the truth table is as shown in figure - ②.

The electronic circuit desig for 4x1 multiplexer is an shown in figure - ③.

If $S_1=0$ and $S_2=0$ then input A only reflects at the output Y. Remaining all inputs are in active at 3-AND gates. If $S_1=1$, $S_2=0$ the input B present at output Y. If $S_1=0$ and $S_2=1$ the input C present at output Y.

If $S_1=1$ and $S_2=1$ then input D present at output Y.

If their are 8 inputs lines, 3 selection wires S_1, S_2, S_3 $[2^3=8]$ are required.

If there are 'n' selection wire the data may select from 2^n input lines.

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Multiplexer :

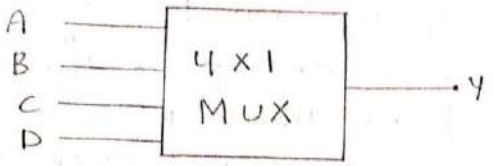


fig- ①

Selection O(wires)		Output
S_2	S_1	Y
0	0	A
0	1	B
1	0	C
1	1	D

fig - ②

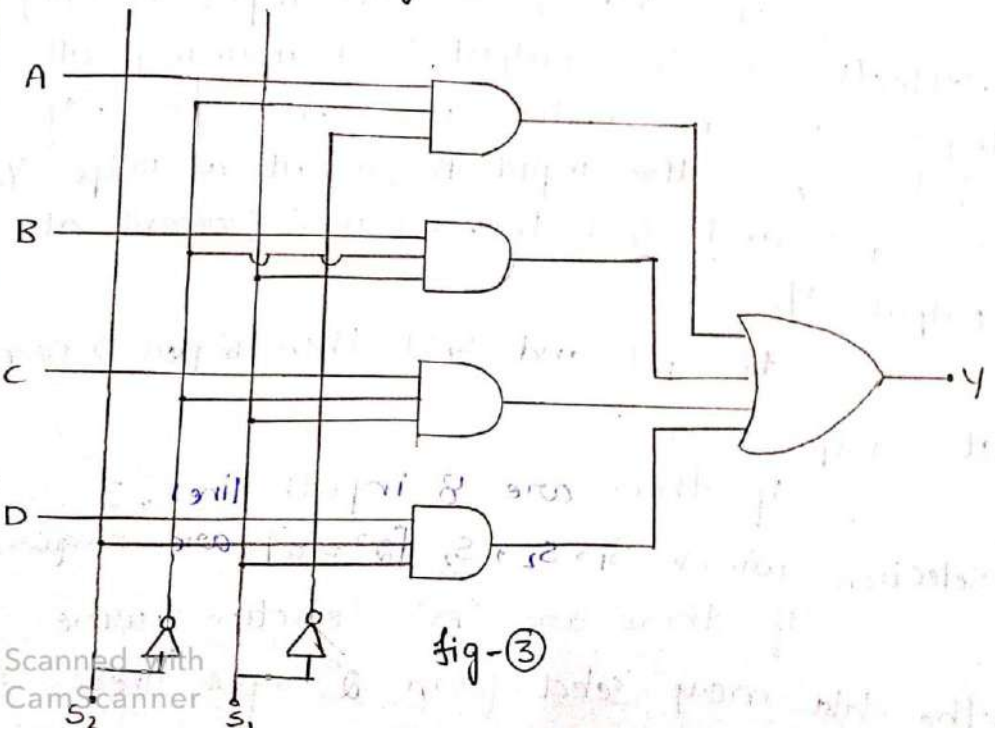


fig - ③

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **G.VENKATESH**

CLASS : **I B.SC (MECs)**

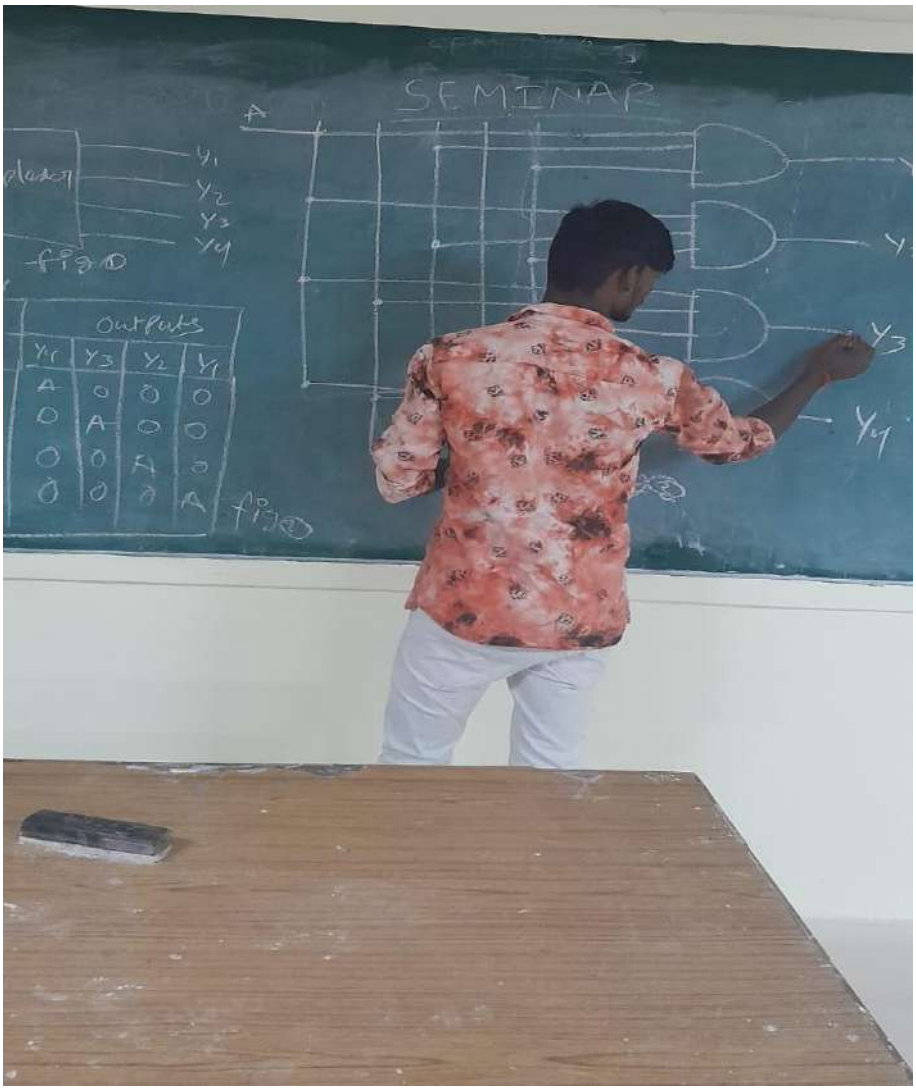
SEMESTER : **II SEMESTER**

Regd. No. : **21303224**

TOPIC : **DE-MULTIPLEXER**

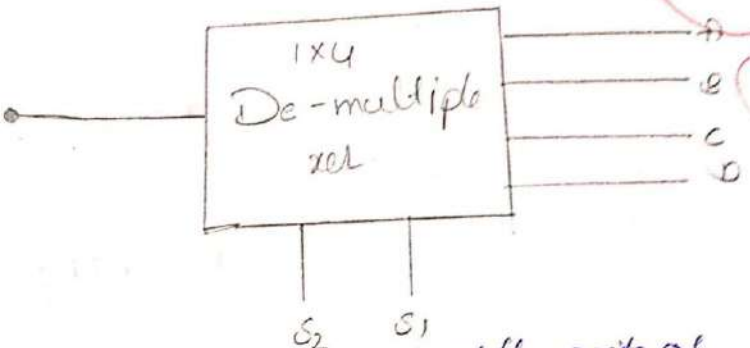
DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Dt: 01/03/2024

De-Multiplexer



De-multiplexer is the opposite of the opsite of the multiplexer. In which the data can be transfd from 1 input line into any 1 of the n output lines.

fig:-① shows the symbol of the 1×4 de-multiplex. If there are 4 outputs lines then 2 selecting wires are required to transfer the data

If there are 8 output lines we require 3 selecting wires similarly using n selecting wires the data can transfer to on output lines The Truth table of the de-multiplexer is as show in fig ②

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the digital circuit of demultiplexer using logic gates is as show in fig (8)

If $S_1=0$ and $S_2=0$ than 1st AND gate is enabled and remaing 3 AND gate are desabled.

So, Input 'A' passes through the output line 'Y_1'. If $S_1=1$ and $S_2=0$ than 1st AND gate is enabled and remining 3 AND gates are desabled.

So, data 'A' passes through output line 'y_2'.

If $S_1=0$ and $S_2=1$ than 3rd AND gate is enabled and remining 3 AND gates are disabled.

So, data 'A' passes through the output line 'y_3'.

If $S_1=1$ and $S_2=1$ than 4th AND gate is enabled remining 3 AND gates are desabled.

So, data 'A' passes through the output line 'y_4'.

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Inputs		outputs			
S_2	S_1	y_1	y_2	y_3	y_4
0	0	A	0	0	0
0	1	0	A	0	0
1	0	0	0	A	0
1	1	0	0	0	A

fig - ②

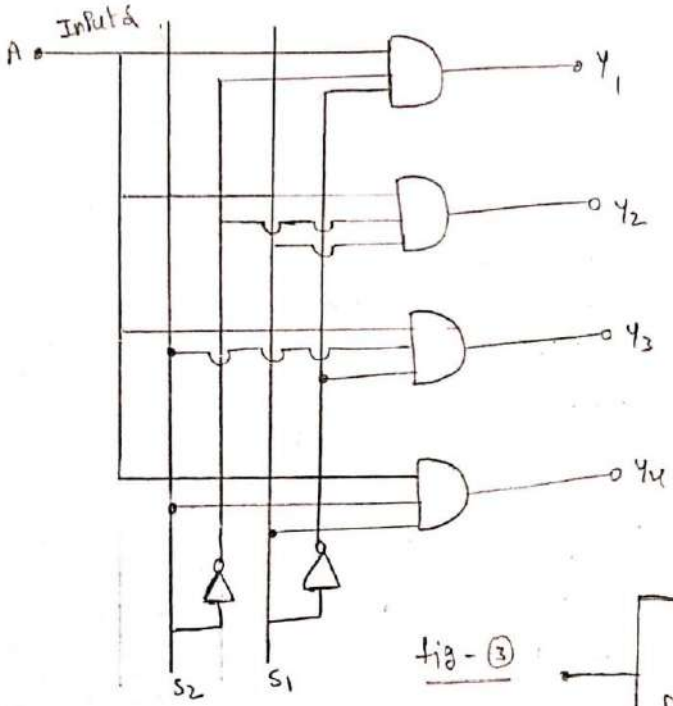
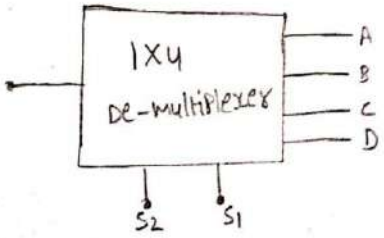


fig - ③



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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **V.LAVANYA**

CLASS : **I B.SC (MECs)**

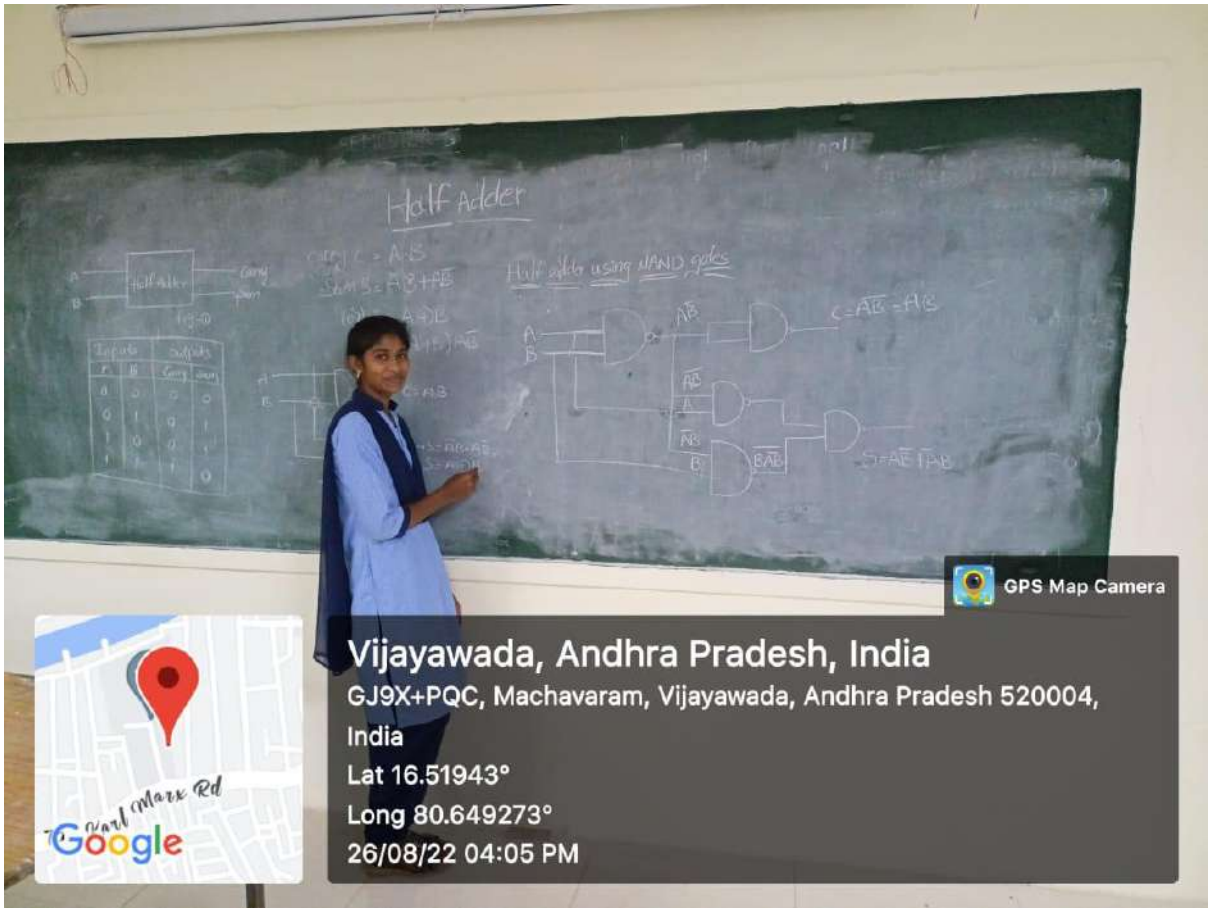
SEMESTER : **II SEMESTER**

Regd. No. : **21303208**

TOPIC : **HALF ADDER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Seminar

Name:- V. Lavanya.
Class:- BSc [MECs]
Redg No:- 21303208

Half Adder

A digital circuit which can add 2 bits only is called half-Adder. The half adder containing two inputs and two outputs. outputs are carry (c) and sum (s).

The block diagram of the Half adder is shown in fig ①. The truth table of the Half Adder is shown in table.

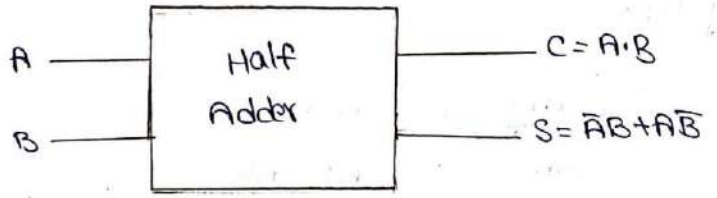


fig ①

Inputs		outputs	
A	B	C	S
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

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When observe the truth table of the half adder the carry 'c' output is '1' when both inputs are in '1' state. It means AND GATE is capable to show carry C.

The output sum 'S' is in '1' state, only both the inputs are different. this is the output of the exclusive OR gate. So the action of the sum made by X-OR-gate.

By the combination of AND gate and X-OR gate shows the half adder circuit as shown in fig (1).

$\therefore$ Carry $C = A \cdot B$

Sum $S = \bar{A}B + A\bar{B}$

(or) $S = A \oplus B$

(or) $S = (A+B)\,A\bar{B}$

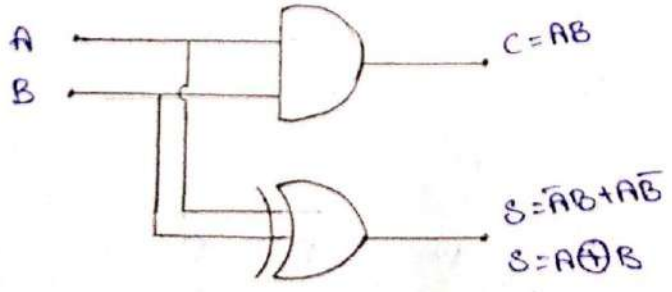
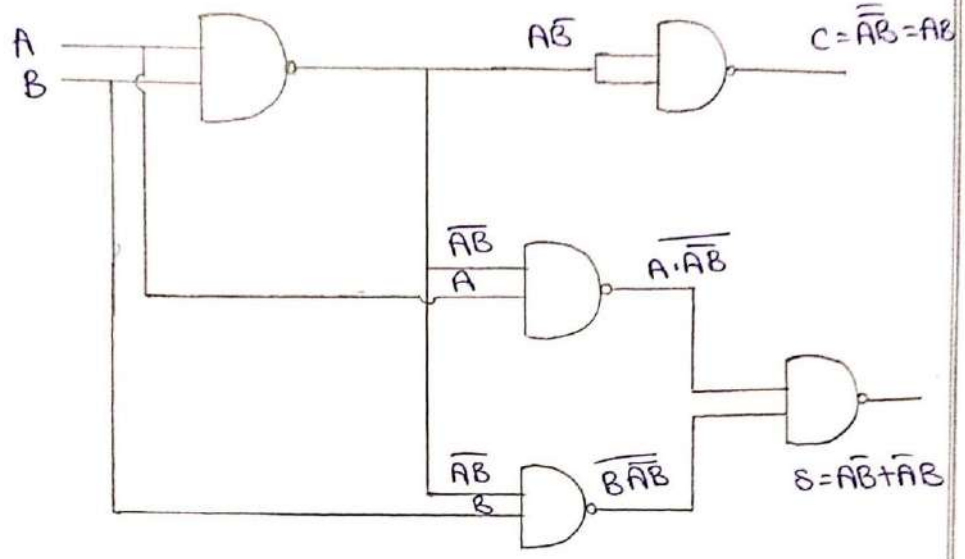


Fig - 2

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Half adder using NAND gates



Half adder can be constructed using NAND gates only as shown in the figure.

According to the diagram

$$\text{Carry } (C) = \overline{\bar{A}\bar{B}} = AB$$

$$\text{Sum } (S) = \overline{\overline{A\cdot\bar{A}\bar{B}}\cdot\overline{B\cdot\bar{A}\bar{B}}} \qquad \left(\because \overline{\bar{A}\bar{B}} = \bar{A}+\bar{B}\right)$$

$$= \overline{A\cdot\bar{A}\bar{B}} + \overline{\overline{B\cdot\bar{A}\bar{B}}}$$

$$= A\cdot\bar{A}B + B\cdot\bar{A}\bar{B}$$

$$= A(\bar{A}+B) + B(\bar{A}+\bar{B})$$

$$= A\bar{A} + A\bar{B} + B\bar{A} + B\bar{B}$$

$$= 0 + A\bar{B} + B\bar{A} + 0$$

$$\therefore \text{Sum } (S) = A\bar{B} + B\bar{A}$$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **B.G.M. KALIDAS**

CLASS : **I B.SC (MECs)**

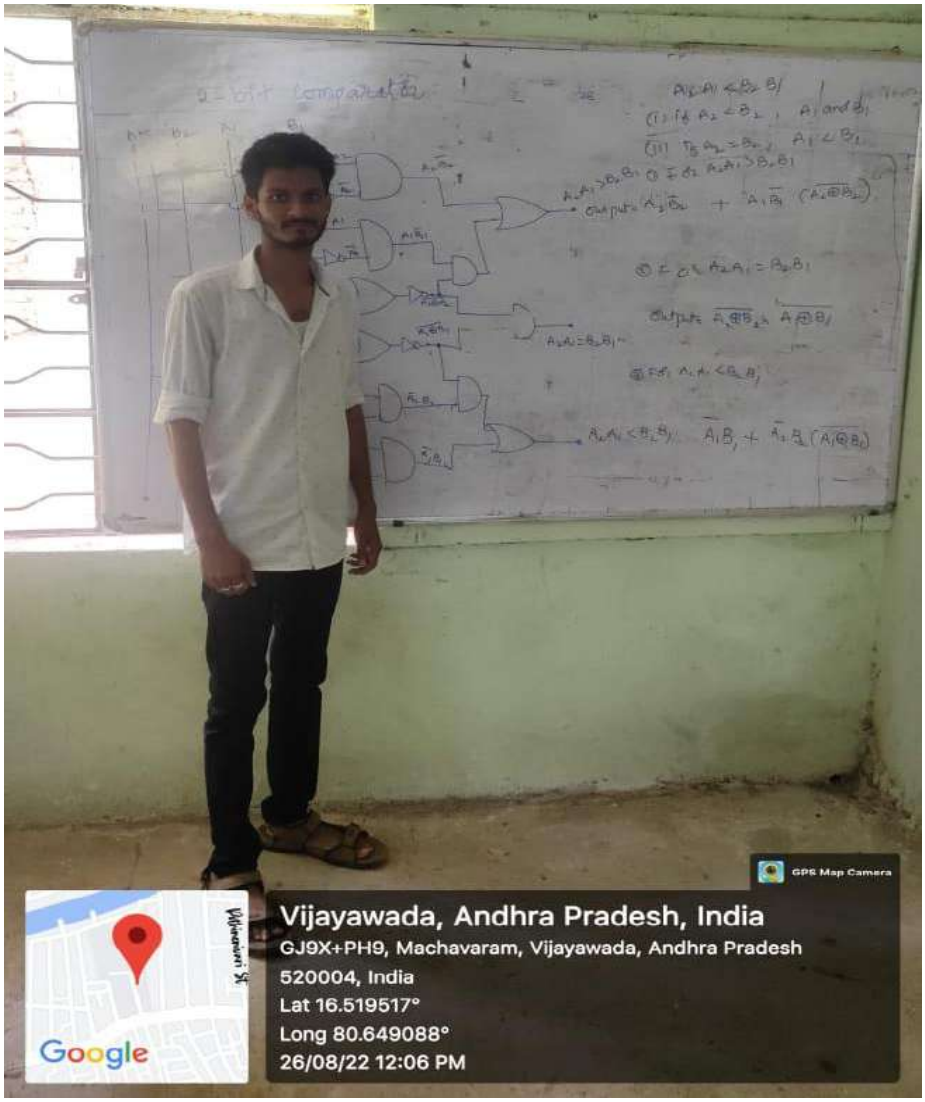
SEMESTER : **II SEMESTER**

Regd. No. : **21303211**

TOPIC : **BINARY COMPARATOR**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



Name :- B.G.M. Kalidas
Group :- B.Sc [MECS]
subject :- Electronics
Admin No :- 21303211

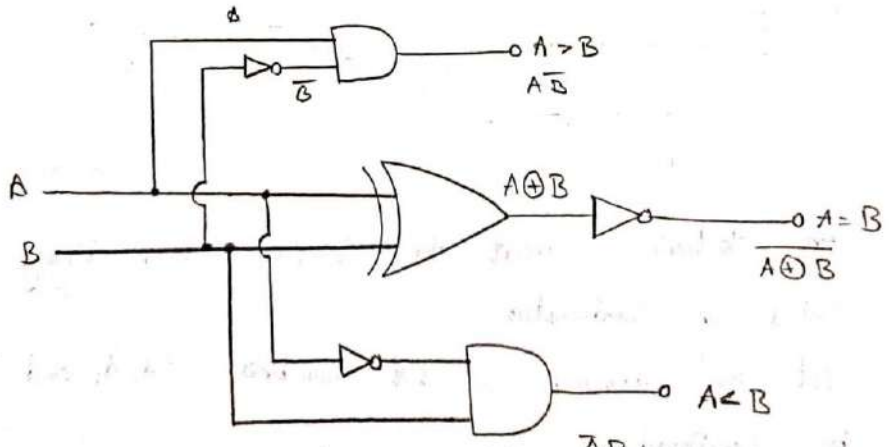
SEMINAR

Magnitude Comparator (or) Binary Comparator

A logic circuit that Compare two binary numbers is called Comparator. If A and B are two binary numbers, than we Can Compare 3 Conditions such as $A \geq B$ (or) $A = B$ (or) $A < B$.

The truth table of the 1 bit Comparator is as shown in table. The logical circuit diagram of the 1- bit Comparator is as shown in fig.

Inputs		outputs		
A	B	A>B	A=B	A<B
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0



If $A > B$ the output is $A \cdot \bar{B}$

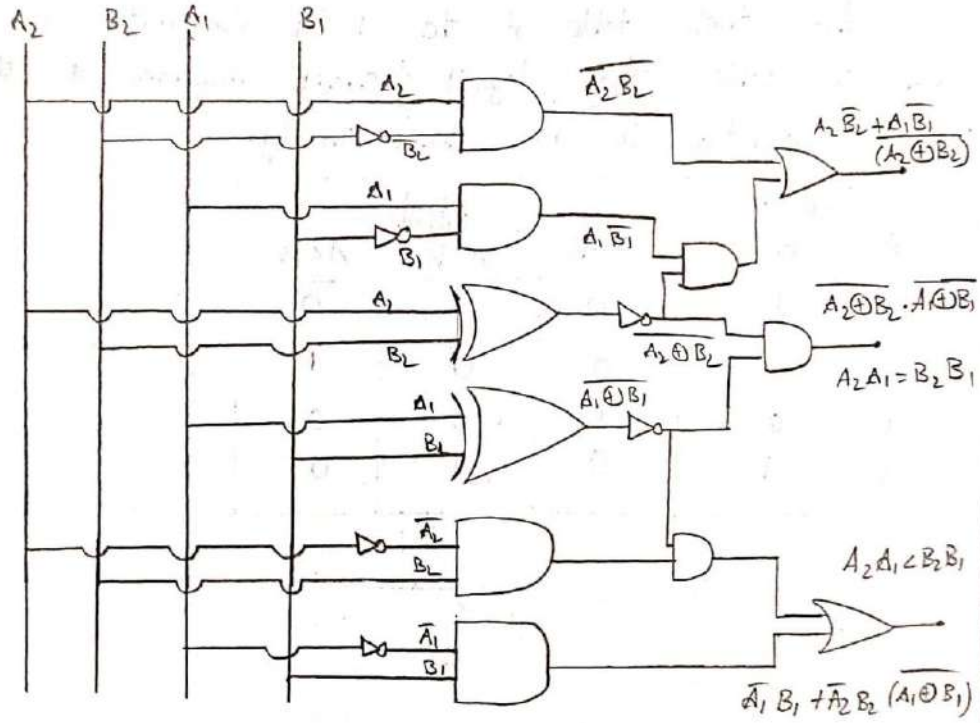
If $A = B$ the output is $\overline{A \oplus B}$ (or) $\overline{\bar{A}B + A\bar{B}}$

If $A < B$ the output is $\bar{A} \cdot B$

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2- bit Comparator

Inputs		outputs		
A_2 B_2	B_1 A_1	$A_2A_1 > B_2B_1$	$A_2A_1 = B_2B_1$	$A_2A_1 < B_2B_1$
$A_2 > B_2$	XX	1	0	0
$A_2 = B_2$	$A_1 > B_1$	1	0	0
$A_2 < B_2$	XX	0	0	1
$A_2 = B_2$	$A_1 < B_1$	0	0	1
$A_2 = B_2$	$A_1 = B_1$	0	1	0



An electronic circuit to compare two binary numbers is called a comparator

Let us assume 2 bit numbers (A_2A_1 and B_2B_1) be compared.

If $A_2A_1 > B_2B_1$ following conditions must be statisfied.

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(I) If $A_2 > B_2$ independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 > B_1$

If $A_2A_1 = B_2B_1$ following Conditions must be satisfied.

$A_2 = B_2$ and $A_1 = B_1$

If $A_2A_1 < B_2B_1$ following Conditions must be satisfied

(I) If $A_2 < B_2$, independent of the values of A_1 & B_1

(II) If $A_2 = B_2$, $A_1 < B_1$

All this Conditions shown in truth table

In this table X represents the independent of values of A_1 and B_1

The circuit diagram regrading 2 bit Comparator is as shown in figure.

The outputs of the 2 bit Comparator is

1, for $A_2A_1 > B_2B_1$

output $= A_2\overline{B_2} + A_1\overline{B_1}\ (\overline{A_2 \oplus B_2})$

2, for $A_2A_1 = B_2B_1$

output $= (\overline{A_2 \oplus B_2})\ (\overline{A_1 \oplus B_1})$

3, for $A_2A_1 < B_2B_1$

output $= \overline{A_2}B_2 + \overline{A_1}B_1\ (\overline{A_1 \oplus B_1})$

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **SK.HASHMIUN**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303201**

TOPIC : **READ ONLY MEMORY**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



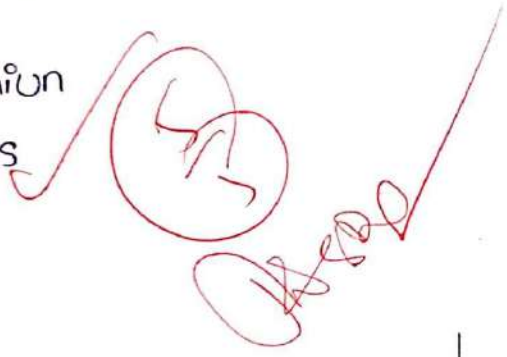
SEMINAR

Name : SK. Hashmiun

Subject : Electronics

Group : B.Sc [MECS]

Reg. no : 21303201



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"Read only Memory (ROM)"

In a computer system, memory is very essential part of the computer system and used to store information for instant use or permanently. Based on computer memory working features, memory is divided into two types.

① Volatile Memory (RAM)
② Non-volatile memory (ROM)

Before understanding ROM, we will first understand what exactly volatile and non-volatile memory is. Non-volatile memory is a type of computer memory that is used to retain stored information during power is removed. It is less expensive than volatile memory. It has a large storage capacity. ROM and flash memory are examples of non-volatile memory. whereas, volatile memory is a temporary memory. In this memory, the data is stored till the system is capable of, but once the power of the system is turned off the data within the volatile memory is deleted automatically. RAM is an example of volatile memory.

ROM stands for Read-only memory. It is a non-volatile memory that is used to stores important information which is used to operate the system. As its name refers to read-only memory, we can only read the programs and data stored on it.

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It is also a primary memory unit of the computer system. It contains some electronic fuses that can be programmed for a piece of specific information. The information stored in the ROM in binary-format. It is also known as permanent memory.

*Working of ROM

ROM is sustained by a small, long-life battery in the computer. It contains two basic components :-

1. The decoder and
2. OR logic gates

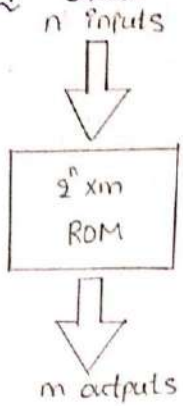
In ROM, the decoder receives input in binary form; the output will be the decimal equivalent. The OR gates in ROM use the decoder's decimal output as their input.

ROM performs like a disk array. It contains a grid of rows and columns that are used to turn the system on and off. Every element of array correlates with a specific memory element on the ROM chip. A diode is used to connect the corresponding elements.

When a request is received, the address input is used to find the specific memory location. The value that is read from the ROM chip should match contents of the chosen array element.

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* Block diagram of ROM



The block of ROM has 'n' input lines and 'm' output lines. Each bit combination of input variables is known as an address. Each bit combination that comes out through output lines is called a word. The number of bits per word is equal to no. of output lines, m.

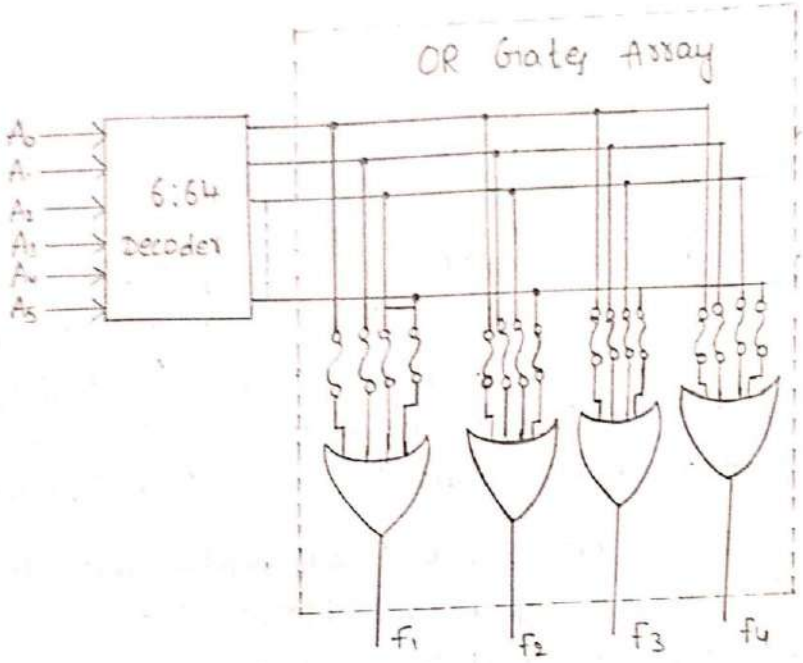
The address of a binary number refers to one of the address of n variables. So, the number of possible addresses with 'n' input variables is 2^n. An output word has a unique address, and as there are 2^n distinct addresses in a ROM, there are 2^n separate words in the ROM. The words on the output lines at a given time depends on the address value applied to the input lines.

* Internal structure of ROM

The internal structure comprises two logic components : decoder and OR gates. A decoder is a circuit that decodes the binary form to a

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decimal form. All the OR gates present in ROM will have outputs of the decoder as their output. Let us take an example of 64x4 ROM. The structure is shown in following image.



Internal Construction of 64 X 4 ROM

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : **P.RECHAL JYOTHI**

CLASS : **I B.SC (MECs)**

SEMESTER : **II SEMESTER**

Regd. No. : **21303206**

TOPIC : **ENCODER**

DATE OF SEMINAR : **26.08.2022**

NAME OF THE LECTURER : **J.NAGESWARA RAO**



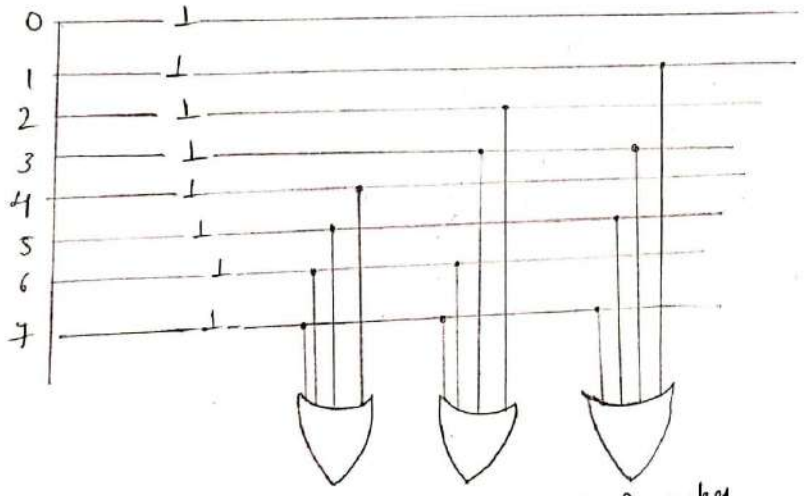
Electronics Seminar

Name: P. Rechal Jyothi
Group: 1 (B.SC (MECs)
Reg NO: 21303206

Encoders:-

Truth Table of Encoders:

Decimal	Binary		
	43	42	41
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	0	0	0
5	1	0	1
6	1	1	0
7	1	1	1



Circuit diagram of Encoders

Encoders is an electronic circuit to convert from 1 number system into binary number systems. It means encoders can change either decimal numbers or octal numbers or hexadecimal numbers into binary numbers.

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The conversation of 8 numbers from decimal number systems into binary number systems is as shown in fig ①.

Fig ②: Shows the Encoder Circuit to Convert 8 numbers into 3 bit binary number. So, this is Called 8x3 Encoder.

As shown in the fig ② if '0' Switch is on, all OR gates in off position. So, output is 0000.

If '1' switch is on, gate '4_1' in 'on' Position & remaining 2 gates are in off position. So, the output is 001. If '2' Switch is on, the 2nd OR gate '4_2' is on, Remaining 2 gates are in OFF position.

So, the output is 010. Similarly, if '7' Switch is 'ON', All OR in 'ON' position. So, the Output is 111

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VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

REPORT ON STUDENT SEMINARS CONDUCTED IN THE ACADEMIC YEAR

2021-22

GROUP: III B.SC(MPC)(EM &TM)

SEMESTER : VI– RENEWABLE ENERGY

NAME OF THE FACULTY : Smt T.V.Vakula Priya, Lecturer in physics

DATE: 18/06/22, 30/06/2022 & 1/07/22

Name of the student: R.Ravi Naik

TOPIC: Global warming & Green house effect



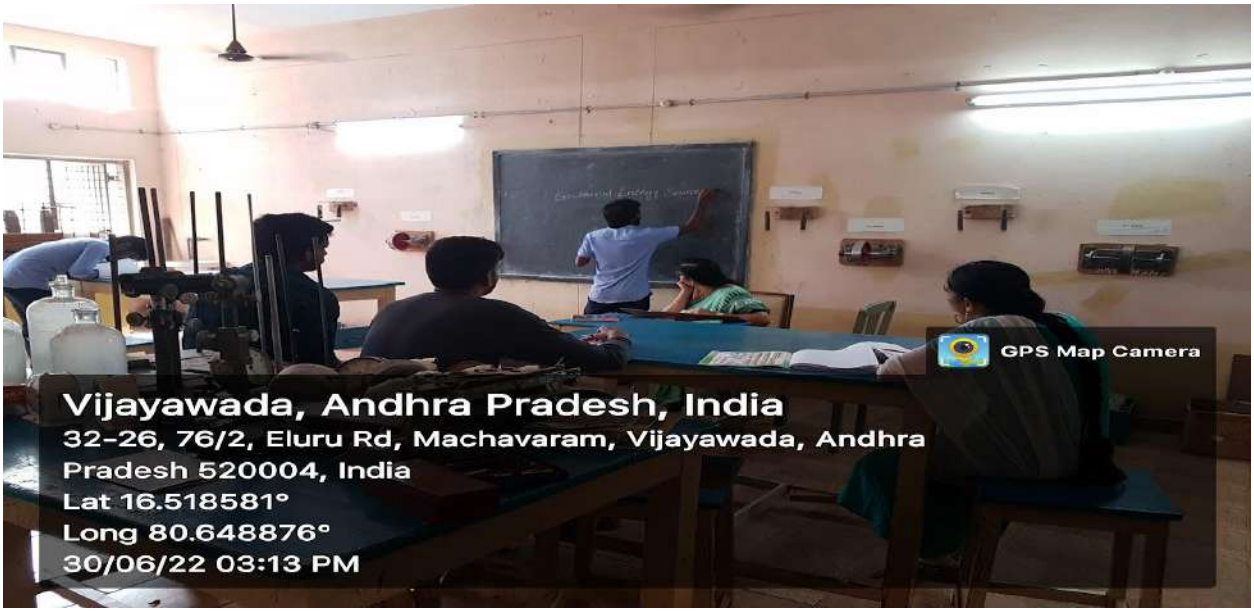
Name of the student: V.Hareesh

Topic : Non Renewable Energy



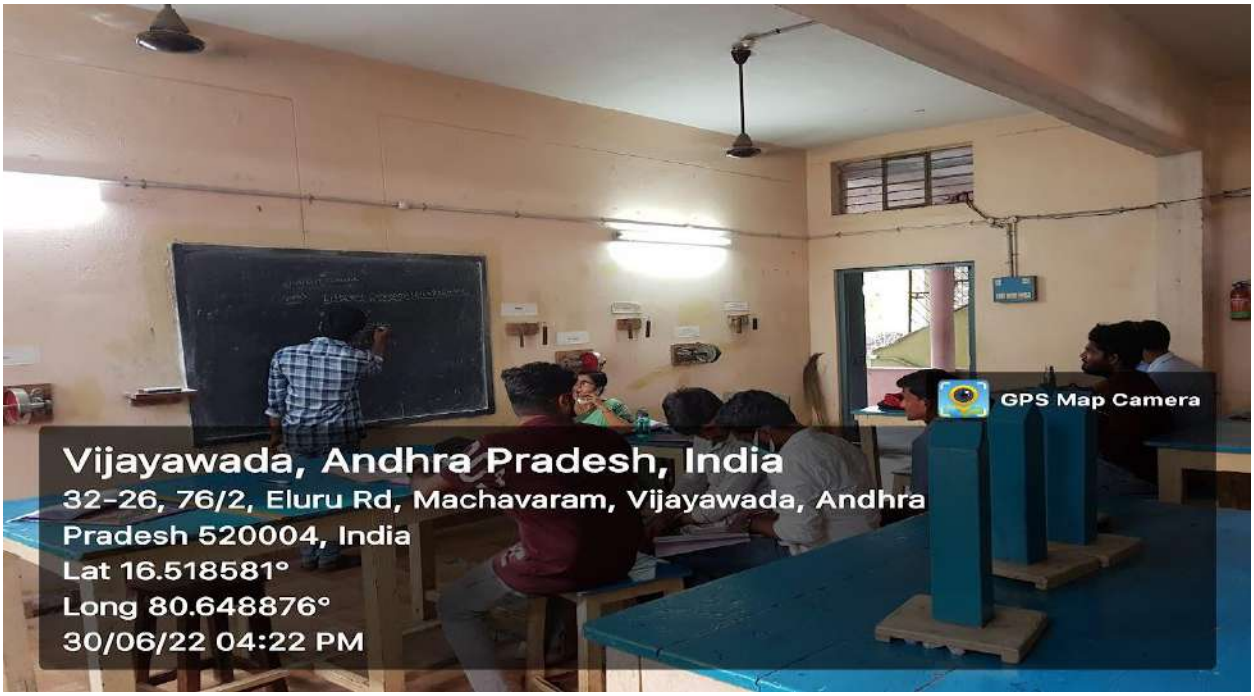
Name of the Student: S.Subhani

Topic: Conventional energy sources



Name of the student : R.Bhuvana Suresh

Topic : Different conventional energy sources



Name of the student : B.Anjali Devi

Topic : SOLAR ENERGY



Name of the student:K.Krishna Kishore Reddy

Topic : Renewable Energy



Name of the student : S.Siddardha

Topic : Gauss law



Name of the student : N.Jayanth

Topic : Depletion of Ozone Layer



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(AUTONOMOUS)

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

REPORT ON STUDENT SEMINARS CONDUCTED IN THE ACADEMIC YEAR

2021-22

GROUP: I B.SC (MPCS)

SEMESTER : MECHANICS AND PROPERTIES OF MATTER

NAME OF THE FACULTY : Smt T.V.Vakula Priya, Lecturer in physics

DATE: 4/03/2022

Name of the student : D.Varalakshmi

Topic :Newton’s laws

H.NO-21302209



Name of the student : D.Lavanya

Topic : Restoring forces



Name of the student : K.Ajay kumar

Topic : Properties of matter

H.NO21302226



Name of the student : Y.Alekhya

Topic :Rotation of the Earth

H.NO-21302251



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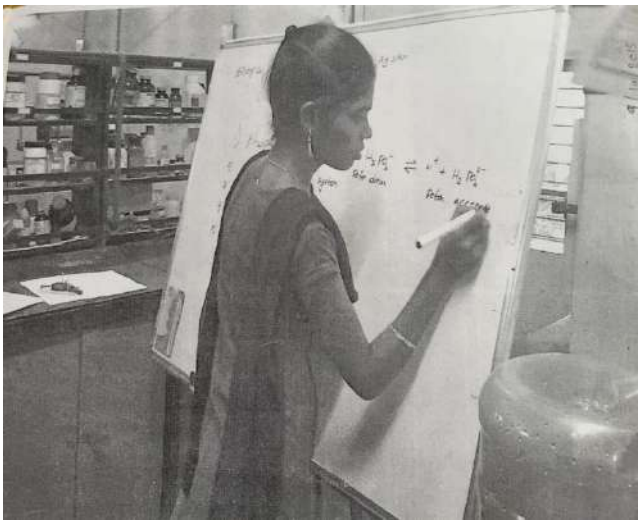
DEPARTMENT OF BIOCHEMISTRY

STUDENT SEMINAR

III BSc (MBC) 2017-2018

Semester-V

Dated: 13-09-201



SUNEETHA SEMINAR ON STRUCTURE OF KIDNEY



SIRISHA GIVEN SEMINAR ON COLLECTION OF BLOOD

The following students of III Bsc MBC V Semester has given seminars in paper V on different topics on 13/ 09/2017 in the department of biochemistry.

16. P. Aruna kumari P. Aruna kumari

Student SEMINARS

III BSc 5th Semester

The following student of III B.Sc. M.Sc V Semester has given Seminary in paper V on different topics on 13/9/2017 in the department of biochemistry.

Seminars presented by:

	Roll. No.	Name	TOPIC	Signature
①	16. (Y15317407)	K. Suneetha.	Structure of kidney	K. Suneetha
②	Roll No(Y15317401)	M. Nandini	Examination of urine	M. Nandini
③	Roll No:- Y15317401	T. Sirisha.	collection of Blood	T. Sirisha.
④				
⑤				

Attended Students

	NAME	Signature
①	Sirisha	T. Sirisha.
②	Sauthi Jyothi	R. Sauthi Jyothi
3.	Bhargavi	K. Bhargavi
4.	Nandini	Nandini
5.	Santha kumari	G. Santha kumari
6.	M. Sravani	M. Sravani
7.	K. Leela prasad	K. Leela Prasad.
8.	M. Earnest Henry	M. E. Henry
9.	P. Krupani	P. Krupani
10.	K. Suneetha.	K. Suneetha.

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VIJAYAWADA, KRISHAN DIST., A.P

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DEPARTMENT OF URDU

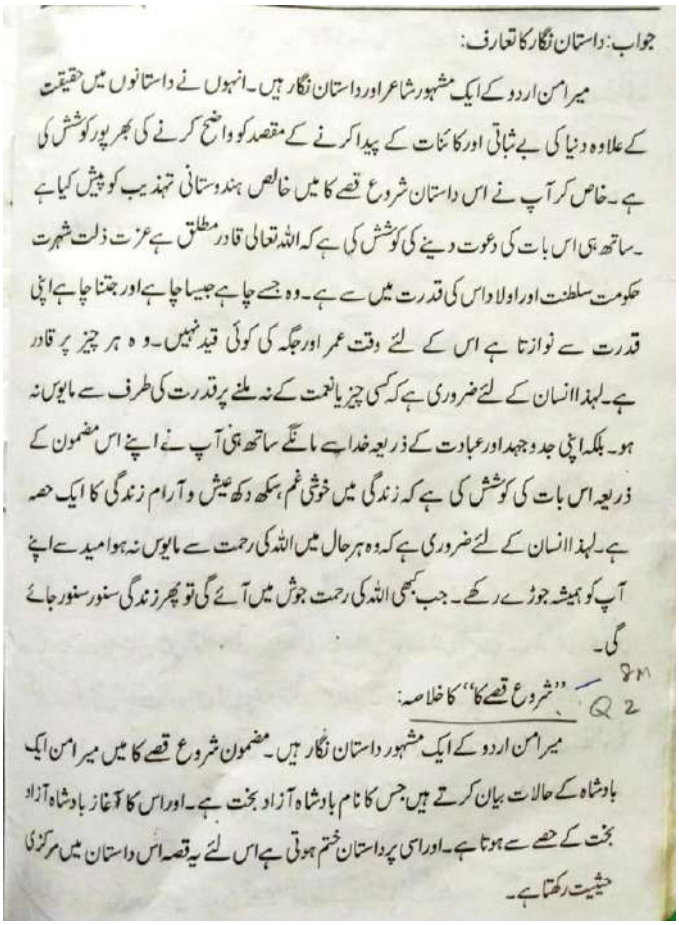
2020-21 BA. (EHP)U/M

STUDENTS SEMINAR



NAME OF THE STUDENT	**: Md. Tayyab**
CLASS	**: II BA,EHP(U/M)**
SEMESTER	**: Ill SEMESTER**
Regd. No.	**20101401**
TOPIC	**: Dastaan bagon bahar**
DATE OF SEMINAR	**:17.06.2020**
NAME OF THE LECTURER	**: AFROZ BEGUM**





جواب: داستان نگار کا تعارف:

میر امن اردو کے ایک مشہور شاعر اور داستان نگار ہیں۔ انہوں نے داستانوں میں حقیقت کے علاوہ دنیا کی بے ثباتی اور کائنات کے پیدا کرنے کے مقصد کو واضح کرنے کی بھرپور کوشش کی ہے۔ خاص کر آپ نے اس داستان شروع قصے کا میں خالص ہندوستانی تہذیب کو پیش کیا ہے۔ ساتھ ہی اس بات کی دعوت دینے کی کوشش کی ہے کہ اللہ تعالی قادر مطلق ہے عزت ذلت شہرت حکومت سلطنت اور اولاد اس کی قدرت میں سے ہے۔ وہ جسے چاہے جیسا چاہے اور جتنا چاہے اپنی قدرت سے نوازتا ہے اس کے لئے وقت عمر اور جگہ کی کوئی قید نہیں۔ وہ ہر چیز پر قادر ہے۔ لہذا انسان کے لئے ضروری ہے کہ کسی چیز یا نعمت کے نہ ملنے پر قدرت کی طرف سے مایوس نہ ہو۔ بلکہ اپنی جد وجہد اور عبادت کے ذریعہ خدا سے مانگے ساتھ ہی آپ نے اپنے اس مضمون کے ذریعہ اس بات کی کوشش کی ہے کہ زندگی میں خوشی غم ہنسی دکھ عیش و آرام زندگی کا ایک حصہ ہے۔ لہذا انسان کے لئے ضروری ہے کہ وہ ہر حال میں اللہ کی رحمت سے مایوس نہ ہو امید سے اپنے آپ کو ہمیشہ جوڑے رکھے۔ جب کبھی اللہ کی رحمت جوش میں آئے گی تو پھر زندگی سنور سنور جائے گی۔

8M
Q 2

"شروع قصے کا" کا خلاصہ:

میر امن اردو کے ایک مشہور داستان نگار ہیں۔ مضمون شروع قصے کا میں میر امن ایک بادشاہ کے حالات بیان کرتے ہیں جس کا نام بادشاہ آزاد بخت ہے۔ اور اس کا آغاز بادشاہ آزاد بخت کے حصے سے ہوتا ہے۔ اور اسی پر داستان ختم ہوتی ہے اس لئے یہ قصہ اس داستان میں مرکزی حیثیت رکھتا ہے۔

.....

STUDENT SMEINAR



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

NAME OF THE STUDENT : Shaik Hussainbi

CLASS : IBA,EHP(U/M)

SEMESTER : IISEMESTER

NAME OF THE STUDENT : Humera Banu

CLASS : II BA,EHP(U/M)

SEMESTER : Ill SEMESTER

Regd. No. 20101409

TOPIC :Galib k qutoot

Regd. No. : 21101406

DATE OF SEMINAR :17.06.2020

TOPIC : Madam aur Gurez

NAME OF THE LECTURER : AFROZ BEGUM

DATE OF SEMINAR :17.06.2021

NAME OF THE LECTURER :AFROZ BEGUM

سے لکھئے؟

جواب: اردو ادب میں غالبؔ کے خطوط کی اہمیت تاریخی و ادبی، تہذیبی و ثقافتی اور نجی حالات کے بیان ہونے کی وجہ سے ہے۔ ان مختلف حیثیتوں کی وجہ سے غالب کے خطوط اردو مکاتیب کی دنیا میں اپنی مثال آپ ہیں۔

غالبؔ نے ایک ایسے زمانے میں اردو میں خطوط لکھنے شروع کیے جبکہ ابھی فارسی کا چلن عام تھا۔ اور لوگ اپنے دوست احباب کو فارسی ہی میں خط لکھا کرتے تھے۔ غالب نے اردو میں جب خط لکھنا شروع کیا تو گویا انہوں نے اردو زبان کو زندگی کے عام معاملات میں استعمال کے قابل بنایا۔ غالبؔ کے اردو خطوط نے عوام کے رجحان کو نہ صرف اردو مکتوب نگاری کی طرف منتقل کیا بلکہ یہ زبان جو نثر کے لحاظ مقفی و مسجی تھی سادہ، رنگین، سہل و آسان ہو کر زندگی کی ترجمانی کا حق ادا کرنے لگی۔ غالبؔ نے مراسلہ کو مکالمہ بنا دیا۔ اور ہم غالبؔ کے اس طرز کی وجہ سے ہجر میں وصال کے مزے لیا کرتے ہیں۔

غالبؔ ایک پہلودار شخصیت کے مالک تھے۔ ان کے مکاتب میں بھی یہی چیز پائی جاتی ہے۔ ان کے مکاتیب اردو ادب میں سادہ و سلیس شائستہ اور شگفتہ اسلوب کا حرف آخر ہیں۔ مکاتب غالبؔ میں خود غالب کی نجی زندگی کا پہلو بہت زیادہ ہے۔ جیسے ان کے اسلاف کا ذکر، ان کے خاندان کے حالات، ترک وطن کرنا، ملازمتیں اور اموات، بچپن کے واقعات، معاشی بے فکری و شادی، تعلیم و تربیت، معاشی دشواریوں کا آغاز، بہادر شاہ ظفر کے دربار میں خلعت (لباس) کا پانا۔ 1857ء کے واقعات، پنشن کا بند ہونا، اس کی اجرائی کے دوڑ دھوپ، ضعیفی کی تکلیف، ناسازی صحت کا ذکر وغیرہ وغیرہ۔

جواب نہیں ملتا تو شاعر کہتا ہے شاید تو خود بھی اُس کا نام نہیں جانتا ہے۔ مین بتاتا ہوں اُس کا نام بہادر شاہ اور شعر میں ایک ڈرامائی انداز پیدا کر دیا ہے۔

تو نہیں جانتا تو مجھ سے سن
نام شاہنشہ بلند مقام
قبلۂ چشم دل بہادر شاہ
مظہر ذوالجلال و اکرام

گریز: قصیدہ کا سب سے نازک حصہ ہے اور تشبیب اور مدح کے درمیان کی کڑی ہے اور ان دونوں میں ربط پیدا کرنا اُس کا کام ہے۔ یہاں ایک یا اُس سے زائد شعر بھی استعمال کیے جاسکتے ہیں۔ بقول ابو محمد سحر گریز کا سب سے بڑا حسن یہ ہے کہ تشبیب کہتے کہتے شاعر مدح کی طرف اس طرح گھوم جائے جیسے بات میں بات پیدا ہوگئی ہو۔ یہی خوبی کی رو سے گریز قصیدہ کا مہتم بالشان حصہ ہے اور شاعر کا کمال سمجھا جاتا ہے۔ عربی

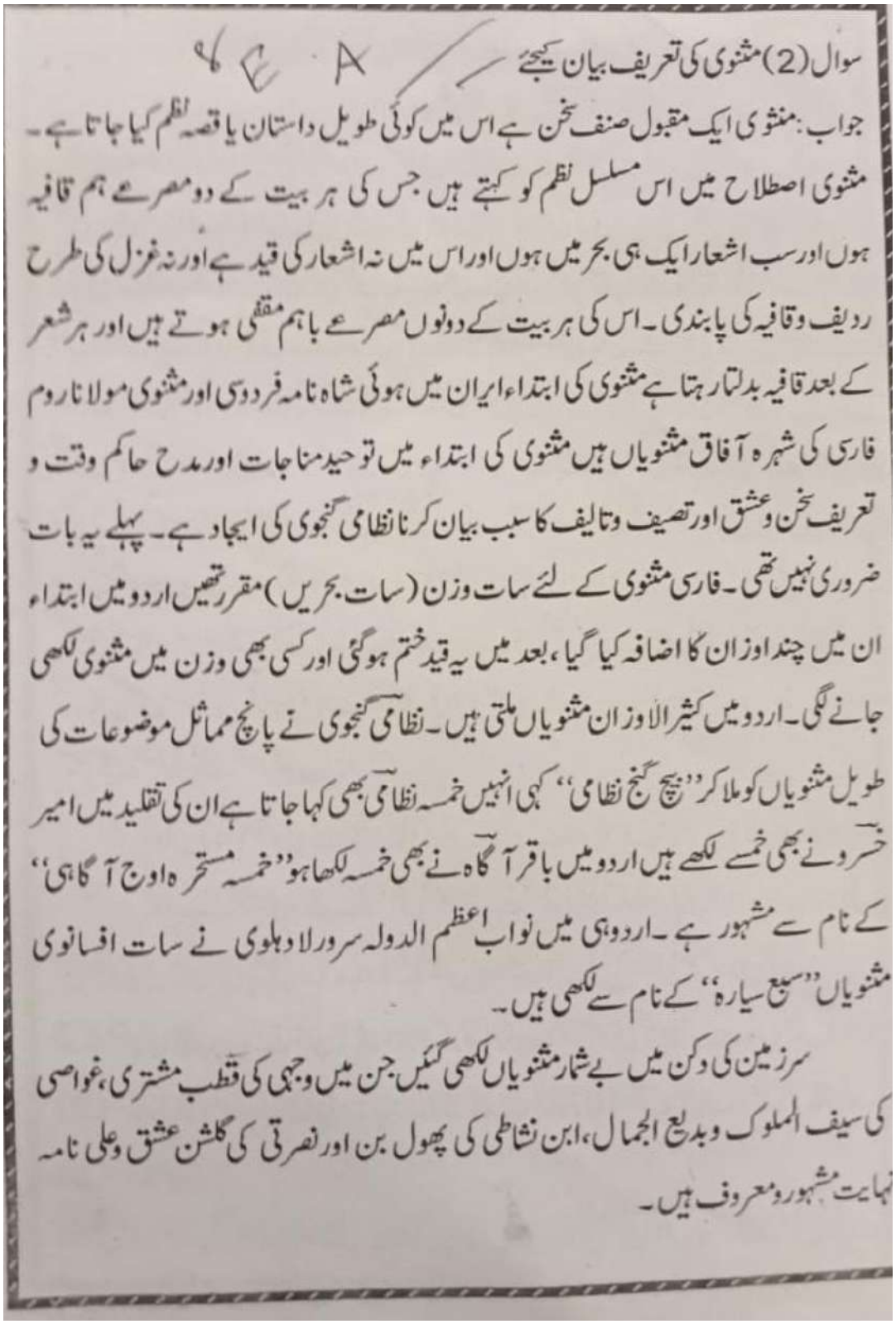
SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT	**: Shaik Farzan**
CLASS	**: I BA,(EHP)U/M**
SEMESTER	**: Il SEMESTER**
Regd. No.	**: 21101402**
TOPIC	**: Amjad Hyderabadi ki halat zindagi**
DATE OF SEMINAR	**:17.06.2022**
NAME OF THE LECTURER	**: AFROZ BEGUM**

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STUDENT SEMINAR



سوال (2) مثنوی کی تعریف بیان کیجئے

جواب: مثنوی ایک مقبول صنف سخن ہے اس میں کوئی طویل داستان یا قصہ نظم کیا جاتا ہے۔ مثنوی اصطلاح میں اس مسلسل نظم کو کہتے ہیں جس کی ہر بیت کے دو مصرعے ہم قافیہ ہوں اور سب اشعار ایک ہی بحر میں ہوں اور اس میں نہ اشعار کی قید ہے اور نہ غزل کی طرح ردیف و قافیہ کی پابندی۔ اس کی ہر بیت کے دونوں مصرعے باہم مقفی ہوتے ہیں اور ہر شعر کے بعد قافیہ بدلتا رہتا ہے مثنوی کی ابتداء ایران میں ہوئی شاہ نامہ فردوسی اور مثنوی مولانا روم فارسی کی شہرہ آفاق مثنویاں ہیں مثنوی کی ابتداء میں توحید مناجات اور مدح حاکم وقت و تعریف سخن و عشق اور تصنیف و تالیف کا سبب بیان کرنا نظامی گنجوی کی ایجاد ہے۔ پہلے یہ بات ضروری نہیں تھی۔ فارسی مثنوی کے لئے سات وزن (سات بحریں) مقرر تھیں اردو میں ابتداء ان میں چند اوزان کا اضافہ کیا گیا، بعد میں یہ قید ختم ہوگئی اور کسی بھی وزن میں مثنوی لکھی جانے لگی۔ اردو میں کثیر الاوزان مثنویاں ملتی ہیں۔ نظامی گنجوی نے پانچ مماثل موضوعات کی طویل مثنویاں کو ملا کر ''پنج گنج نظامی'' کہی انہیں خمسہ نظامی بھی کہا جاتا ہے ان کی تقلید میں امیر خسرو نے بھی خمسے لکھے ہیں اردو میں باقر آگاہ نے بھی خمسہ لکھا ہو ''خمسہ مستحرہ اوج آگاہی'' کے نام سے مشہور ہے۔ اردو ہی میں نواب اعظم الدولہ سرور لا دہلوی نے سات افسانوی مثنویاں ''سبع سیارہ'' کے نام سے لکھی ہیں۔

سرزمین کی دکن میں بے شمار مثنویاں لکھی گئیں جن میں وجہی کی قطب مشتری، غواصی کی سیف الملوک و بدیع الجمال، ابن نشاطی کی پھول بن اور نصرتی کی گلشن عشق و علی نامہ نہایت مشہور و معروف ہیں۔

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT : Abdul Aiman

CLASS : IBA (EHP) U/M

SEMESTER : Il SEMESTER

Regd. No. : 21101403

TOPIC : Meer Hasan ki halat zindagi

DATE OF SEMINAR :17.06.2022

NAME OF THE LECTURER : AFROZ BEGUM

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STUDENT SEMINAR



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STUDENT SEMINAR

سوال (5) میر حسن کی حالات زندگی پر ایک مختصر نوٹ لکھئے۔

جواب :۔ میر غلام حُسین نام اور حسن تخلص 1737 کو دہلی میں پیدا ہوئے۔ دہلی کے حالات جب خراب ہوئے تو یہ اپنے والد میر غلام حسین ضاحک کے ساتھ فیض آباد آئے۔ جو اس وقت اودھ کا دار السلطنت تھا۔ لیکن جب آصف الدولہ نے لکھنو آیا تو یہ بھی لکھنو چلے گئے۔

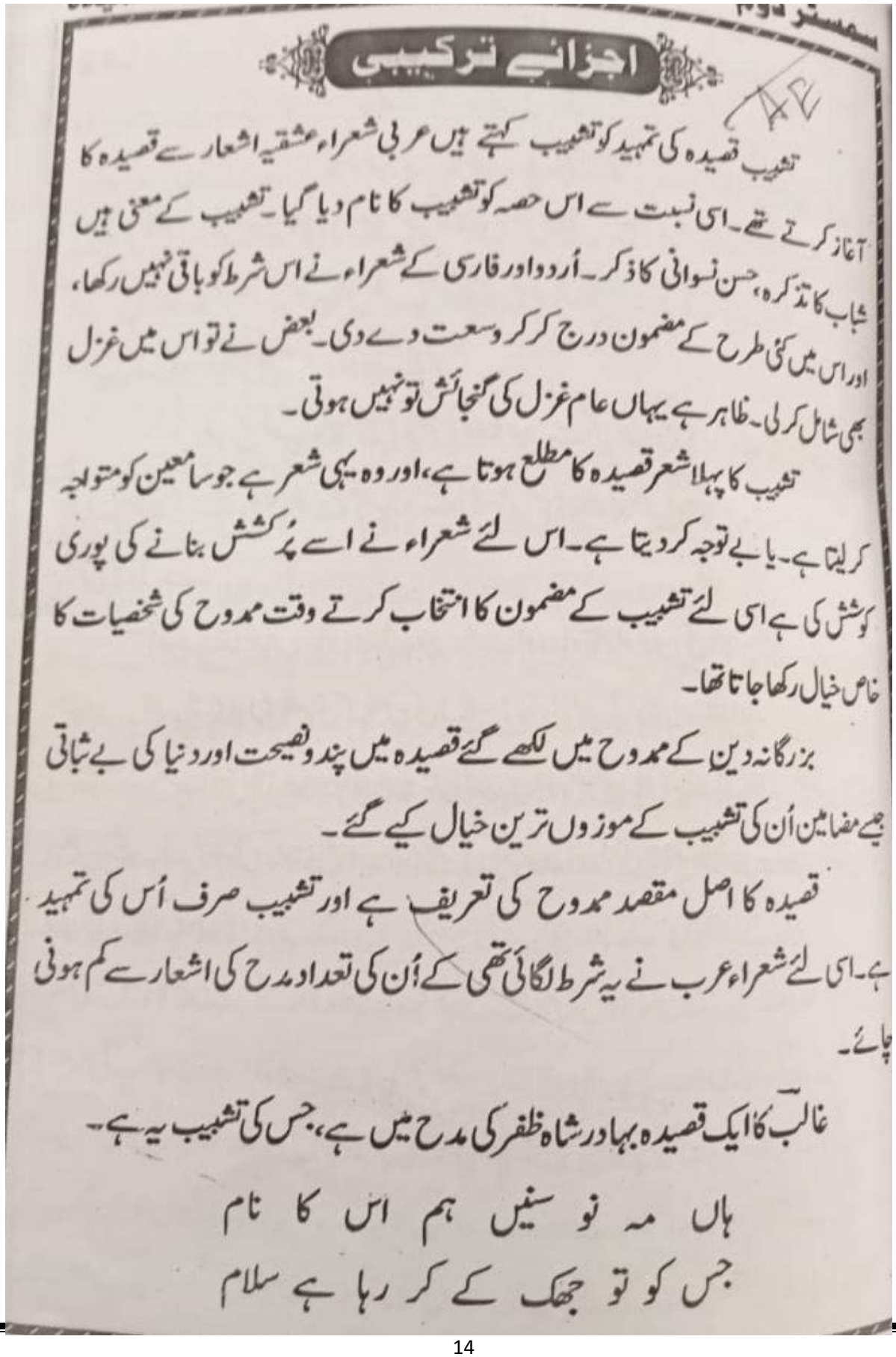
شاعری خاندان میں بزرگوں کے وقت سے چلی آرہی تھی۔ ان کے والد میر ضاحک مشہور شاعر تھے چنانچہ میر حسن نے ابتداء میں انھیں سے اصلاح لی، بعد میں میر درد کو کلام دکھانے لگے۔ جب دہلی چھوڑ کر لکھنو گئے تو میر ضیاالدین ضیا کے شاگرد ہوئے۔ مگر ان کا رنگ کچھ پسند نہ آیا۔ لہذا امیر اور سودا کے رنگ میں شعر کہنا شروع کیا۔ میر حسن کے یہاں تصوف اور روحانیت قابل دید ہے۔ غزلوں کے علاوہ قصائد بھی لکھے ہیں۔ حقیقت یہ ہے کہ میر حسن کی حیات جاویدان کا راز نہ غزل ہے نہ قصیدہ میں پیش کیا۔ ان کے سامنے اگلے اور پچھلے کے شعراء کو سر تسلیم خم کرنا پڑا۔ اُردو میں نا اس سے پہلے کوئی اس پائیے کی مثنوی ہوئی ہے اور نہ اب آئندہ کی امید ہے۔ اس لئے جس ماحول میں مثنویاں کہی جاتی تھی وہ مدت ہی ختم ہوگئی۔ فارسی ہو یا اردو دونوں زبان کے قریب قریب تمام مثنویاں کسی سلسلہ کی امید پر کہی گئی ہوں۔

یوں تو میر حسن نے کئی مثنویاں لکھی ہیں۔ لیکن ان کا بہترین کارنامہ سحر البیان ہے۔ جس میں بے نذیر اور بدرِ منیر کا افسانہ ہے۔ مولانا آزاد فرماتے ہیں کہ

"زمانے نے اسکی سحر البیانی پر تمام شعراء اور تذکرہ نویسی سے مختصر شہادت لکھوایا"

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STUDENT SEMINAR



سمسٹر سوم

اجزائے ترکیبی

A56

تشبیب قصیدہ کی تمہید کو تشبیب کہتے ہیں عربی شعراء عشقیہ اشعار سے قصیدہ کا آغاز کرتے تھے۔ اسی نسبت سے اس حصہ کو تشبیب کا نام دیا گیا۔ تشبیب کے معنی ہیں شباب کا تذکرہ، حسن نسوانی کا ذکر۔ اُردو اور فارسی کے شعراء نے اس شرط کو باقی نہیں رکھا، اور اس میں کئی طرح کے مضمون درج کر کر وسعت دے دی۔ بعض نے تو اس میں غزل بھی شامل کر لی۔ ظاہر ہے یہاں عام غزل کی گنجائش تو نہیں ہوتی۔

تشبیب کا پہلا شعر قصیدہ کا مطلع ہوتا ہے، اور وہ یہی شعر ہے جو سامعین کو متوجہ کر لیتا ہے۔ یا بے توجہ کر دیتا ہے۔ اس لئے شعراء نے اسے پُرکشش بنانے کی پوری کوشش کی ہے اسی لئے تشبیب کے مضمون کا انتخاب کرتے وقت ممدوح کی شخصیات کا خاص خیال رکھا جاتا تھا۔

بزرگانہ دین کے ممدوح میں لکھے گئے قصیدہ میں پند و نصیحت اور دنیا کی بے ثباتی جیسے مضامین اُن کی تشبیب کے موزوں ترین خیال کیے گئے۔

قصیدہ کا اصل مقصد ممدوح کی تعریف ہے اور تشبیب صرف اُس کی تمہید ہے۔ اسی لئے شعراء عرب نے یہ شرط لگائی تھی کے اُن کی تعداد مدح کی اشعار سے کم ہونی چاہئے۔

غالبؔ کا ایک قصیدہ بہادر شاہ ظفر کی مدح میں ہے، جس کی تشبیب یہ ہے۔

ہاں مہ نو سنیں ہم اس کا نام
جس کو تو جھک کے کر رہا ہے سلام

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT	**:Mohammad Yasmeen**
CLASS	**: I BA (EHP) U/M**
SEMESTER	**: Il SEMESTER**
Regd. No.	**: 21101418**
TOPIC	**:**
DATE OF SEMINAR	**:17.06.2022**
NAME OF THE LECTURER	**: B. Nagamani**

STUDENT SEMINAR

السلام علیکم و رحمت اللہ وبرکاتہ



الوداع اُردو

سنو یہ فخر سے اک راز بھی ہم فاش کرتے ہیں
کبھی ہم منہ بھی دھوتے تھے، مگر اب واش کرتے ہیں

تھا بچوں کے لئے بوسہ مگر اب کِس ہی کرتے ہیں
ستاتی تھیں کبھی یادیں مگر اب مِس ہی کرتے ہیں

چہل قدمی کبھی کرتے تھے اور اب واک کرتے ہیں
کبھی کرتے تھے ہم باتیں مگر اب ٹاک کرتے ہیں

کبھی جو امی ابو تھے، وہی اب مما پاپا ہیں
دعائیں جو کبھی دیتے تھے وہ بڈھے سیاپا ہیں

کبھی جو تھا غسل خانہ، بنا وہ باتھ روم آخر
بڑھا جو اور اک درجہ، بنا وہ واش روم آخر

کبھی تو درد ہوتا تھا، مگر اب پین ہوتا ہے
پڑھائی کی جگہ پر اب نالج گین ہوتا ہے



SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SEMINAR

NAME OF THE STUDENT	**: Shaik Nagoorbi**
CLASS	**: I BA(EHP)U/M**
SEMESTER	**: Il SEMESTER**
Regd. No.	**21101415**
TOPIC	**: Akbar Alaa Abadi k Halat zindagi**
DATE OF SEMINAR	**:17.06.2022**
NAME OF THE LECTURER	**: AFROZ BEGUM**

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VIJAYAWADA

STUDENT SEMINAR



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VIJAYAWADA

STUDENT SEMINAR

ایک دفعہ کا ذکر ہے ایک بادشاہ کو دو باز تحفے میں ملے .

اس نے اتنے خوبصورت پرندے کبھی نہیں دیکھے تھے .

بادشاہ نے دونوں پرندے اپنے ملازم کو دیے کہ وہ ان کی تربیت کرے .

ایک دن ملازم نے بادشاہ کو بتایا کہ ایک پرندہ اونچی اڑان اڑ رہا ہے اور دوسرا جس دن سے آیا ہے اپنی شاخ سے نہیں اڑ پا رہا .

بادشاہ نے مملکت کے تمام معالجوں اور جادوگروں کو طلب کر لیا لیکن کوئی اس باز کو نہ اڑا سکا .

بادشاہ نے اپنے مشیروں کے سامنے یہ مسئلہ رکھا .

گھنٹے دن اور دن مہینوں میں ڈھل گئے لیکن باز نہ اڑ سکا .

بادشاہ نے کسی ایسے شخص کو بلانے کا فیصلہ کیا جو قدرت سے گہری دلچسپی رکھتا ہو .

بادشاہ نے اپنے مشیروں کو حکم دیا کہ کسی ایسے شخص کو ڈھونڈ کر لاؤ جو برسوں جنگلات میں گزار چکا ہو .

اگلے دن بادشاہ باز کو محل کے باغوں میں اڑتے ہوئے دیکھ کر حیران رہ گیا .

بادشاہ نے اس شخص کو طلب کیا جس نے باز کو اڑایا تھا .

اس شخص کو بادشاہ کے سامنے پیش کیا گیا، بادشاہ نے پوچھا تم نے باز کو کیسے اڑایا؟

وہ مسکرا کر بولا میں نے وہ شاخ کاٹ دی جس پر باز بیٹھا تھا .

آگے بڑھنے کے مواقع بہت ہیں لیکن ہم آگے بڑھنے کی کوشش نہیں کرتے .

ہم اپنی آسائشوں سے قدم باہر ہی نہیں نکالتے .

نئی آزمائشیں اور نئے تجربے ہی زندگی میں آگے بڑھنے کی وجہ بنتے ہیں .

آزمائشوں کا مقابلہ کریں یہی کامیابی کا واحد رستہ ہے . .

Imagitor

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STUDENT SMEINAR

NAME OF THE STUDENT : Shaik Yaseera

CLASS : IBA (EHP) U/M

SEMESTER : Il SEMESTER

Regd. No. : 21101410

TOPIC :

DATE OF SEMINAR :17.06.2022

NAME OF THE LECTURER : B. Nagamani

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SMEINAR

NAME OF THE STUDENT : **SK Farooq**

CLASS : **IBA (EHP)**

SEMESTER : **Il SEMESTER**

Regd. No. : **21101407**

TOPIC : **Nazam Chand aur Taare**

DATE OF SEMINAR :**17.06.2022**



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VIJAYAWADA

STUDENT SMEINAR

NAME OF THE LECTURER : AFROZ BEGUM

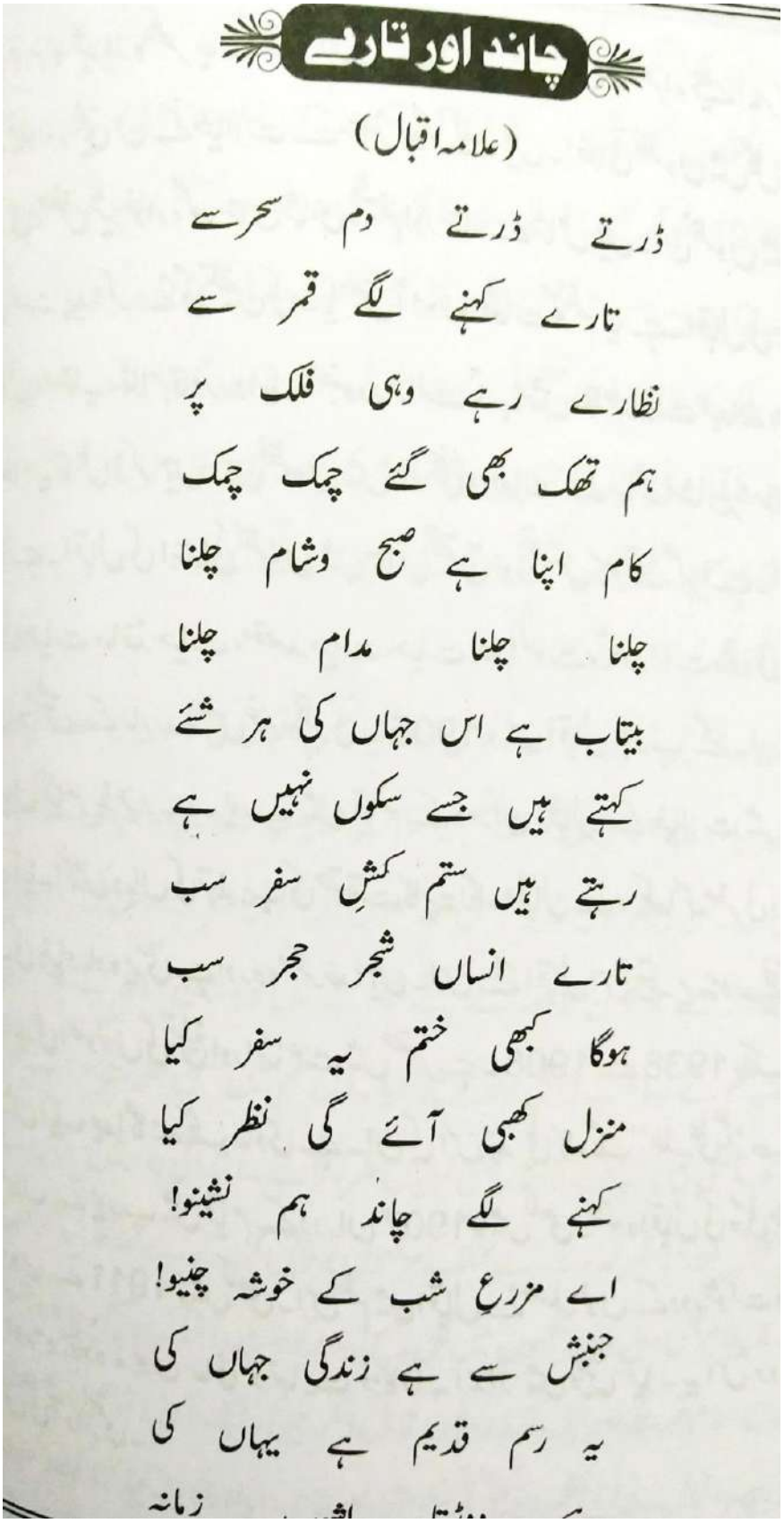
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VIJAYAWADA

STUDENT SMEINAR



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STUDENT SMEINAR



چاند اور تارے

(علامہ اقبال)

ڈرتے ڈرتے دم سحر سے
تارے کہنے لگے قمر سے
نظارے رہے وہی فلک پر
ہم تھک بھی گئے چمک چمک
کام اپنا ہے صبح وشام چلنا
چلنا چلنا مدام چلنا
بیتاب ہے اس جہاں کی ہر شئے
کہتے ہیں جسے سکوں نہیں ہے
رہتے ہیں ستم کشِ سفر سب
تارے انساں شجر حجر سب
ہوگا کبھی ختم یہ سفر کیا
منزل کبھی آئے گی نظر کیا
کہنے لگے چاند ہم نشینو!
اے مزرعِ شب کے خوشہ چینو!
جنبش سے ہے زندگی جہاں کی
یہ رسم قدیم ہے یہاں کی
زمانہ

STUDENT SMEINAR

لھا کھا کے طلب کی تازیانہ
اس رہ میں مقام بے محل ہے
پوشیدہ قراریں اجل ہے
چلنے والے نکل گئے ہیں
جو ٹھہرے ذرا کچل گئے ہیں
انجام ہے اس خرام کا حُسن
آغاز ہے عشق، انتہا حُسن

نظم "چاند اور تارے" کا خلاصہ: "چاند اور تارے" مختصر نظم ہے۔ جو دو بندوں پر مشتمل ہے۔ ہر بند میں چھ اشعار ہیں پہلے بند میں چاند سے تاروں کے کچھ فکر انگیز سوالات ہیں۔ اور دوسرے بند میں ستاروں کے سوالات پر چاند حکیمانہ جواب دیا گیا ہے اقبال کی دیگر نظموں کی طرح اس نظم میں بھی انسانوں کیلئے کئی سبق آموز باتیں پیش کی گئی ہیں۔ اور انہیں حرکت و عمل کا پیام دیا گیا نظم کے آغاز پر اقبال کہتے ہیں کہ آسمان پر موجود تارے صبح کے ڈر سے چاند سے پوچھتے ہیں کہ آسمان پر ایک عرصے سے وہی منظر ہے۔ اس میں کوئی تبدیلی واقع نہیں ہوئی۔ اور روزانہ صبح شام چمکتے چمکتے ہم تھک گئے ہیں۔ ہم ایک عرصے سے روشنی دینے کا کام کر رہے ہیں اور ایسا لگتا ہے کہ نہ صرف ہم بلکہ اس جہاں اور کائنات کی ہر شئے بے چین و بے تاب لگ رہی ہے اور کسی کو سکون دکھائی نہیں دے رہا ہے۔ مسافر لوگ کسی نہ کسی سفر کی دشواریوں میں مبتلا ہیں۔ تارے انسان درخت پتھر غرض کائنات کی ہر شئے سکون کی تلاش میں سرگرداں دکھائی دے رہی ہے۔ کیا اس کائنات کا اور اس میں موجود چیزوں کا سفر بھی ختم ہوگا۔ یا کبھی انہیں سکون ملے گا کیا کبھی انہیں چین سفر کی منزل آئیگی۔

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SMEINAR

NAME OF THE STUDENT	**: Naziya**
CLASS	**: I BA (EHP) U/M**
SEMESTER	**: Il SEMESTER**
Regd. No.	**21101417**
TOPIC	**: Daag Dehelvi k halat zindagi**
DATE OF SEMINAR	**:17.06.2022**
NAME OF THE LECTURER	**: AFROZ BEGUM**

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VIJAYAWADA

STUDENT SMEINAR

:



STUDENT SMEINAR

داغ دہلوی

نواب مرزا خان داغ 1831ء میں دہلی میں پیدا ہوئے ان کے والد کا نام شمس الدین خان تھا۔ سات سال کی عمر میں باپ کے سایہ سے محروم ہو گئے۔ ان کی تعلیم و تربیت لال قلعے میں ہوئی ذوقؔ جیسے استاد شاعر سے اصلاح لیتے رہے اور ان کے ساتھ مشاعروں میں شامل ہوتے رہے۔ غدر کے ہنگامہ کی وجہ سے دلی چھوڑ کر رامپور آنا پڑا۔ یہاں داغ کی بڑی قدر ہوئی۔ رامپور کے بعد حیدر آباد میں ہے۔ وہاں نظام دکن نے ایک ہزار روپیے ماہوار پر استاد مقرر کیا۔ یہاں بھی ان کی قدر و منزلت ہوئی۔ اچھی تنخواہ علاوہ انعامات سے بھی نوازا گیا، ان کا انتقال حیدر آباد میں 1905 میں ہوا۔ داغ کے چار دیوان ہیں۔ ان کے کلام میں زبان کی روانی اور صفائی پائی جاتی ہے۔ مشکل الفاظ اور فارسی ترکیبوں سے انہوں نے گریز کیا ہے چلبلا پن اور شوخی ان کے کلام کی جان ہے۔ ان کے اشعار میں حسن و محبت دونوں شوخ اور بے حجاب ہیں، اُردو شاعری پر داغ کا بڑا اثر رہا۔

غزل گوئی:- مقبولیت کے نقطہ نظر سے دیکھا جائے تو داغؔ اُردو کے سب سے بڑے غزل گو ہیں۔ داغ کی اس مقبولیت ان کے کلام ہی میں موجود ہے۔ ان کی زندگی ایسے ماحول میں گزری جس آرام و اطمینان تو نہیں تھا۔ لیکن اس کے باوجود عیش پرستی موجود تھی۔ داغ اسی ماحول میں رنگینی اور عیش و عشرت کی کہانیاں سنتے۔ اس کے ترجمان بن گئے۔ اپنے خاص سلیقے اور صلاحیت سے انھوں نے اس میں ایسے ایسے گوشے نکالے کہ وہ دور

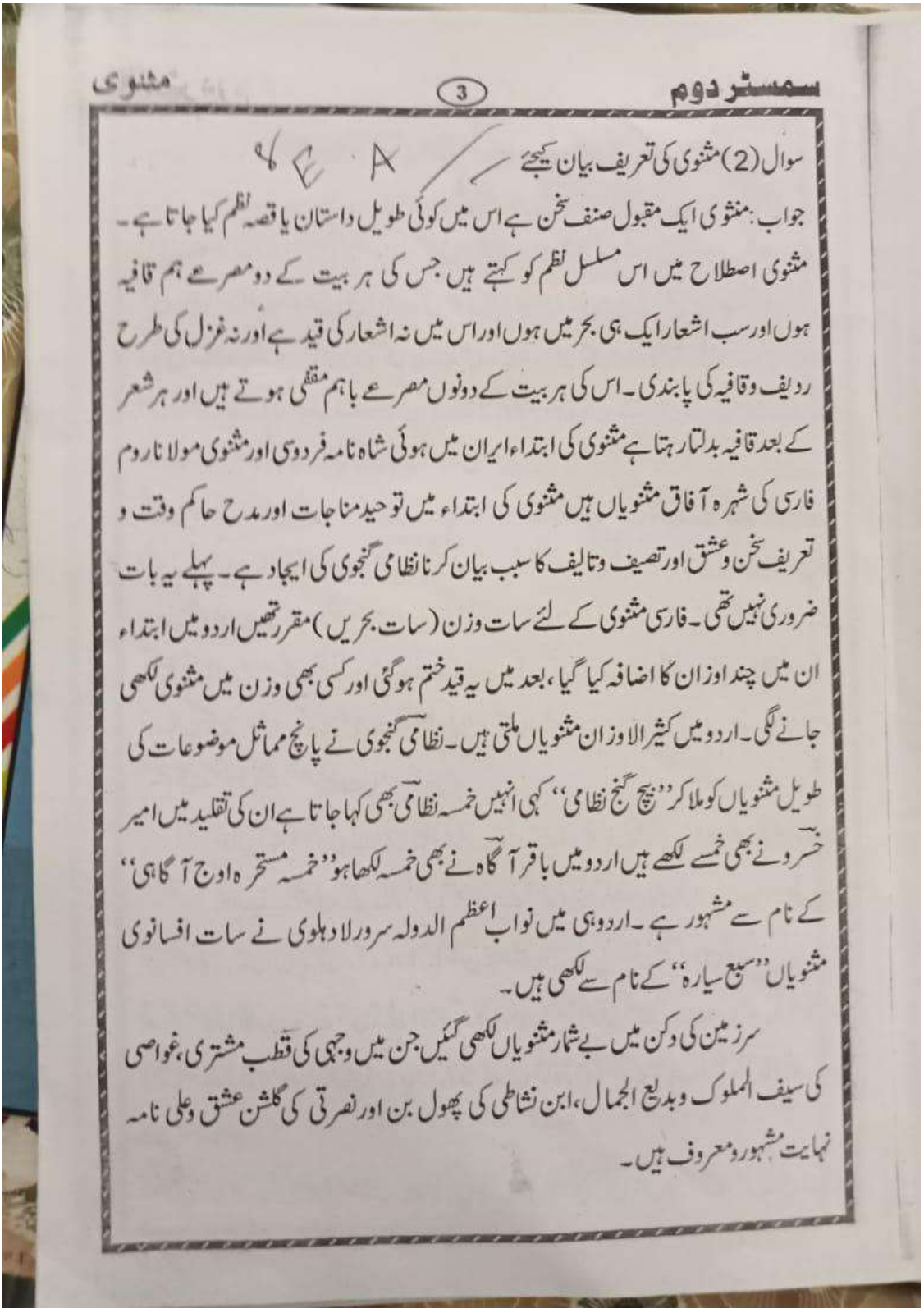
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سمسٹر دوم (3) مثنوی

سوال (2) مثنوی کی تعریف بیان کیجئے

جواب: مثنوی ایک مقبول صنف سخن ہے اس میں کوئی طویل داستان یا قصہ نظم کیا جاتا ہے۔ مثنوی اصطلاح میں اس مسلسل نظم کو کہتے ہیں جس کی ہر بیت کے دو مصرعے ہم قافیہ ہوں اور سب اشعار ایک ہی بحر میں ہوں اور اس میں نہ اشعار کی قید ہے اور نہ غزل کی طرح ردیف و قافیہ کی پابندی۔ اس کی ہر بیت کے دونوں مصرعے باہم مقفی ہوتے ہیں اور ہر شعر کے بعد قافیہ بدلتا رہتا ہے مثنوی کی ابتداء ایران میں ہوئی شاہ نامہ فردوسی اور مثنوی مولانا روم فارسی کی شہرہ آفاق مثنویاں ہیں مثنوی کی ابتداء میں توحید مناجات اور مدح حاکم وقت و تعریف سخن و عشق اور تصنیف و تالیف کا سبب بیان کرنا نظامی گنجوی کی ایجاد ہے۔ پہلے یہ بات ضروری نہیں تھی۔ فارسی مثنوی کے لئے سات وزن (سات بحریں) مقرر تھیں اردو میں ابتداء ان میں چند اوزان کا اضافہ کیا گیا، بعد میں یہ قید ختم ہوگئی اور کسی بھی وزن میں مثنوی لکھی جانے لگی۔ اردو میں کثیر الاوزان مثنویاں ملتی ہیں۔ نظامی گنجوی نے پانچ مماثل موضوعات کی طویل مثنویاں کو ملا کر ''پنج گنج نظامی'' کہی انہیں خمسہ نظامی بھی کہا جاتا ہے ان کی تقلید میں امیر خسرو نے بھی خمسے لکھے ہیں اردو میں باقر آگاہ نے بھی خمسہ لکھا ہو ''خمسہ مستحرہ اوج آگاہی'' کے نام سے مشہور ہے۔ اردو ہی میں نواب اعظم الدولہ سرور لا دہلوی نے سات افسانوی مثنویاں ''سبع سیارہ'' کے نام سے لکھی ہیں۔

سرزمین کی دکن میں بے شمار مثنویاں لکھی گئیں جن میں وجہی کی قطب مشتری، غواصی کی سیف الملوک و بدیع الجمال، ابن نشاطی کی پھول بن اور نصرتی کی گلشن عشق و علی نامہ نہایت مشہور و معروف ہیں۔

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

STUDENT SMEINAR

NAME OF THE STUDENT	**: Shaik Afreen Sultana**
CLASS	**: IBA (EHP) U/M**
SEMESTER	**: Il SEMESTER**
	: 21101416
TOPIC	**: Allama Shubli Naumani**
DATE OF SEMINAR	**:17.06.2022**
NAME OF THE LECTURER	: **AFROZ BEGUM**

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STUDENT SMEINAR

سوال : علامہ شبلی نعمانی کی نظم عدلِ فاروقی کا خلاصہ اپنے الفاظ میں لکھئے۔

مولانا شبلی نعمانی ایک جامع کمالات شخص تھے۔ وہ بیک وقت اعلی درجہ کے شاعر "مورخ" فلسفی، نقاد، معلم، فقیہ، محدث اور مصلح سب کچھ تھے۔ ایسی گونا گوں صفات رکھنے والی شخصیت اُردو ادب میں ان کے بعد اب تک پیدا نہ ہوسکی۔

حضرت عمر فاروقؓ مسلمانوں کے دوسرے خلیفا گزرے ہیں، عمر فاروقؓ حکمرانی تقریباً آدھی دنیا تک پھیلی تھی۔ یعنی 23 لاکھ مربع زمین تک ان کی حکمرانی تھی۔ مولانا شبلی نعمانی اپنی نظم عدِل فاروقی میں عمر فاروق کا ایک واقعہ پیش کیا ہے، واقعہ یہ ہے کہ مال غنیمت میں چادریں آئی ہوئی تھی مسجد میں ہر ایک کو ایک چادر دی گئی۔ عمر فاروق قد آور شخصیت تھے ایک چادر میں ان کا لباس بننا نہ ممکن بات تھی، نکتہ چین کو یہی شک تھا کہ عمر فاروقؓ مالِ غنیمت میں دو چادریں لئے ہیں حالانکہ ایسا نہیں تھا، عمر فاروق اپنی اور اپنے لڑکے کی دو چادریں ملا کر اپنا لباس تیار کیا تھا اور زیب تن تھے۔

ایک دن حضرت عمر فاروقؓ مسجد میں ممبر پر تشریف فرما تھے اور حاضریں سے پوچھے کہ میں تمہیں کچھ حکم دو وہ تمہارے لئے منظور ہے یا نہیں۔ ایک شخص یعنی نکتہ چین اٹھ کھڑا ہوا اور کہا ہم تمہارا حکم نہیں مانیگے، کیونکہ تمہاری عدل میں ہمیں نقص نظر آرہا ہے، کیونکہ کل مسجد کے صحن میں مالِ غنیمت کی چادریں تقسیم ہوئی تھی اور ہر ایک کہ حصہ میں ایک ہی چادر آئی تھی آپ کو بھی ایک ہی چادر لینا تھا یہی قانون تھا، مگر تمہارے جسم پر جو لباس نظر آرہا ہے ایک چادر میں بننا مشکل ہے، تم مالِ غنیمت سے اور چادر چُرا کر اپنا لباس تیار کیا ہے، تم تمہارے حصہ میں دو چادریں لینے کی وجہ ہمارے خلیفہ کے قابل نہیں ہیں اور ہم آپ کو خلیفہ ماننے کے لئے تیار نہیں ہیں، نکتہ چین اپنی حد سے بڑھ رہا تھا حاضرین میں سے کسی کو یہ طاقت نہیں تھی کہ وہ نکتہ چین کو روک سکے، کیونکہ

STUDENT SMEINAR

ایک دن حضرت فاروق ؓ نے منبر پہ کہا
کیا تمہیں حکم جو کچھ دوں تو کرو گے منظور
ایک نے اٹھ کے کہا یہ کہ نہ مانیں گے کبھی
کہ تیرے عدل میں ہم کو نظر آتا ہے فتور
چادریں مال غنیمت میں جو اب کے آئیں
صحن مسجد میں وہ تقسیم ہوئیں سب کے حضور
ان میں ہر ایک کے حصہ میں فقط اک آئی
تھا تمہارا بھی وہی حق کہ یہی ہے دستور
اب جو یہ تیرے جسم پہ نظر آتا ہے لباس
یہ اسی لوٹ کی چادر سے بنا ہوگا ضرور
مختصر تھی وہ روا اور ترا قد ہے دراز
ایک چادر میں ترا جسم نہ ہوگا مستور
اپنے حصہ سے زیادہ جو لیا تو نے تو اب
تو خلافت کے نہ قابل ہے نہ ہم ہیں مامور
گرچہ وہ حد مناسب سے بڑھا جاتا تھا
سب کے سب مہر بہ لب تھے چہ اناث و چہ ذکور
روک دے کوئی کسی کو یہ نہ رکھتا تھا مجال
نشہ عدل و مساوات سے سب تھے مخمور

STUDENT SMEINAR

اپنے فرزند سے فاروق معظم نے کہا
تم کو ہے حالت اصلی کی حقیقت پہ عبور
تمہیں دے سکتے ہو اس کا مری جانب سے جواب
کہ نہ پکڑے مجھے محشر میں مرا رب غفور
بولے یہ ابن عمرؓ سب سے مخاطب ہو کر
اس میں کچھ والد ماجد کا نہیں جرم و قصور
ایک چادر میں جو پورا نہ ہوا ان کا لباس
کر سکی اس کو گوارا نہ مری طبع غیور
اپنے حصہ کی بھی میں نے انہیں چادر دے دی
واقعہ کی یہ حقیقت ہے کہ جو تھی مستور
نکتہ چیں نے یہ کہا اٹھ کے ہاں اے فاروق
حکم دے ہم کو کہ اب ہم اسے مانیں گے ضرور

☆☆☆☆

SRR & CVR GOVERNMENT DEGREE COLLEG

(AUTONOMOUS)

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

REPORT OF STUDENT SEMINARS CONDUCTED IN THE ACADEMIC YEAR

2019-20

GROUP: II B.SC(MPC)

SEMESTER : III– WAVE OPTICS

NAME OF THE FACULTY : Smt T.V.Vakula Priya, Lecturer in physics

Sri. B.Raja sekar,Lecturer in physics

DATE: 19/10/2019

Name of the student :P.INDHUJA

Topic: POLARISATION



NAME OF THE STUDENT: M.PRASANNA KUMAR

TOPIC:LASERS



NAME OF THE STUDENT:E.PRIYANKA

TOPIC: NICOL PRISM



NAME OF THE STUDENT: T.POOJITHA

TOPIC: POLARISATION OF LIGHT BY REFLECTION & REFRACTION



SRR & CVR GOVERNMENT DEGREE COLLEG

(AUTONOMOUS)

VIJAYAWADA, KRISHAN DIST., A.P

NAAC B+GRADE(CGPA:2.60)

DEPARTMENT OF PHYSICS & ELECTRONICS

REPORT OF STUDENT SEMINARS CONDUCTED IN THE ACADEMIC YEAR

2019-20

GROUP: II B.SC(MPC)

SEMESTER : IV – THERMODYNAMICS AND RADIATION PHYSICS

NAME OF THE FACULTY : Smt T.V.Vakula Priya, Lecturer in physics

DATE: 14/12/2019

Name of the student: SK.Faridunnisa

Topic : Heat & Thermodynamics Introduction



Name of the student :P.Bhavani

Topic: Zeroth law of Thermodynamics



Name of the student : M.Jaya Prakasah

Topic : Solar Radiation.



SRR & CVR GOVT. DEGREE COLLEGE (A)

VIJAYAWADA

DEPARTMENT OF BIOCHEMISTRY

STUDENT SEMINAR

III BSc (MBC) 2020-2021

Semester-V

Paper - VI

Dated: 22-02-2021



VISWAS SEMINAR ON MECHANISM OF HARMONAL ACTION

The following students of III Bsc MBC V Semester has given seminars in paper VI on different topics on 22/ 02/2021 in the department of biochemistry.

Student seminars on Molecular Biology and Endocrynology - Paper - VI

The following students have given seminars on 22/2/2021 on the following topics

S.NO	Name of the student	Redg NO.	Name of the topic	Signature
1	Viswas. B	18313221	Mechanism of hormonal action	B. viswas
2	Surya. G	18313217	Classification of hormones	G. Surya Prakash
3.	Lalitha. P	18313202	Organization of Endocrine system	

Students attended

1. M. Vyshnavi
2. B. Tejaroga Sai
3. K. Pavani
4. G. Neeraja

Signatures

M. Vyshnavi
B. Tejaroga Sai
K. Pavani
G. Ne

SRR&CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA

SEMINAR

ON

Topic :- Ruby Laser

Submitted by

: B. Satish

: 1st BSc [M.P.CA] : 2130820B

Under The Guidance Of

V. UMALAKSHMI MSc,M.Phil,NET,PGDHE

Department of Physics

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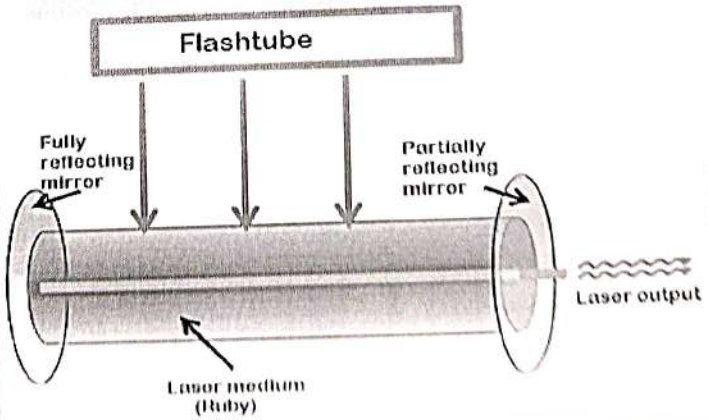
Ruby Laser

Ruby laser definition

A ruby laser is a solid-state laser that uses the synthetic ruby crystal as its laser medium. Ruby laser is the first successful laser developed by Maiman in 1960. Ruby laser is one of the few solid-state lasers that produce visible light. It emits deep red light of wavelength 694.3 nm.

Construction of ruby laser

A ruby laser consists of three important elements: laser medium, the pump source, and the optical resonator.



Laser medium or gain medium in ruby laser

In a ruby laser, a single crystal of ruby ($Al_2O_3 : Cr^{3+}$) in the form of cylinder acts as a laser medium or active medium. The laser medium (ruby) in the ruby laser is made of the host of sapphire (Al_2O_3) which is doped with small amounts of chromium ions (Cr^{3+}). The ruby has good thermal properties.

Pump source or energy source in ruby laser

The pump source is the element of a ruby laser system that provides energy to the laser medium. In a ruby laser, population inversion is required to achieve laser emission. Population inversion is the process of achieving the greater population of higher energy state than the lower energy state. In order to achieve population inversion, we need to supply energy to the laser medium (ruby).

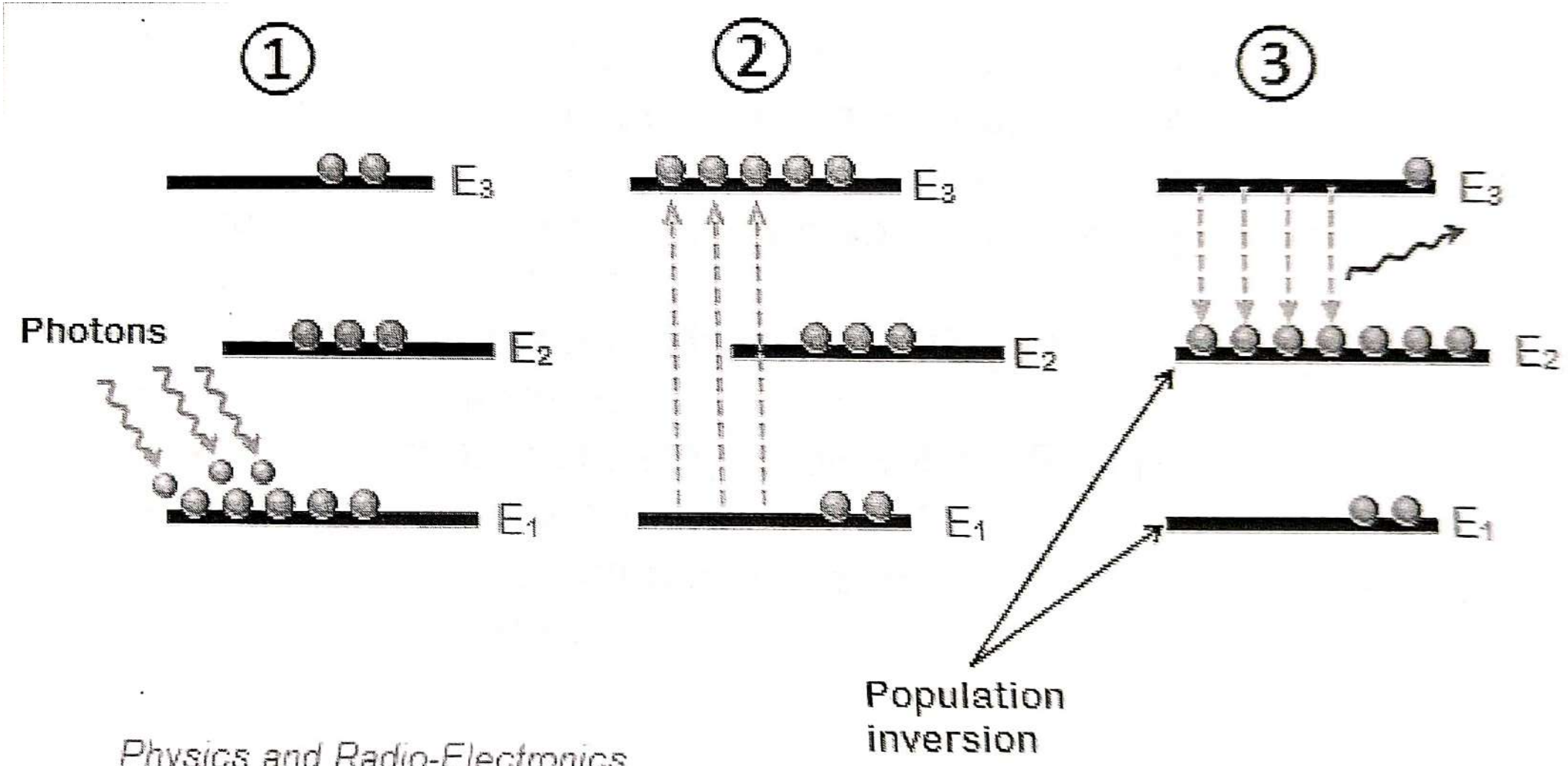
In a ruby laser, we use flashtube as the energy source or pump source. The flashtube supplies energy to the laser medium (ruby). When lower energy state electrons in the laser medium gain sufficient energy from the flashtube, they jump into the higher energy state or excited state.

B.SATISH

B.SC [M.PCA]

FRIST YEAR

ROLLNO:-08



Physics and Radio-Electronics

Working of ruby laser

The ruby laser is a three level solid-state laser. In a ruby laser, optical pumping technique is used to supply energy to the laser medium. Optical pumping is a technique in which light is used as energy source to raise electrons from lower energy level to the higher energy level.

Consider a ruby laser medium consisting of three energy levels E_1, E_2, E_3 with N number of electrons.

We assume that the energy levels will be $E_1 < E_2 < E_3$. The energy level E_1 is known as ground state or lower energy state, the energy level E_2 is known as metastable state, and the energy level E_3 is known as pump state.

THANK YOU

PRESENTED BY

B.SATISH

Feed back :-

S.No.	Name of the Student	Group	Remarks
1.	G. Manikanta Prem chandu	B.Sc (MPCA) 21308206	Good.
2.	V. Sandeep	B.Sc (M.P.CA) 21308206	Good.
3.	B. Satish	B. Sc (M.P.CA) 21308208	Good
4.	Ch. Jitendra	B.Sc (M.P.CA) 21308201	Good
5.	B. Crystal	B.Sc (MPCA) 21308212	Good
6.	I. Pavan Kalyan Naik.	B.Sc (MPCA) 21308202	Good.

SRR&CVR GOVERNMENT DEGREE COLLEGE (A),

VIJAYAWADA

SEMINAR

ON

Nicol prism

Submitted by

Name : P. Gayathri Devi

Group : B.Sc(mpca)

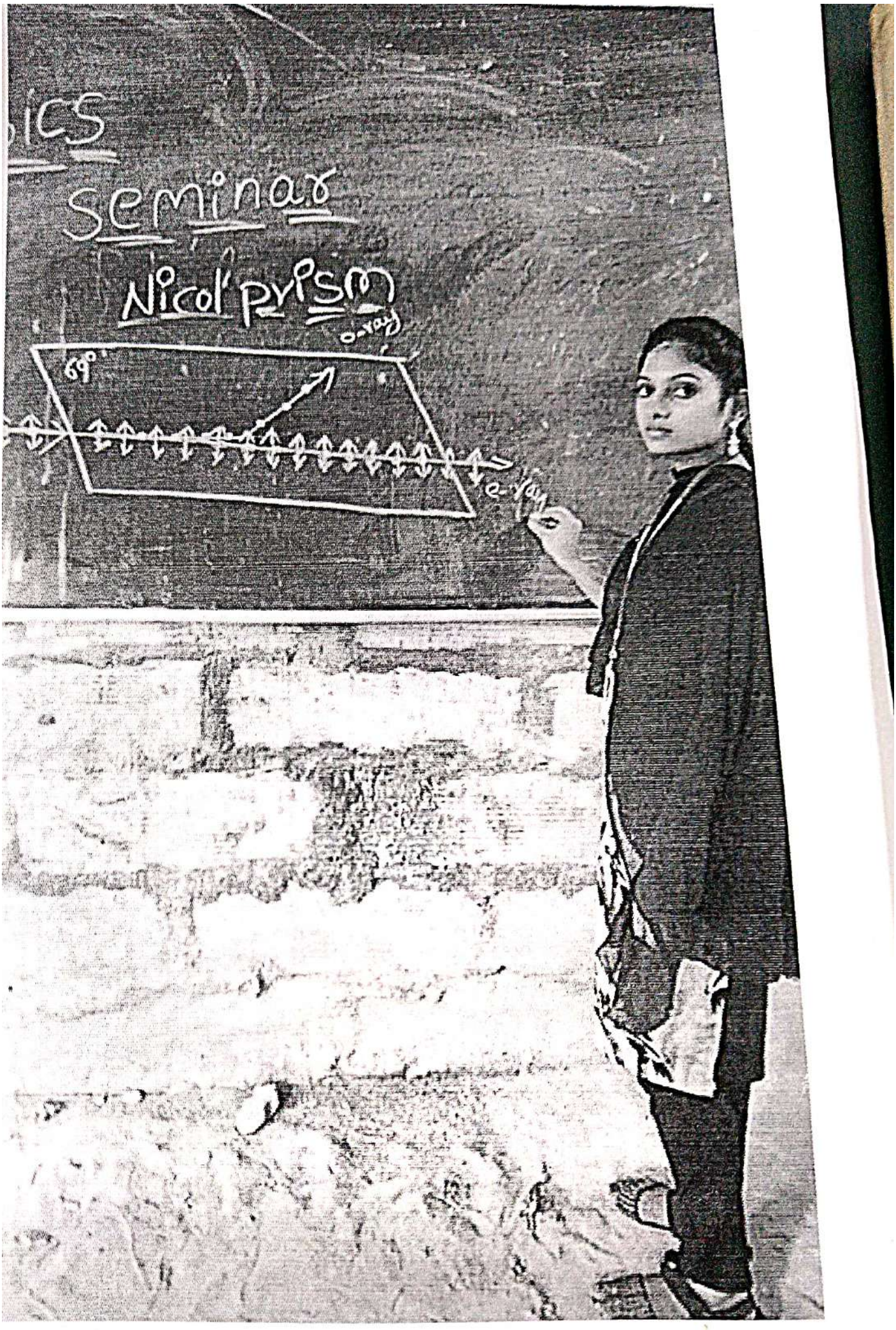
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Under The Guidance Of

V.UMALAKSHMI MSc,M.Phil,NET,PGDHE

Department of Physics

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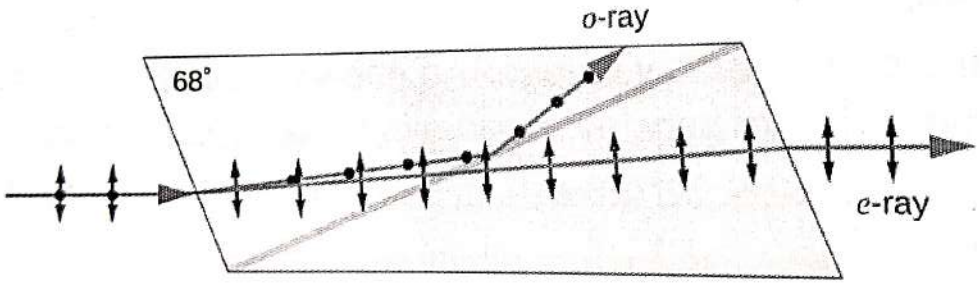

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Nicol prism
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e-ray

Nicol prism

About Nicol prism

- **Nicol prism** is a type of polariser an optical device made from calcite crystal used to produce and analyse plane polarised light. It is made in such a way that it eliminates one of the rays by reflection, i.e. the ordinary ray is eliminated and only the extraordinary ray is transmitted through the prism It was the first type of polarizing prism, invented in 1828 by William Nicol (1770–1851) of Edinburgh. It consists of a rhombohedral crystal of Iceland spar (a variety of calcite) that has been cut at an angle of 68° with respect to the crystal axis, cut again diagonally, and then rejoined as shown, using a layer of transparent Canada balsam as a glue.[1]

Diagram



Nicol prisms were once widely used in mineralogical microscopy and polarimetry, and the term "using crossed Nicols" (abbreviated as **XN**) is still used to refer to the observing of a sample placed between orthogonally oriented polarizers. In most instruments, however, Nicol prisms have been replaced by other types of polarizers such as Polaroid sheets and Glan–Thompson prisms.

References

Uses of nicol prism

- Polarizers and analyzers are parts of optical instruments that use plane polarized light. In other words, a polarizer can generate plane polarized light from light waves coming from a normal light source. The analyzer acts as a second polarizer. Polarizers and analyzers are used in polarized light microscopy. White light from a source is sent through two Nicol prisms. The first Nicol prism produces plane-polarized light (polarizer) , and the second Nicol prism is used as an analyzer. If the second Nicol prism is rotated through 90 degrees, the projected light will alternate between being bright and being completely extinguished. The Nicol prism is an optical device made from a calcite crystal. A crystal whose width is about three times its length is cut along a plane through points A and B. The two pieces are polished and cemented together with Canada balsam (sap from a fir

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Thank you

present by

P. Gayathri devi

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1.	Sk Afrin	BSc(MPCA)	21308213	Good.
2.	D. Sandeep	BSc(MPCA)	21308215	Good.
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SRR&CVR GOVERNMENT DEGREE COLLEGE (A),

VIJAYAWADA

SEMINAR

ON

Helium - neon Laser

Submitted by

: P. Jagadeesh

: 1st BSc (MPCA) : 213082111

Under The Guidance Of

V.UMALAKSHMI MSc,M.Phil,NET,PGDHE

Department of Physics

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VIJAYAWADA

Sraton OnePlus

P JAGADEESH

B.SC [M.PCA]

FRIST YEAR

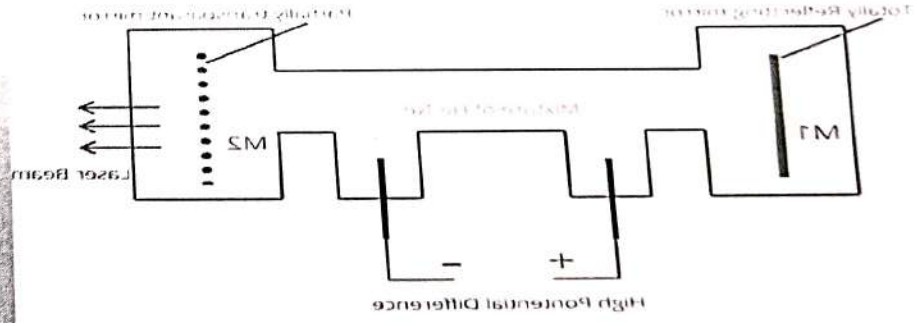
ROLLNO:-11

Helium-Neon Laser Construction & Working I

Helium-Neon Laser

Helium-Neon laser is a type of **gas laser** in which a mixture of helium and neon gas is used as an active or gain medium and electrical pumping is used to achieve population inversion. Helium-Neon laser is also known as He-Ne laser.

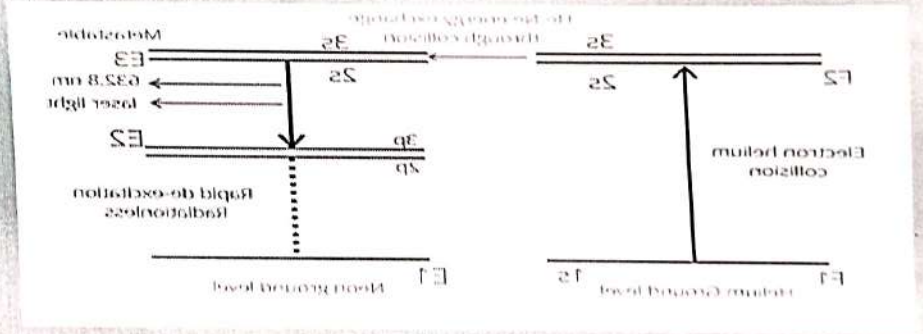
he ne laser diagram



Helium-Neon laser Working

Helium and neon are noble gases having only one atom per molecule. The energy level diagram of helium and neon atom is shown below

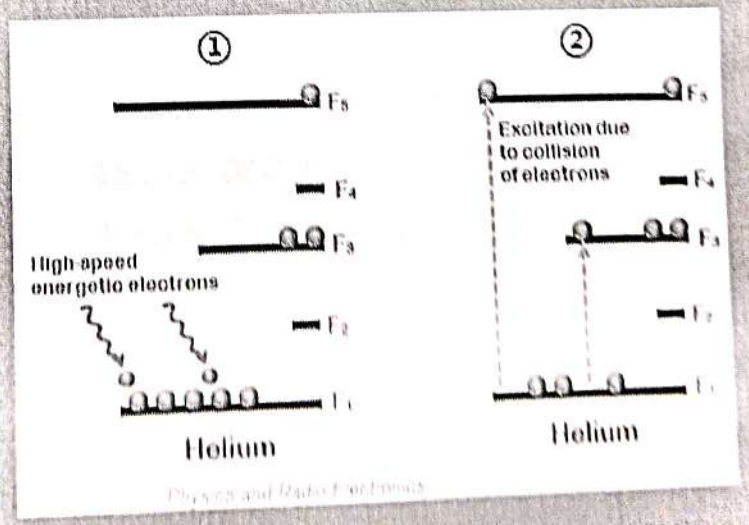
he ne laser energy level diagram



In order to achieve population inversion, we need to supply energy to the gain medium. In helium-neon lasers, we use high voltage DC as the pump source. A high voltage DC produces energetic electrons that travel through the gas mixture. The gas mixture in helium-neon laser is mostly comprised of helium atoms. Therefore, helium atoms observe most of the energy supplied by the high voltage DC.

When the power is switched on, a high voltage of about 10 kV is applied across the gas mixture. This power is enough to excite the electrons in the gas mixture. The electrons produced in the process of discharge are accelerated between the electrodes (cathode and anode) through the gas mixture.

In the process of flowing through the gas, the energetic electrons transfer some of their energy to the helium atoms in the gas. As a result, the lower energy state electrons of the helium atoms gain enough energy and jumps into the excited states or metastable states. Let us assume that these metastable states are F_3 and F_5.



Advantages of helium-neon laser

- Helium-neon laser emits laser light in the visible portion of the spectrum.
- High stability
- Low cost
- Operates without damage at higher temperatures

Disadvantages of helium-neon laser

- Low efficiency
- Low gain
- Helium-neon lasers are limited to low power tasks

Applications of helium-neon lasers

- Helium-neon lasers are used in industries.
- Helium-neon lasers are used in scientific instruments.
- Helium-neon lasers are used in the college laboratories.

THANK YOU

PRESENTED BY

P JAGADEESH

S.No	Name of Student	Group	Remark
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3.	V. Sandeep	BSC (MPCA) 21308205	good.
4	G. Rajesh	BSC(MPCA) 21308214	good
5	B. Crystal	BSC (MPCA) 21308212	Good
6.	Ch. Jitendra	B.SC (MPCA) 21308201	Good

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR

ON

Introduction of Business Economics

Submitted

By

P . Naveen (Reg. No. 21203227)

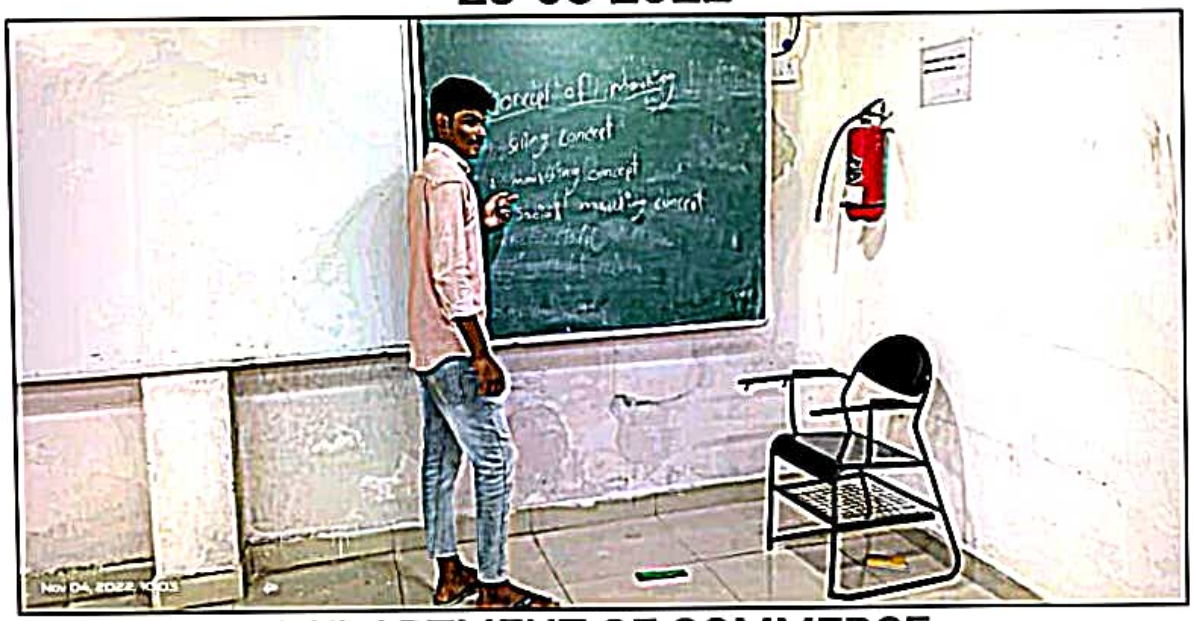
I B.B.A Bachelor of business administration (SEM - II) To

Smt.Razia Sultana madam

Lecturer in Commerce

ON

23-08 2022



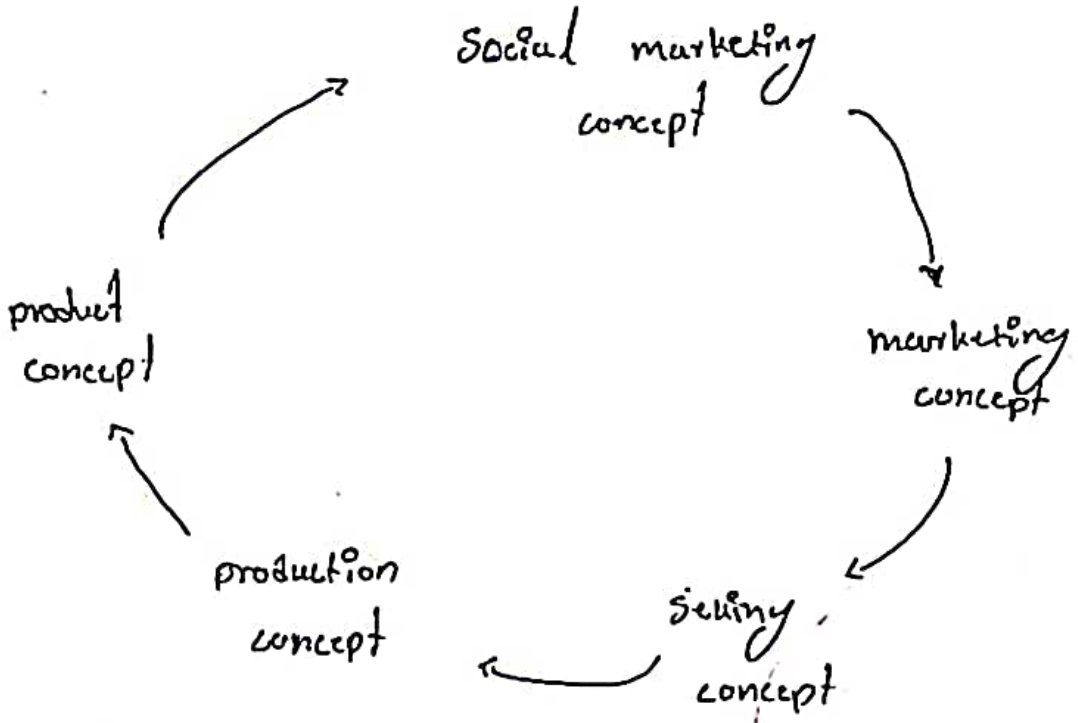
DEPARTMENT OF COMMERCE

SRR & CVR GOVERNMENT DEGREE COLLEGE -VIJAYAWADA

Polla naveen

concept of marketing 21903227

the marketing concept hold that achering goals of organisation of depends on the determining target market and delaying the desirible more effectively and effeciency in the competition.



product concept :- the production concept hold that consumer will fover product that are availeble highly effedable therefore management should foues on improving production and distrieution effecienty

production concept :- the product concept holds thats consumer product that offer the morthy quality performance and invaling dew that the organisation.

the process of market segment :-

marketing is a process that marketing managers executive in a no-of insitences a marketing manager the marketing process of product manager managers manager does not manage people but is eacample of a such a marketing managers managers the marketing process for a product within a large marketing organisation we as consumer the result of short process in the form of products stores shopping mass advertisement sales pitches promotions price etc this process usually involves 4 pheses they are

1. analysis
2. planning
3. execute the plan
4. monitoring

. Analysis :- market must be understood and this understanding flows from analysis

Classification of product:

Based on the types of consumer product are classified into two types

Classification and product
↓
1. consumer Based product
↓
2. Industfed Based product

1. consumer product: product which can be used without any commercial processing are usually refered to as consumer product these are product used by ultimate consumer reffered to and household consumer product are futher classified into six types

a. covenience Goods: these goods are the cunsumer usually purchases frequently immediately and ~~with~~ with the minimum efforts in buying for example soaps salts newspaper tooth pastes electrics etc

2. shopping Goods: these are goods that the consumer purchases frequently immediately and with the minimum shop and compoting the different alternatives.

u. marketing strategies for decline stage:- company formulates various strategies to manage the decline product the first important task is to detect the poor product after started decline whether poor products should be dropped some companies special committe for the task known as the product Review committe the committe collects data from internal and external sources and execute products on the basis the report submitted by the committe sacitable decision are taken etc are unsought goods until consumers is made aware then through advertising

2.

Stages of the product life cycle

1. **Marketing strategies for Introduction stage:**

Introduction stage is market with slow growth in product sales and a very little or no profit note the product has been newly introduced and sales volume is limited product and distribution are not given more emphasis Basis constituents of marketing product strategies for the stage include price and promotion price or both may be kept high or low expending upon market situation and management approach

2. **Marketing strategies for Growth stage:** this is the stage of rapid market acceptance the strategies are aimed at here the din trail of the product company to enter the new segment competitors have entered the market the company tries to strengthen position in the market it may forgo maximum current profits to earn still greater profits in future

3. **Marketing strategies for maturity stage:** in this stage competitors have entered then market there is severe fight among them for more market share the company adopts offensive/ aggressive marketing strategies to overcome the competitors.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR
ON
Concept of Marketing

Submitted By

J. Srinivas (Reg. No. 21203206) BBA General

To

Smt Razia Sultana

Lecturer in Commerce & Management

ON 23-08- 2022

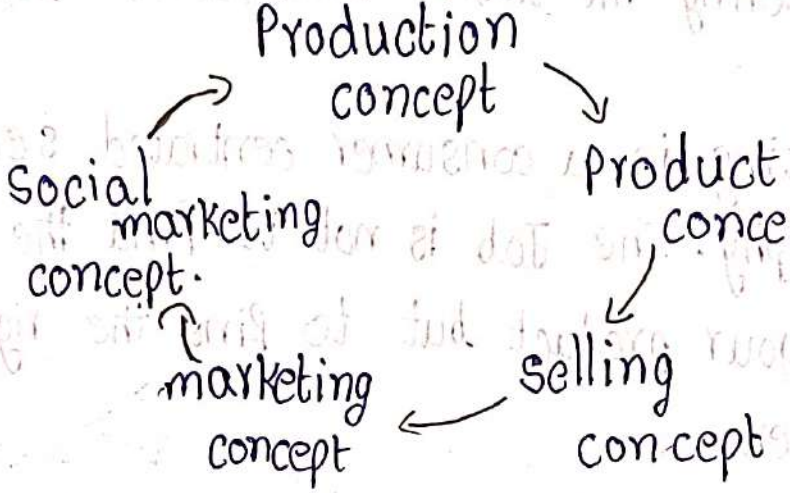


Roll No: 21203206

J. Srinivas
B.B.A (General)

Concept of marketing

The marketing concept hold that acheving goals of organisation of depends on the determining target market and delaying the describe more effectively and effeciency in competition.



Production concept: The production concept hold that consumer will favor product that are available highly efferable therefore management should focus on improving production and distribution effeciently.

Product concept: The product concept holds that consumer Product that offer the mostly quality performance and involving few that the organisation create in market continoues Product improvements.

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if focus on creative scale transactions rather than o
on occilating long term profitable relationship with
customer.

Marketing concept: Holds achiving organization goals
depens upon knowing the needs and wants of target
market at delivering the desire satisfaction better that
computer etc.

The marketing is a consumer centrated seences an
response philosophy. The Job is not to find the right
customers. For your product but to find the right produc
for your customers.

Social marketing concept:- The social marketing concept
belives in giving back the society by product better product
target towards society welfare the marketing concept of
the companies are successfully satisfy consumers bonds
necessary acting in the but long. Them intrest of
consumer and society.

The society market concept calls upon market to
build social & ethical consideration into role into
marketing practices.

The process of market segment:

Marketing is a process that marketing managers exicutive in a no·of insitences a marketing managers does not manage people but manages the marketing Process of product managers is example of a such a marketing process for a product within a range marketing organisation we as consumer the result of that process in the form of products, stores, shopping malls, advartisement, Sales, pitches, promotions, prices etc This process usually involves 4 phases They are

1, Analysis
2, planning
3, exicutive the plan
4, monitoring

1, Analy sis: Market must be understand and this understooding flow from analysis. marketing managers spend weeks analysis their markets before they undertake the development of marketing plans for influencing the markets.

2, Planning: once a market is understood marketing Programs and events must be designed for influencing

the markets customers and consumers and even the firm's competition.

3, Execution: The market events are executed in the markets; advertisment are run, prices are left, sales, calls are made etc.

4, Monitoring: Marketing are not statie entites and these must be manifactured at all firms after events execute, they need to be evaluate the planning assumptions upon which the upcoming events are based must be continucly tasted, they are not longer true then the events may need modification.

Stages of the product life cycle

1. Marketing strategies for Intraduction stage:

Introduction stage is marketd with slow growth in sales and a very or no profit. Note the product has been newly introduced and sales volume is limited product and distribution are not given more emphasis. Basis constituents of marketing. Product strategies for the stage include price and promotion, price or both may be kept high or low depending upon market situation and management approach.

2. Marketing Statagies for Growth stage:-

This is the stage of rapid market acceptance. The stratagies are aimed at sustaining market growth as long as possible. Here, the aim is not to increase anareness, but to get trail of the new segment. competitors have entered the market. The company tries to Hargthen competitive position in the market if may fogo maximum current profits to earn still greater profits in future.

3.) Marketing stratagies for meturity stage:-

In this stage, competitions have entered the market there is serve fight among them for more market share. The company adopts offensive/aggr sive marketing stratagies to defeat the comptitors.

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Company formuates various stratagies to manage the decline products, the first importent task is to extract the poor products. After salld decide whether Poor products should be dopped. Some companies specia committe for the task known as the product revie committe. The committe collects data from interna and external sources and exalcte products. On the basis the report submitted by the committe, sutable decisions are taken.

Classification of product:

Baseas on the type of consumer, product are classifiedt into two types.

Classification of product

↓

1. Consumer based product

↓

2. Industrial based product

1. Consumer product:

Products which can be used without any commercial processing are usefully refered to us consumer product. These are proctect used by ultimate consumer reffered to and households consumer product are furter classified into six types.

i. Convenience goods: These goods are the consumer usually purchases, freauently, immediately and with the minimum efforts in buying. for example soaps, salts, newspaper, tooth pastes, tolletries etc.

ii. Shopping Goods: These are goods that the consumer usally purchases after going around shops and compating the different atteractives offered by different producers are retoiurs compartson of atternatires is based on suitabulity, auality, price etc. for example, clothing, furnitur major appliaces, refrigerators etc.

iii, Durables (or) Durable goods :- These case can be used for long period. For example:, clothing, refrigerators, computers etc

iv, Non durables (or) Non durable goods :- These are casually for relatively shortest period. For example fruits, vegetables etc.

v, Speciality goods: These goods that the conumer wants on willing makes a special effort to find. It is the consumers willingness to search that makes it a speciality product. The customers are willing to travel for purchasing goods. For example special brands and types of fancy godds etc.

vi, Unsoughtable Goods: These goods with wtich potential customers are not yet familiar New product like food Processors and smoke detectors, burglar alarm, water purifier etc. are un sought goods until consumer is made aware of them through advertising.

2) Industrial product: product which are usally used for the Production of other goods or for rendering services are reffered to as Industrial product. These are products used by the manefacturer for producing other products or rendering services, Industrial product are many and include:-

1, machinery: Like lakhes, milling machine, road roil etc.

2, components:- like spare parts of michinary, monitor of computer etc.

3, Raw materials: Like cotton, clay, wood, iron, billets etc.

4, Supplies :- Like continous, stationary for computer printing etc.

5, Service :- Like maintenance and repair.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR
ON
Concept of Marketing

Submitted By

P. Nirmal(Reg. No. 21203212) I BBA General (Sem II)

To

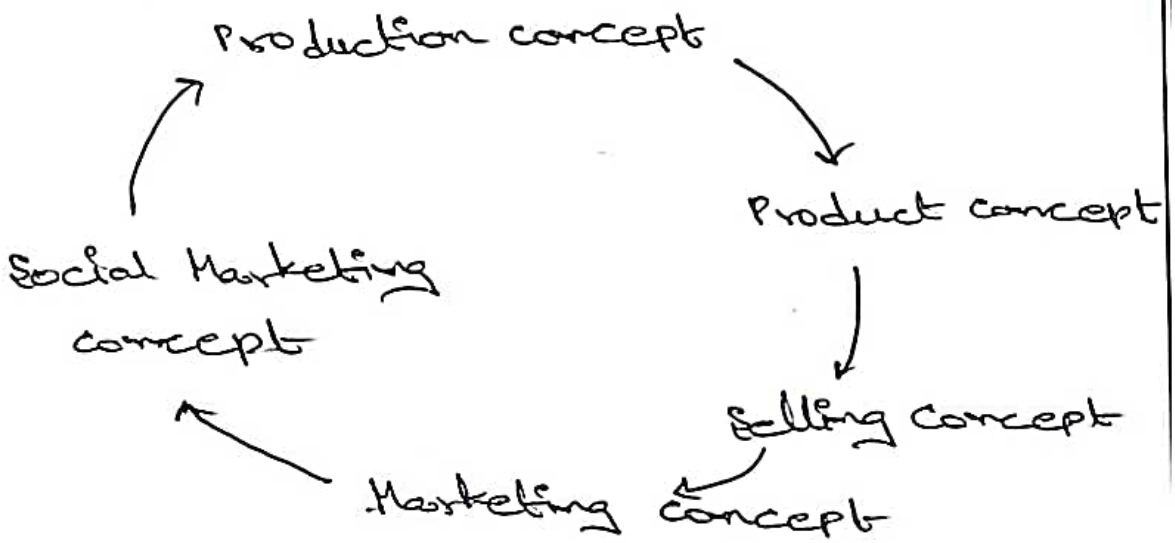
Smt Razia Sultana

Lecturer in Commerce & Management

ON 23-08- 2022



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1) Consumer product:- products which can be used without any commercial processing are usefully referred to as consumer product. These are protect.

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SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR

ON

Concept of Marketing

Submitted By



Y. Durga Prasad(Reg. No. 21203213) II BBA General Sem II

To

Smt.Razia Sultana

Lecturer in Commerce & Management

ON 23-08- 2022

Explain the concept of Product classification?

A Product is any thing that can be offer to a mark to satisfying a want (or) need a need Product are marketed include Physical goods services Expression events Persons Places Properties Organisation Information & ideas.

-Philip Kotler-,

* classification of Product

1 Consumer based Product
2. Industrial based Product

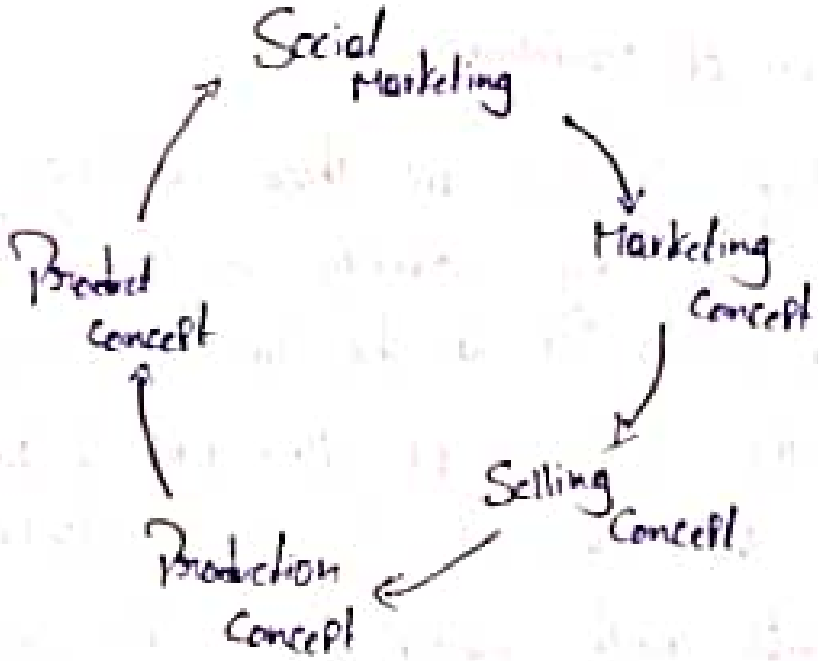
Consumer based Product :-

1. Convience goods
2. Shopping goods
3 durable goods
4 non durable goods
5 Specialily goods
6. unsolable goods.

2) Industrial Based Product

1. Mechanary
2. Components
3. Raw material
4 Supply
5 Services

The marketing Concept hold that achieving goals of organisation of depends on the determining target market and determining the desire more effectively and Efficiency in the completion.



* Production Concept :- The Production Concept holds that Consume will Product that are avaible highly Effectable there fore management should focus on improving Product and distrubution Effectly

* Product Concept :- The Product concept hold that Consu Product that offers the h most quality Performance and involving class that the organisaton devode in market continoses Product improvements.

Selling Concept:- The sling concept hold that Consumer not layer enough of the organisation Products unless it under take a large Scale Sling of Promotion. Efforts If focus on Creative Scale transaction rather than on building long term Profitable relationship with Customer.

1) Explain the Process of identifing market Segments

1) Definition:-

Market Segmentation is an increasing important Part of strong marketing Strategy at can make that all the difference for Company in Competative market landscape. Such as e Commerce market Paid after an opportunity to Run Paid exactly what messaging an customer make a Purchase.

Market Segmentation Process

1. Establishing Sample of Customer
2. Records Personal details about the decision making
3. Verify that the conclusion can have regarded

4. Establishing the attractiveness

* levels of market Segmentation :-

1. Segment marketing 2. Individual marketing
3. Niche marketing

1. Segment marketing :- In Segment marketing we divided the entire marketing into a bunch of customer with respective Same common character (ie) Preference taste & choice. Etc

2) Individual marketing :- In this case the customer are targeted individually by email, Sms, calls etc

However inorder to make this marketing Sucessfully we have to reduce the degree of Hytrogenity.

3. Niche marketing

In this type of Segmentation the Small market are target taking into consideration customer tasts Preference income & Purching Power etc. in this type of market are have to care for bargainning Power Purchase vachers etc.

Explain the Concept of Marketing?

Meaning of Marketing :-

Marketing refers to the all activities involves in t creations of place, time, profession & awarness uti

Definition of Marketing :-

Marketing involves all these activities having move with effecting change in ownership & p of good & Services. It is the part of economics whic deals with the creation of time, Place & Possisions utilities & that face of business activities with human wants with satisfied by the exchange of goods & Services Sum of valuable Consideration

* Concept of Marketing

1. Selling Concept
2. Marketing Concept
3. Social marking Concept.

2 Explain the Strategies for Product life Cycle ?

Ans Product life cycle Strategies

1. Extension of Product mix :- It is also refered has diversification. A firm may extend its Present Product mi increasing the no of Production line with the Same line, line are related to the Present Product.

2 Contraction of Product mix :- In certain circumstance the managments has to del the Production of unProfitable Products. A firm may eleminate an certins line then the with the line this is termed as Contraction of the Produ

3 Alternation of Existing Product :- As an alternative for developing a Completly new Product managment take a fresh look at the Company existing Products a improving an Establishment Product can be more Profitable and less risky than developing a Completly new one

4 Positioning the Product :- when a Product can offer Satisfaction in the manner the buyer gets Strong Position is created in the market the Products Positions is the image which that Product Project in relat to its rival Production

5. Trading up & Trading down:-

Trading up refers to adding of higher Priced and more Prestigious Product to their Existing line in the hope of increasing the Sales of Existing low Priced Products the low Priced Product in the initial Stage & later on introduced high Priced Product

DEPARTMENT OF HISTORY

SRR&CVR GOVERNMENT DEGREE COLLEGE

SEMINARS



DATE: 1-08-2018 TO 10-08-2018

CLASS: III BA

TOPIC: HOSTORY OF ANDHRA FROM 11TH TO 16TH

CENTURY

CONDUCTED BY: THE DEPARTMENT OF HISTORY

WHAT IS A SEMINAR

ETYMOLOGY: It is a German word taken from Latin seminarium

A **seminar** is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone present is requested to participate. This is often accomplished through an ongoing Socratic dialogue with a seminar leader or instructor, or through a more formal presentation of research. It is essentially a place where assigned readings are discussed, questions can be raised and debates can be conducted.

All the students were instructed to select one topic from the history of medieval Andhra, according to their interest and prepare at least a five minutes seminar on that particular topic. The activity is conducted from 1of August to 10th of August. All the students were given a chance and in fact it was mandatory to all the class members. Ten marks is the maximum score and four was kept as a minimum required score.

Outcome of the activity: All the topics related to the history of Medieval Andhra are covered and students got full acquaintance with the topic.

It gave them a chance to face the audience so that helped to overcome stage fear.





SEMINARS

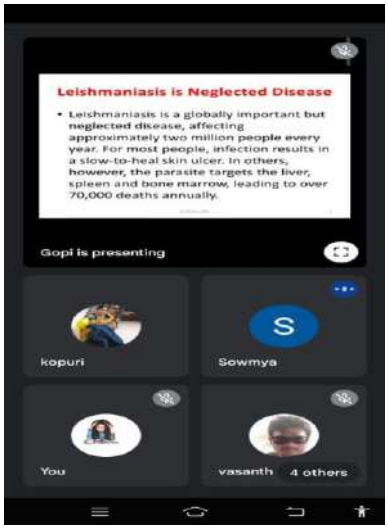


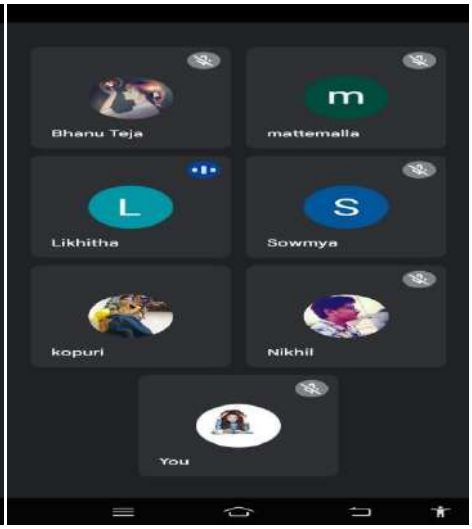


SRR & CVR GOVT. DEGREE COLLEGE (A) VIJAYAWADA

DEPARTMENT OF MICROBIOLOGY

2021-2022





II B Sc MBC & MBF Class Seminars Semester IV

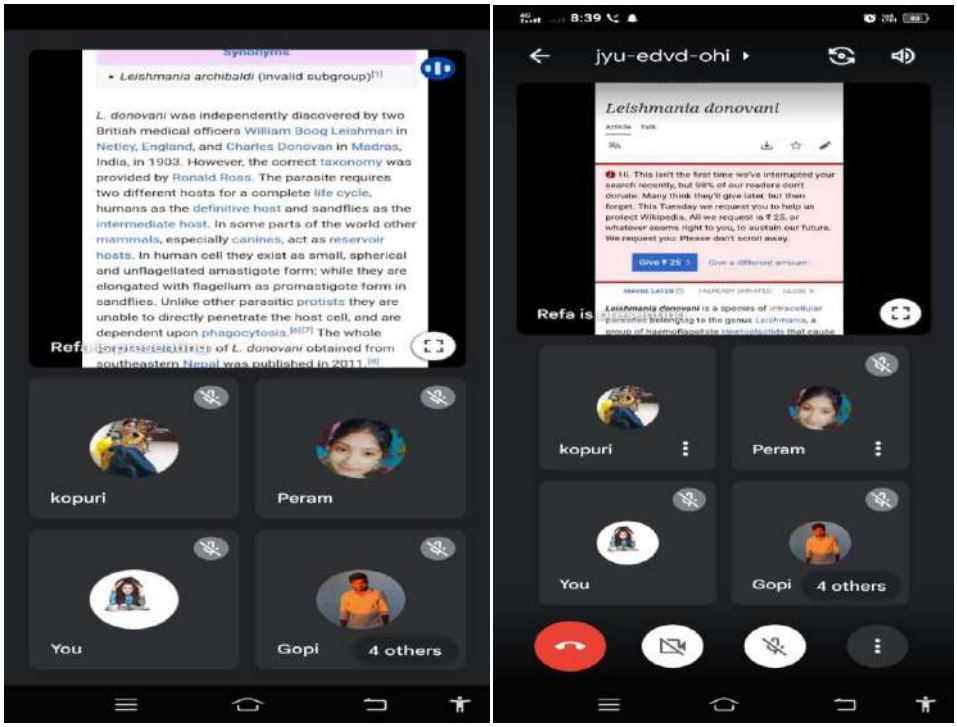
Report on student centered methods implemented (Course wise)

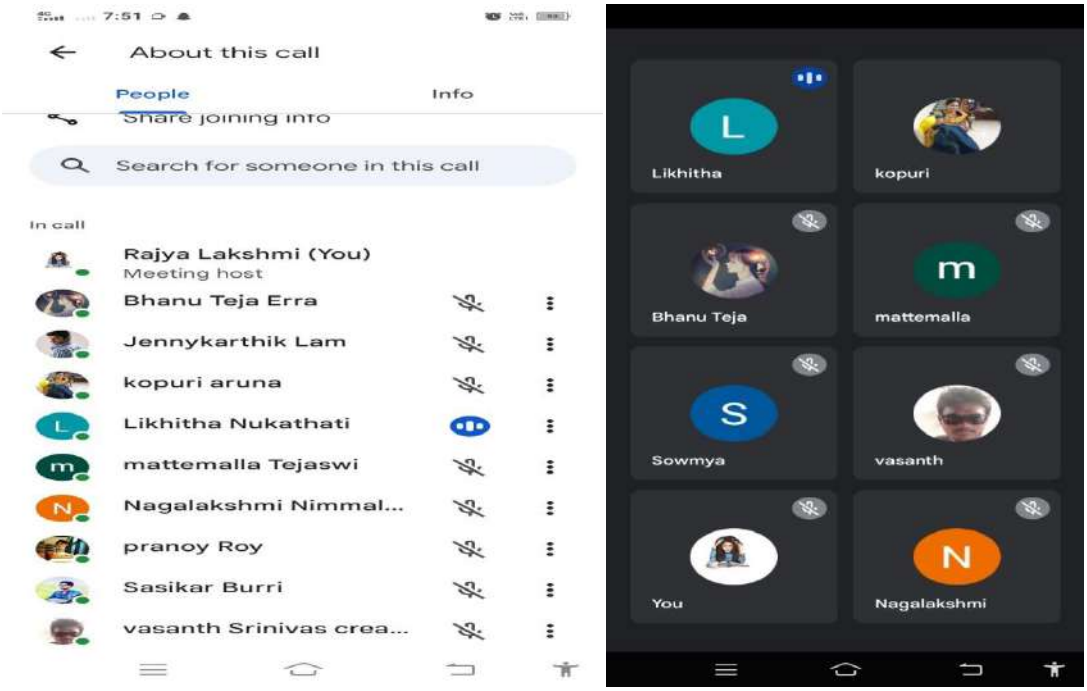
SRR & CVR GOVT. DEGREE COLLEGE (A) Vijayawada

Department of Microbiology

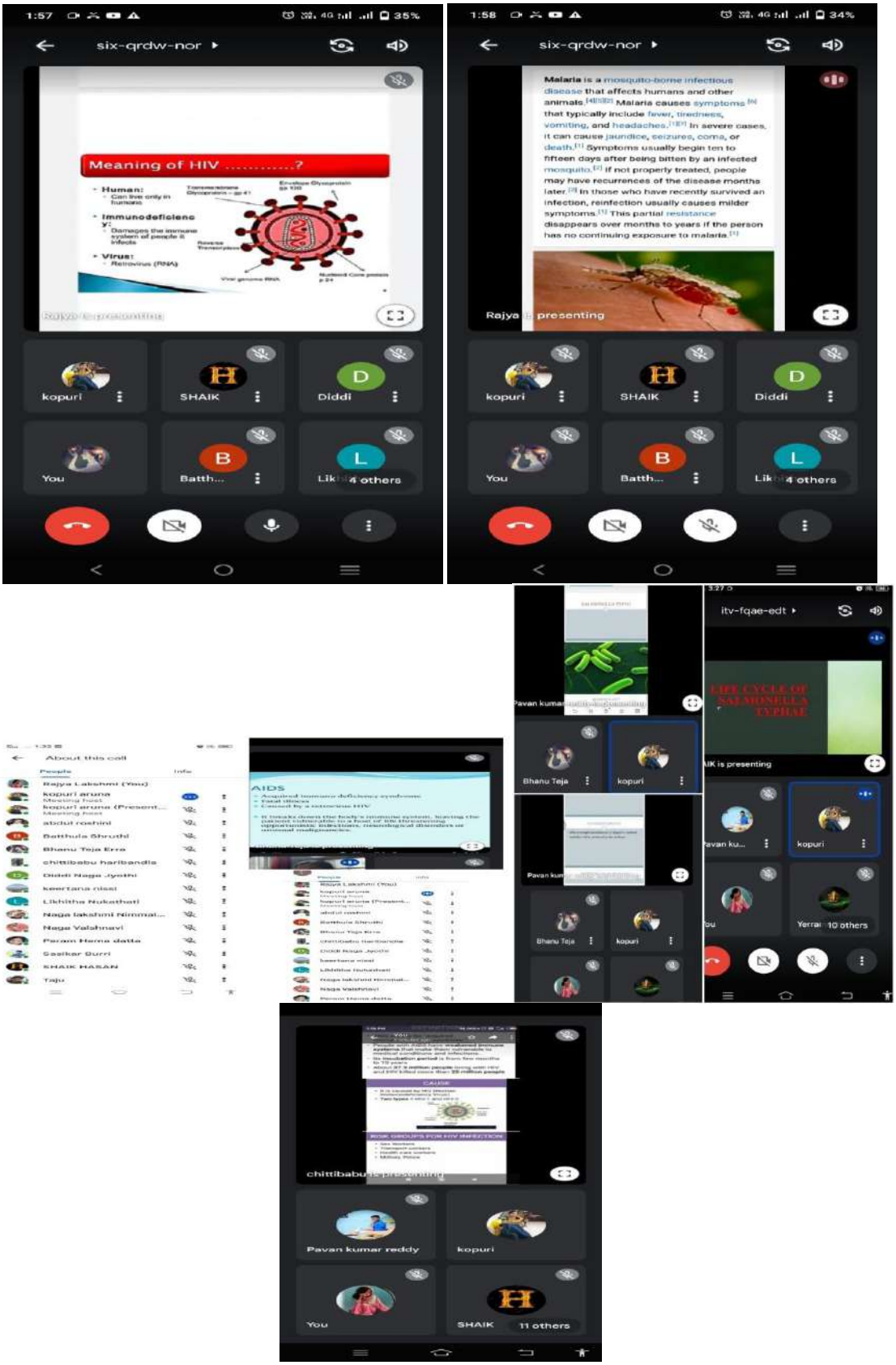
Activity Register 2021-2022

Date	**21-07-2022**
Conducted through (DRC/JKC/ELF/NCC/NSS/ Departments etc.)	**Department of Microbiology**
Nature of Activity (Seminar/Workshop/Extn.Lecture etc.,)	Student Seminars
Title of the Activity	II BSc MBC and MBF Semester IV
Name of the Department/Committee	Department of Microbiology
No. of students participated	10 During Practical Hours
Brief Report on the activity	**Students may improve the presentation Skills**
Name of the Lecturers who Planned & conducted the Activity	Dr. K. Aruna 
Signature of the Dept. In-Charge/Convener of the Committee	
Signature of the Principal	
Remarks	





II B Sc MBC & MBF Class Seminars, Semester IV



II B Sc MBC & MBF Class Seminars, Semester IV

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR

ON

Introduction of Business Economics

Submitted

By

P . Naveen (Reg. No. 21203227)

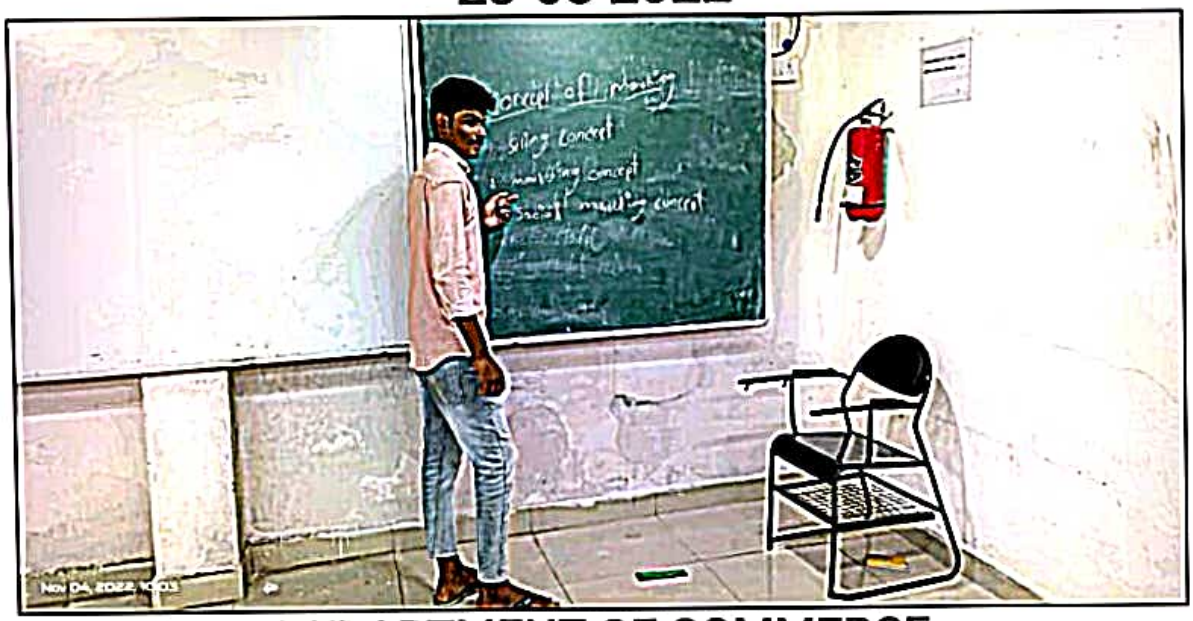
I B.B.A Bachelor of business administration (SEM - II) To

Smt.Razia Sultana madam

Lecturer in Commerce

ON

23-08 2022



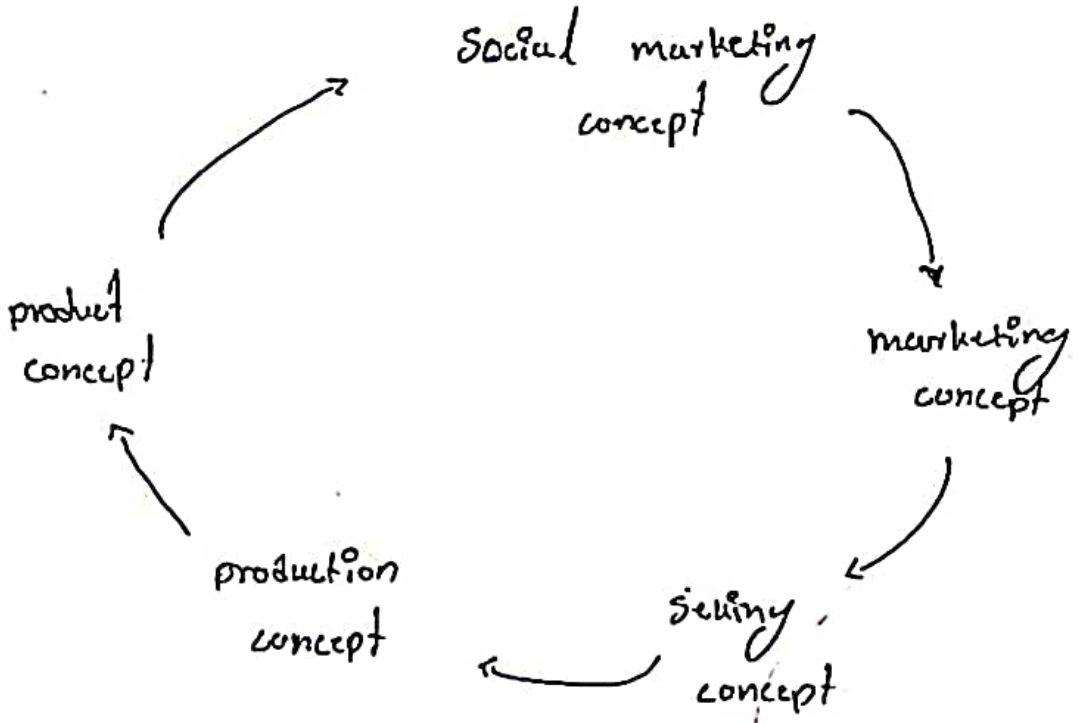
DEPARTMENT OF COMMERCE

SRR & CVR GOVERNMENT DEGREE COLLEGE -VIJAYAWADA

Polla naveen

concept of marketing 21903227

the marketing concept hold that achering goals of organisation of depends on the determining target market and delaying the desirible more effectively and effeciency in the competition.



product concept :- the production concept hold that consumer will fover product that are availeble highly effedable therefore management should foues on improving production and distrieution effecienty

production concept :- the product concept holds thats consumer product that offer the morthy quality performance and invaling dew that the organisation.

the process of market segment :-

marketing is a process that marketing managers executive in a no-of insitences a marketing manager the marketing process of product manager managers manager does not manage people but is eacample of a such a marketing managers managers the marketing process for a product within a large marketing organisation we as consumer the result of short process in the form of products stores shopping mass advertisement sales pitches promotions price etc this process usually involves 4 pheses they are

1. analysis
2. planning
3. execute the plan
4. monitoring

. Analysis :- market must be understood and this understanding flows from analysis

Classification of product:

Based on the types of consumer product are classified into two types

Classification and product
↓
1. consumer Based product
↓
2. Industfed Based product

1. consumer product: product which can be used without any commercial processing are usually refered to as consumer product these are product used by ultimate consumer reffered to and household consumer product are futher classified into six types

a. covenience Goods: these goods are the cunsumer usually purchases frequently immediately and ~~with~~ with the minimum efforts in buying for example soaps salts newspaper tooth pastes electrics etc

2. shopping Goods: these are goods that the consumer purchases frequently immediately and with the minimum shop and compoting the different alternatives.

u. marketing strategies for decline stage:- company formulates various strategies to manage the decline product the first important task is to detect the poor product after started decline whether poor products should be dropped some companies special committe for the task known as the product Review committe the committe collects data from internal and external sources and execute products on the basis the report submitted by the committe sacitable decision are taken etc are unsought goods until consumers is made aware then through advertising

2.

Stages of the product life cycle

1. **Marketing strategies for Introduction stage:**

Introduction stage is market with slow growth in product sales and a very little or no profit note the product has been newly introduced and sales volume is limited product and distribution are not given more emphasis Basis constituents of marketing product strategies for the stage include price and promotion price or both may be kept high or low expending upon market situation and management approach

2. **Marketing strategies for Growth stage:** this is the stage of rapid market acceptance the strategies are aimed at here the din trail of the product company to enter the new segment competitors have entered the market the company tries to strengthen position in the market it may forgo maximum current profits to earn still greater profits in future

3. **Marketing strategies for maturity stage:** in this stage competitors have entered then market there is severe fight among them for more market share the company adopts offensive/ aggressive marketing strategies to overcome the competitors.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR
ON
Concept of Marketing

Submitted By

J. Srinivas (Reg. No. 21203206) BBA General

To

Smt Razia Sultana

Lecturer in Commerce & Management

ON 23-08- 2022

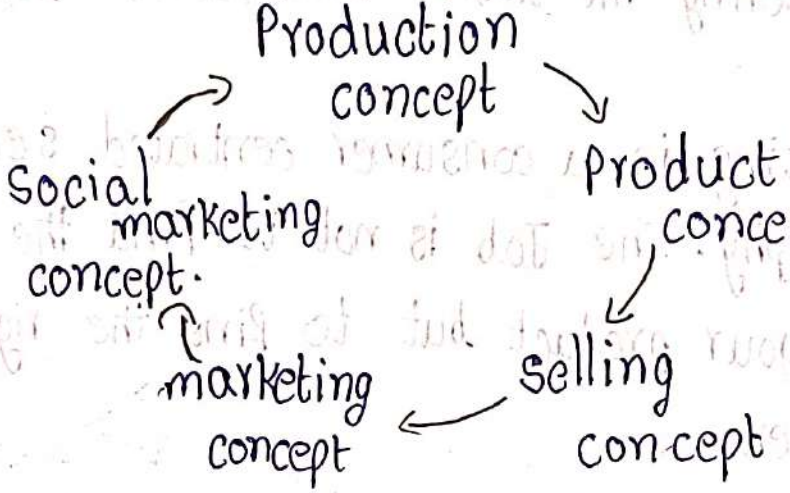


Roll No: 21203206

J. Srinivas
B.B.A (General)

Concept of marketing

The marketing concept hold that acheving goals of organisation of depends on the determining target market and delaying the describe more effectively and effeciency in competition.



Production concept: The production concept hold that consumer will favor product that are available highly efferable therefore management should focus on improving production and distribution effeciently.

Product concept: The product concept holds that consumer Product that offer the mostly quality performance and involving few that the organisation create in market continoues Product improvements.

Selling concept: The selling concept hold that consumer not buyers enough of the organisation product unless it under take a large scale selling of promotion effort

if focus on creative scale transactions rather than o
on occilating long term profitable relationship with
customer.

Marketing concept: Holds achiving organization goals
depens upon knowing the needs and wants of target
market at delivering the desire satisfaction better that
computer etc.

The marketing is a consumer centrated seences an
response philosophy. The Job is not to find the right
customers. For your product but to find the right produc
for your customers.

Social marketing concept:- The social marketing concept
belives in giving back the society by product better product
target towards society welfare the marketing concept of
the companies are successfully satisfy consumers bonds
necessary acting in the but long. Them intrest of
consumer and society.

The society market concept calls upon market to
build social & ethical consideration into role into
marketing practices.

The process of market segment:

Marketing is a process that marketing managers exicutive in a no·of insitences a marketing managers does not manage people but manages the marketing Process of product managers is example of a such a marketing process for a product within a range marketing organisation we as consumer the result of that process in the form of products, stores, shopping malls, advartisement, Sales, pitches, promotions, prices etc This process usually involves 4 phases They are

1, Analysis
2, planning
3, exicutive the plan
4, monitoring

1, Analy sis: Market must be understand and this understooding flow from analysis. marketing managers spend weeks analysis their markets before they undertake the development of marketing plans for influencing the markets.

2, Planning: once a market is understood marketing Programs and events must be designed for influencing

the markets customers and consumers and even the firm's competition.

3, Execution: The market events are executed in the markets; advertisment are run, prices are left, sales, calls are made etc.

4, Monitoring: Marketing are not statie entites and these must be manifactured at all firms after events execute, they need to be evaluate the planning assumptions upon which the upcoming events are based must be continucly tasted, they are not longer true then the events may need modification.

Stages of the product life cycle

1. Marketing strategies for Intraduction stage:

Introduction stage is marketd with slow growth in sales and a very or no profit. Note the product has been newly introduced and sales volume is limited product and distribution are not given more emphasis. Basis constituents of marketing. Product strategies for the stage include price and promotion, price or both may be kept high or low depending upon market situation and management approach.

2. Marketing Statagies for Growth stage:-

This is the stage of rapid market acceptance. The stratagies are aimed at sustaining market growth as long as possible. Here, the aim is not to increase anareness, but to get trail of the new segment. competitors have entered the market. The company tries to Hargthen competitive position in the market if may fogo maximum current profits to earn still greater profits in future.

3.) Marketing stratagies for meturity stage:-

In this stage, competitions have entered the market there is serve fight among them for more market share. The company adopts offensive/aggr sive marketing stratagies to defeat the comptitors.

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Company formuates various stratagies to manage the decline products, the first importent task is to extract the poor products. After salld decide whether Poor products should be dopped. Some companies specia committe for the task known as the product revie committe. The committe collects data from interna and external sources and exalcte products. On the basis the report submitted by the committe, sutable decisions are taken.

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Baseas on the type of consumer, product are classifiedt into two types.

Classification of product

↓

1. Consumer based product

↓

2. Industrial based product

1. Consumer product:

Products which can be used without any commercial processing are usefully refered to us consumer product. These are proctect used by ultimate consumer reffered to and households consumer product are furter classified into six types.

i. Convenience goods: These goods are the consumer usually purchases, freauently, immediately and with the minimum efforts in buying. for example soaps, salts, newspaper, tooth pastes, tolletries etc.

ii. Shopping Goods: These are goods that the consumer usally purchases after going around shops and compating the different atteractives offered by different producers are retoiurs compartson of atternatires is based on suitabulity, auality, price etc. for example, clothing, furnitur major appliaces, refrigerators etc.

iii, Durables (or) Durable goods :- These case can be used for long period. For example:, clothing, refrigerators, computers etc

iv, Non durables (or) Non durable goods :- These are casually for relatively shortest period. For example fruits, vegetables etc.

v, Speciality goods: These goods that the conumer wants on willing makes a special effort to find. It is the consumers willingness to search that makes it a speciality product. The customers are willing to travel for purchasing goods. For example special brands and types of fancy godds etc.

vi, Unsoughtable Goods: These goods with wtich potential customers are not yet familiar New product like food Processors and smoke detectors, burglar alarm, water purifier etc. are un sought goods until consumer is made aware of them through advertising.

2) Industrial product: product which are usally used for the Production of other goods or for rendering services are reffered to as Industrial product. These are products used by the manefacturer for producing other products or rendering services, Industrial product are many and include:-

1, machinery: Like lakhes, milling machine, road roil etc.

2, components:- like spare parts of michinary, monitor of computer etc.

3, Raw materials: Like cotton, clay, wood, iron, billets etc.

4, Supplies :- Like continous, stationary for computer printing etc.

5, Service :- Like maintenance and repair.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR
ON
Concept of Marketing

Submitted By

P. Nirmal(Reg. No. 21203212) I BBA General (Sem II)

To

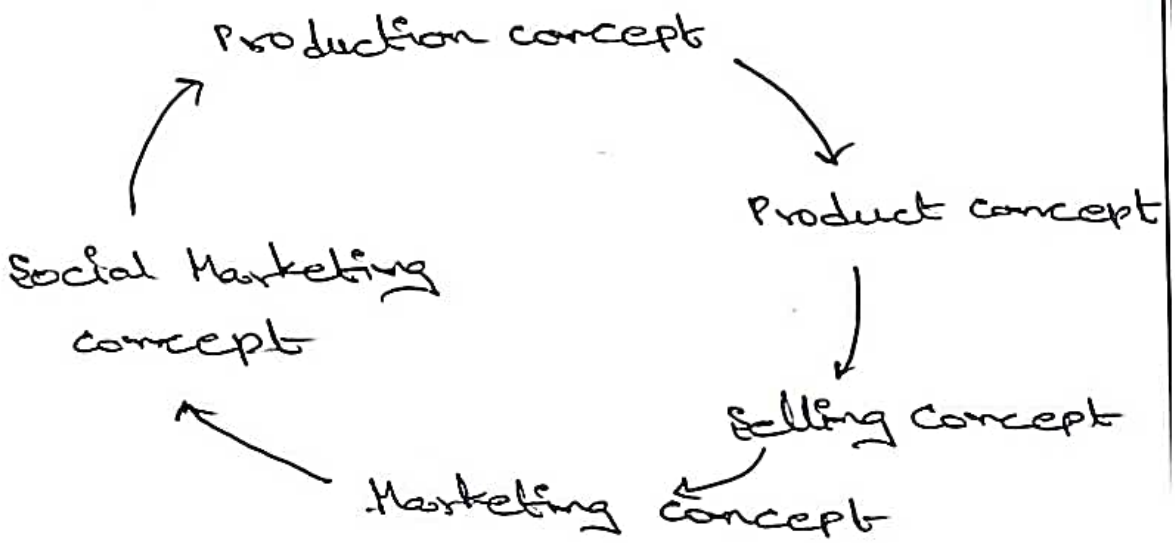
Smt Razia Sultana

Lecturer in Commerce & Management

ON 23-08- 2022



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Marketing is a process that marketing managers, executive in a no. of instances a marketing manager does not manage people but manages the marketing process of product managers is example of a such marketing process for a product within a range marketing organisation we as consumer the result of that process in the form of products, stores, shopping malls, advertisement, sales, pitches, promotions, price etc. This process usually involves 4 phases they are.

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classification of product

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1) consumer based product

&

2) industrial based product

1) Consumer product:- products which can be used without any commercial processing are usefully referred to as consumer product. These are protect.

2) Industrial product:- product which are usually used for the production of other goods or for rendering services are referred to as industrial product. These kind products used by the manufacturer for producing other products.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A) - VIJAYAWADA

STUDENT SEMINOR

ON

Concept of Marketing

Submitted By



Y. Durga Prasad(Reg. No. 21203213) II BBA General Sem II

To

Smt.Razia Sultana

Lecturer in Commerce & Management

ON 23-08- 2022

Explain the concept of Product classification?

A Product is any thing that can be offer to a mark to satisfying a want (or) need a need Product are marketed include Physical goods services Expression events Persons Places Properties Organisation Information & ideas.

-Philip Kotler-,

* classification of Product

1 Consumer based Product
2. Industrial based Product

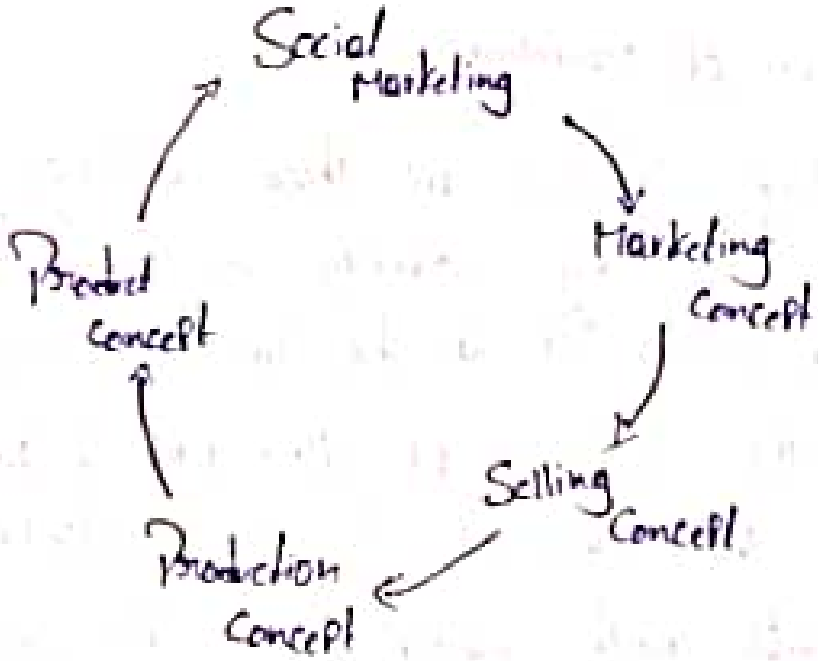
Consumer based Product :-

1. Convience goods
2. Shopping goods
3 durable goods
4 non durable goods
5 Specialily goods
6. unsolable goods.

2) Industrial Based Product

1. Mechanary
2. Components
3. Raw material
4 Supply
5 Services

The marketing Concept hold that achieving goals of organisation of depends on the determining target market and determining the desire more effectively and Efficiency in the completion.



* Production Concept :- The Production Concept holds that Consume will Product that are avaible highly Effectable there fore management should focus on improving Product and distrubution Effectly

* Product Concept :- The Product concept hold that Consu Product that offers the h most quality Performance and involving class that the organisaton devode in market continoses Product improvements.

Selling Concept:- The sling concept hold that Consumer not layer enough of the organisation Products unless it under take a large Scale Sling of Promotion. Efforts If focus on Creative Scale transaction rather than on building long term Profitable relationship with Customer.

1) Explain the Process of identifing market Segments

1) Definition:-

Market Segmentation is an increasing important Part of strong marketing Strategy at can make that all the difference for Company in Competative market landscape. Such as e Commerce market Paid after an opportunity to Run Paid exactly what messaging an customer make a Purchase.

Market Segmentation Process

1. Establishing Sample of Customer
2. Records Personal details about the decision making
3. Verify that the conclusion can have regarded

4. Establishing the attractiveness

* levels of market Segmentation :-

1. Segment marketing 2. Individual marketing
3. Niche marketing

1. Segment marketing :- In Segment marketing we divided the entire marketing into a bunch of customer with respective Same common character (ie) Preference taste & choice. Etc

2) Individual marketing :- In this case the customer are targeted individually by email, Sms, calls etc

However inorder to make this marketing Sucessfully we have to reduce the degree of Hytrogenity.

3. Niche marketing

In this type of Segmentation the Small market are target taking into consideration customer tasts Preference income & Purching Power etc. in this type of market are have to care for bargainning Power Purchase vachers etc.

Explain the Concept of Marketing?

Meaning of Marketing :-

Marketing refers to the all activities involves in t creations of place, time, profession & awarness uti

Definition of Marketing :-

Marketing involves all these activities having move with effecting change in ownership & p of good & Services. It is the part of economics whic deals with the creation of time, Place & Possisions utilities & that face of business activities with human wants with satisfied by the exchange of goods & Services Sum of valuable Consideration

* Concept of Marketing

1. Selling Concept
2. Marketing Concept
3. Social marking Concept.

2 Explain the Strategies for Product life Cycle ?

Ans Product life cycle Strategies

1. Extension of Product mix :- It is also refered has diversification. A firm may extend its Present Product mi increasing the no of Production line with the Same line, line are related to the Present Product.

2 Contraction of Product mix :- In certain circumstance the managments has to del the Production of unProfitable Products. A firm may eleminate an certins line then the with the line this is termed as Contraction of the Produ

3 Alternation of Existing Product :- As an alternative for developing a Completly new Product managment take a fresh look at the Company existing Products a improving an Establishment Product can be more Profitable and less risky than developing a Completly new one

4 Positioning the Product :- when a Product can offer Satisfaction in the manner the buyer gets Strong Position is created in the market the Products Positions is the image which that Product Project in relat to its rival Production

5. Trading up & Trading down:-

Trading up refers to adding of higher Priced and more Prestigious Product to their Existing line in the hope of increasing the Sales of Existing low Priced Products the low Priced Product in the initial Stage & later on introduced high Priced Product



Q) Prove that $L[J_0(t)] = \frac{1}{\sqrt{1+p^2}}$ and hence deduce that

$$L[J_0(at)] = \frac{1}{\sqrt{a^2+p^2}}$$

$$L[t J_0(at)] = \frac{p}{(p^2+a^2)^{3/2}}$$

$$L[e^{at} J_0(at)] = \frac{1}{\sqrt{p^2+2ap+2a^2}}$$

Sol. we know that $J_n(t) = \sum_{r=0}^{\infty} \frac{(-1)^r}{r!\,\Gamma(n+r+1)} \left(\frac{t}{2}\right)^{n+2r}$

$$J_0(t) = \sum_{r=0}^{\infty} \frac{(-1)^r}{r!\,\Gamma(r+1)} \left(\frac{t}{2}\right)^{2r}$$

$L[J_0(t)] = ?$

$$= \sum_{r=0}^{\infty} \frac{(-1)^r}{r!\,r!} \left(\frac{t}{2}\right)^{2r}$$

$$= \sum_{r=0}^{\infty} \frac{(-1)^r}{(r!)^2} \left(\frac{t}{2}\right)^{2r}$$

$$= 1 - \frac{t^2}{2^2} + \frac{1}{2^2}\frac{t^4}{4^2} - \frac{1}{2^2 \cdot 4^2}\frac{t^6}{6^2} + \cdots$$

$$L[J_0(t)] = L[1] - \frac{1}{2^2} L[t^2] + \frac{1}{2^2}\frac{1}{4^2} L[t^4] - \cdots$$

$$= \frac{1}{p} - \frac{1}{2^2}\frac{2!}{p^3} + \frac{1}{2^2 \cdot 4^2}\frac{4!}{p^5} - \cdots$$

$$= \frac{1}{p}\left[1 - \frac{1}{2}\frac{1}{p^2} + \frac{1 \cdot 3}{2 \cdot 4}\left(\frac{1}{p^2}\right)^2 - \cdots\right.$$

$$= \frac{1}{p}\left(1 + \frac{1}{p^2}\right)^{-1/2}$$

$$= \frac{1}{p}\frac{(p^2+1)^{-1/2}}{(p^2)^{-1/2}}$$

$$L[J_0(t)] = \frac{1}{\sqrt{p^2+1}} \quad \text{---(1)}$$

$L[J_0(at)]$

By using change of scale property

$$L[F(at)] = \frac{1}{a} f\left(\frac{p}{a}\right)$$

$$L[J_0(at)] = \frac{1}{a} f\left(\frac{p}{a}\right)$$

$$= \frac{1}{a}\frac{1}{\sqrt{1+\left(\frac{p}{a}\right)^2}} \quad [\text{from (1)}]$$

$$= \frac{1}{a}\frac{1}{\sqrt{\frac{a^2+p^2}{a^2}}} = \frac{1}{a}\sqrt{\frac{a^2}{a^2+p^2}}$$

$$L[J_0(at)] = \frac{1}{\sqrt{p^2+a^2}} \quad \text{---(2)}$$

$$L[J_0(at)] = \frac{1}{\sqrt{p^2+a^2}}$$

$L[t J_0(at)]$

we know that $L[tF(t)] = -\frac{d}{dp} f(p)$

$$L[t J_0(at)] = -\frac{d}{dp}\left[\frac{1}{\sqrt{a^2+p^2}}\right]$$

$$= -\left[-\frac{\left(\frac{1}{2\sqrt{a^2+p^2}} \cdot 2p\right)}{(\sqrt{p^2+a^2})^2}\right]$$

$$= \frac{p}{\sqrt{a^2+p^2} \cdot a^2+p^2}$$

$$= \frac{p}{(p^2+a^2)^{3/2}} \quad \text{——(3)}$$

$L[e^{-at} J_0(at)]$

By using first shifting theorem.

$$L[e^{-at} J_0(at)] = f(p+a)$$

$$= \frac{1}{\sqrt{(p+a)^2+a^2}}$$

$$= \frac{1}{\sqrt{p^2+a^2+2ap+a^2}}$$

$$= \frac{1}{\sqrt{p^2+2ap+2a^2}}.$$

SRR & CVR Govt Degree College (A)

Name: I. Sankara Bhavani

Reg No: 201741160302

Class: II M.Sc (mathematics)

Subject: Integral Transforms


NAME : J Bhavani
SEMINAR
subject : Integral
Transforms
Proof :
Given f(x) =
$F_c(P) = \int_0^{\infty} f(x) \cos Px \, dx$

Find the finite sine & cosine transform of $f(x)$

$$f(x) = \begin{cases} 1 & 0 < x < \frac{\pi}{2} \\ 1 & \frac{\pi}{2} < x < \pi \end{cases}$$

Given $f(x) = \begin{cases} 1 & 0 < x < \frac{\pi}{2} \\ -1 & \frac{\pi}{2} < x < \pi \end{cases}$

We know that

$$f_s(p) = \int_0^{\pi} f(x) \sin px \, dx$$

$$= \int_0^{\pi/2} f(x) \sin px \, dx + \int_{\pi/2}^{\pi} f(x) \cdot \sin px \, dx$$

$$= \int_0^{\pi/2} 1 \cdot \sin px \, dx + \int_{\pi/2}^{\pi} -1 \cdot \sin px \, dx$$

$$= \int_0^{\pi/2} \sin px \, dx - \int_{\pi/2}^{\pi} \sin px \, dx$$

$$= \left(\frac{-\cos px}{p} \right)_0^{\pi/2} + \left(\frac{\cos px}{p} \right)_{\pi/2}^{\pi}$$

$$= -\frac{1}{p} \left[\cos\left(\frac{p\pi}{2}\right) - \cos 0 + \cos p\pi + \cos\left(\frac{p\pi}{2}\right) \right]$$

$$= -\frac{1}{p} \left[2\cos\left(\frac{p\pi}{2}\right) - 1 - \cos p\pi \right] \quad \text{if } p > 0$$

if $p = 0$

$$\bar{f}_s(p) = \int_0^{\pi} f(x) \cdot 0 \, dx$$

$$= 0$$

and

$$\bar{f}_c(p) = \int_0^{\pi} f(x)\cos px\,dx$$

$$= \int_0^{\pi/2} \cos px\,dx - \int_{\pi/2}^{\pi} \cos px\,dx$$

$$= \left(\frac{\sin px}{p}\right)_0^{\pi/2} - \left(\frac{\sin px}{p}\right)_{\pi/2}^{\pi}$$

$$= \frac{1}{p}\left[\sin\left(\frac{p\pi}{2}\right) - \sin 0 - \sin p\pi + \sin\left(\frac{p\pi}{2}\right)\right]$$

$$= \frac{1}{p}\left[2\sin\left(\frac{p\pi}{2}\right)\right] \quad ; \quad p > 0$$

If $p = 0$

then

$$\bar{f}_c(p) = \int_0^{\pi} f(x)\cdot dx$$

$$= \int_0^{\pi/2} dx - \int_{\pi/2}^{\pi} dx$$

$$= (x)_0^{\pi/2} - (x)_{\pi/2}^{\pi}$$

$$= \frac{\pi}{2} - 0 - \pi + \frac{\pi}{2}$$

$$= \frac{2\pi}{2} - \pi$$

$$= \frac{2\pi - 2\pi}{\pi}$$

$$= 0$$

SRR AND CVR GOVERNMENT DEGREE COLLEGE

NAME : B. SOWMYA

CLASS : M.SC MATHEMATICS

REG NO : 2017416O303

SUBJECT : & Integral Transforms.

SEMINAR TOPIC IN

* FINITE INTEGRAL TRANSFORMS *

Submitted To

M. Sneha Mam

Submitted by

B. SOWMYA

Find the finite fourier Sine and cosine Transform of $f(x) = 2x$; $0 < x < 4$.

Given $f(x) = 2x$; $0 < x < 4$

We know that $= \int_0^l f(x) \cdot \sin \frac{p\pi x}{l} dx$.



$= \int_0^4 2x \cdot \sin \frac{p\pi x}{4} dx$. $\quad [l = 4, \text{Given}]$.

$= \left(\frac{2x \cdot -\cos \frac{p\pi x}{4}}{\frac{p\pi}{4}} \right) - \int_0^4 2 \cdot \left(\frac{-\cos \frac{p\pi x}{4}}{\frac{p\pi}{4}} \right) dx$.

$= \left(\frac{-8x \cdot \cos \frac{p\pi x}{4}}{p\pi} \right)_0^4 + \frac{8}{p\pi} \left(\frac{\sin \frac{p\pi x}{4}}{\frac{p\pi}{4}} \right)_0^4$

$= \frac{32\cos p\pi}{p\pi}$, If $p>0$.

If $p=0$, $\bar{f}_s(p) = \int_0^l f(x)\cdot 0\,dx = 0$.

$$\bar{f}_c(p) = \int_0^l f(x)\,\frac{\cos\frac{p\pi x}{l}}{l}\,dx$$

$$= \int_0^4 2x\cdot \cos\frac{p\pi x}{4}\,dx$$

$$= \left(\frac{2x\cdot \sin\frac{p\pi x}{4}}{p\pi/4}\right)_0^4 - \int_0^4 2\cdot \frac{\sin\frac{p\pi x}{4}}{p\pi/4}\,dx$$

$$= \left(\frac{8x\cdot \sin\frac{p\pi x}{4}}{p\pi}\right)_0^4 - \frac{8}{p\pi}\left(\frac{-\cos\frac{p\pi x}{4}}{p\pi/4}\right)_0^4$$

$$= \left(\frac{32\sin p\pi}{p\pi} - 0\right) + \frac{32}{p^2\pi^2}(\cos p\pi - \cos 0).$$

$$= \frac{32}{p^2\pi^2}(\cos p\pi - 1) \quad \text{if } p>0.$$

If $p=0$ then $\bar{f}_c(p) = \int_0^4 2x\cdot\cos 2\,dx$

$$= 2\left(\frac{x^2}{2}\right)_0^4$$

$$= 16.$$

* SRR AND CVR GOVERNMENT DEGREE COLLEGE *

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Subject : Integral Transforms.

SEMINAR TOPIC IN

* FINITE FOURIER TRANSFORMS *

Submitted To

M. Sirisha Mam

Submitted by

N. Anusha

(a) Find the Finite cosine transform of $f(x) = \sin nx$ in $(0, \pi)$

(b) Find the Finite Sine transform of $f(x) = x^3$

:- (a) Given that $f(x) = \sin nx$

We know that $f_c(p) = \int_0^{\pi} f(x) \cdot \cos px \, dx$.



Now, $f_c(p) = \int_0^{\pi} f(x) \cdot \cos px \, dx$.

$$= \int_0^{\pi} \sin nx \cdot \cos px \, dx$$

$$= \frac{1}{2} \int_0^{\pi} 2 \sin nx \cdot \cos px \, dx$$

$$= \frac{1}{2} \int_0^{\pi} \left[\sin (n+p)x + \sin (n-p)x \right] dx$$

$$= \frac{1}{2} \left[-\frac{\cos (n+p)x}{n+p} - \frac{\cos (n-p)x}{(n-p)} \right]_0^{\pi}$$

$$= \frac{1}{2} \left[-\frac{\cos (n+p)\pi}{(n+p)} - \frac{\cos (n-p)\pi}{(n-p)} + \frac{1}{n+p} + \frac{1}{n-p} \right]$$

If $n-p$ is even then $n+p$ is also even.

$$\bar{f}_c(p) = \frac{1}{2}\left[\frac{-1}{n+p} - \frac{1}{n-p} + \frac{1}{n+p} + \frac{1}{n-p}\right] = 0$$

If $n-p$ is odd then $n+p$ is also odd. [$\because \cos n\pi = 1$ is even, $\cos n\pi = -1$ is odd]

$$\bar{f}_c(p) = \frac{1}{2}\left[\frac{1}{n+p} + \frac{1}{n-p} + \frac{1}{n+p} + \frac{1}{n-p}\right]$$

$$= \frac{1}{2}\left[\frac{2}{n+p} + \frac{2}{n-p}\right]$$

$$= \left[\frac{n+p+n-p}{n^2-p^2}\right]$$

$$= \frac{2n}{n^2-p^2}$$

$\bar{f}_c(p) = 0$ (or) $\frac{2n}{n^2-p^2}$ According to $n-p$ is even (or) odd.

(b) Given that $f(x) = x^3$ $\quad \pi$

we know that $\bar{f}_s(p) = \int_0 f(x)\cdot \sin px\, dx$

$$= \int_0^{\pi} x^3 \cdot \sin px\, dx.$$

By use of Bernoulli's :- $\int uv = u\int v - u'\iint v + u''\iiint v \ldots$

$$= \left[x^3 \cdot \frac{-\cos px}{p}\right]_0^{\pi} - \left[3x^2\left(\frac{-\sin px}{p^2}\right)\right]_0^{\pi} +$$

$$\left[6x\left(\frac{\cos px}{p^3}\right)\right]_0^{\pi} - 6\left[\frac{\sin px}{p^4}\right]^{\pi}$$

$$= -\frac{\pi^3 \cos p\pi}{p} + \frac{6\pi}{p^3} \cos p\pi$$

$$= -\frac{\pi^3}{p}(-1)^p + \frac{6\pi}{p^3}(-1)^p$$

$$= \pi(-1)^p \left[\frac{6}{p^3} - \frac{\pi^2}{p}\right], \text{ if } p>0$$

If $p=0$, $\bar{f}_3(p) = 0$.

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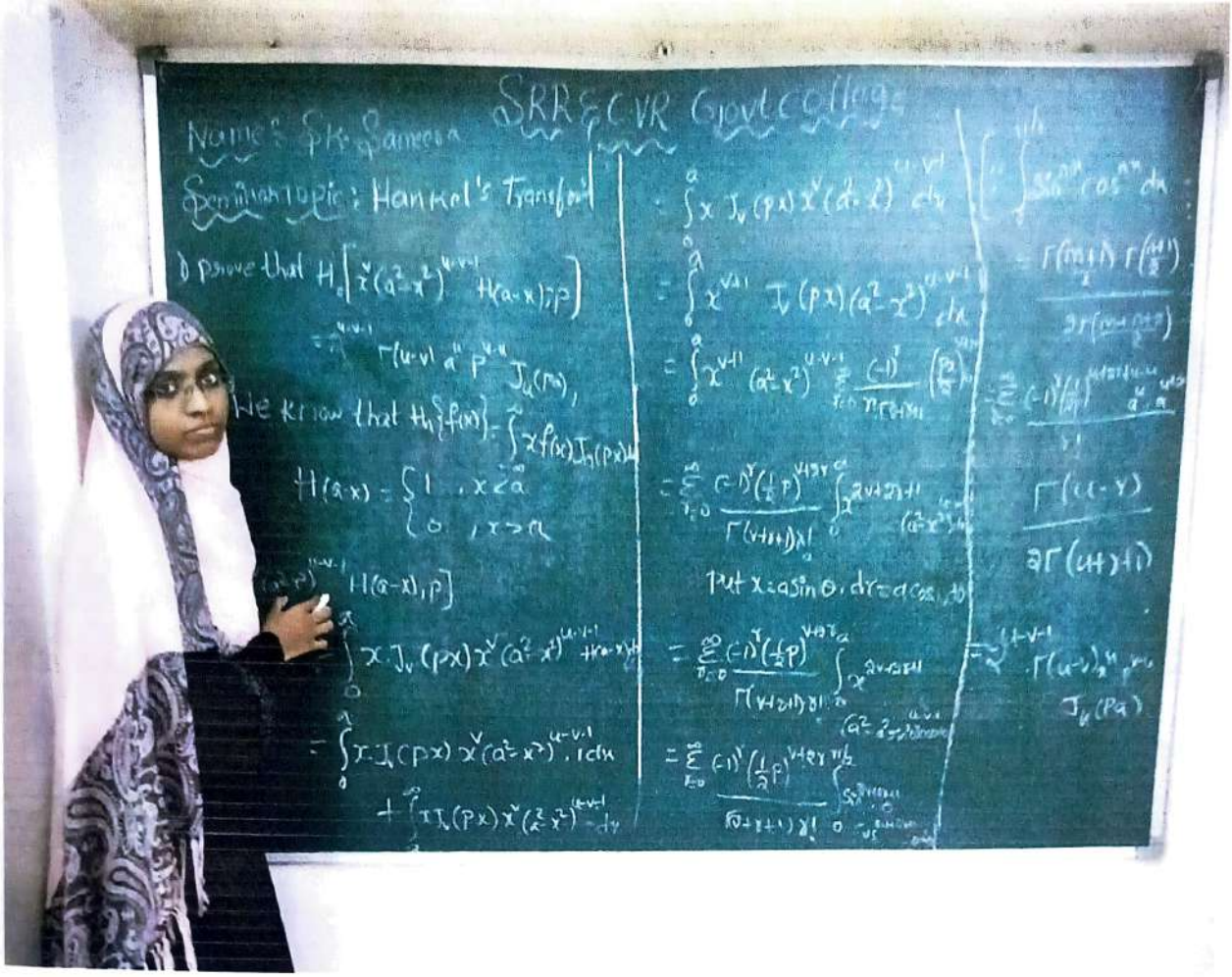
II M.SC MATHEMATICS

SEMINAR Submission

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BATCH	::	(2020 – 2022)
PAPER NAME	::	INTEGRAL TRANSFORMS

SUBMITTED TO : SIRISHA MADAM

SUBMITTED BY : SAMEERA



Topic: Hankel's Transforms

prove that

$$H_v\left[x^v(a^2-x^2)^{u-v-1}\,H(a-x);p\right] = 2^{u-v-1}\,\Gamma(u-v)\,a^u\,p^{v-u}\,J_u(pa)$$

$a>0, u-v\geq 0$

Hence Deduce that

a) $H_v\left[x^v H(a-x);p\right] = (a^{v+1}/p)\,J_{v+1}(ap), a>0$

b) $H_v\left[\frac{x^v H(a-x)}{\sqrt{a^2-x^2}};p\right] = \sqrt{\frac{\pi}{2p}}\;a^{v+1/2}\cdot J_{v+1/2}(ap)$.

We know that $H_v[f(x)] = \sqrt{\frac{\pi}{2p}}\int_0^\infty x f(x) J_n(px)\,dx$

and $H(a-x) = \begin{cases}1 & x<a\\ 0 & x>a\end{cases}$

$$\therefore H_v\left[x^v(a^2-x^2)^{u-v-1}H(a-x);p\right] = \int_0^\infty x\cdot J_v(px)\cdot x^v(a^2-x^2)^{u-v-1}H(a-x)\,dx$$

$$= \int_0^a x\cdot J_v(px)\,x^v(a^2-x^2)^{u-v-1}\cdot 1\,dx + \int_0^\infty x\cdot J_v(px)\,x^v(a^2-x^2)^{u-v-1}\cdot 0\,dx$$

$$= \int_0^a x\cdot J_v(px)\,x^v(a^2-x^2)^{u-v-1}\,dx$$

$$= \int_0^a x\cdot J_v(px)\,x^v(a^2-x^2)^{u-v-1}\,dx$$

$$= \int_0^a x^{v+1}\,J_v(px)\,(a^2-x^2)^{u-v-1}\,dx$$

$$= \int_0^a x^{v+1}(a^2-x^2)^{u-v-1}\cdot\sum_{r=0}^\infty \frac{(-1)^r}{r!\,\Gamma(v+r+1)}\left(\frac{px}{2}\right)^{v+2r}dx$$

$$\left[\because J_n(x) = \sum_{r=0}^\infty \frac{(-1)^r}{r!\,\Gamma(n+r+1)}\left(\frac{x}{2}\right)^{n+2r}\right.$$

$$= \sum_{r=0}^\infty \frac{(-1)^r\left(\frac{1}{2}p\right)^{v+2r}}{\Gamma(v+r+1)\,r!}\int_0^a x^{2v+2r+1}\cdot(a^2-x^2)^{u-v-1}\,dx$$

put $x = a\sin\theta \Rightarrow dx = a\cos\theta\,d\theta$.

$$= \sum_{r=0}^{\infty} \frac{(-1)^r \left(\frac{1}{2}p\right)^{2r+n}}{\Gamma(1+r+n)\, r!} \int_0^{\pi/2} (a\sin\theta)^{2r+n+1} (a^2 - a^2\sin^2\theta)^{\nu-\mu-1} a\cos\theta \, d\theta$$

$$= \sum_{r=0}^{\infty} \frac{(-1)^r \left(\frac{1}{2}p\right)^{2r+n}}{\Gamma(1+r+n)\, r!} \int_0^{\pi/2} a^{2r+n+1+2\nu-2\mu-2} \sin^{2r+n+1}\theta \cos^{2\nu-2\mu-1}\theta \, d\theta.$$

$$= \sum_{r=0}^{\infty} \frac{(-1)^r \left(\frac{1}{2}p\right)^{2r+n} a^{2\nu+2r}}{\Gamma(1+r+n)\, r!} \int_0^{\pi/2} \sin^{2r+n+1}\theta \cos^{2\nu-2\mu-1}\theta \, d\theta.$$

$$= \sum_{r=0}^{\infty} \frac{(-1)^r \left(\frac{1}{2}p\right)^{2r+n} a^{2r+n}}{\Gamma(1+r+\nu)\, r!} \cdot \frac{\Gamma(\nu-\mu)\,\Gamma(1+r+\nu)}{2\,\Gamma(\mu+r+1)}$$

$$\left[\because \int_0^{\pi/2} \sin^m x \cos^n x \, dx = \frac{\Gamma\left(\frac{m+1}{2}\right)\Gamma\left(\frac{n+1}{2}\right)}{2\,\Gamma\left(\frac{m+n+2}{2}\right)}\right]$$

$$= \sum_{r=0}^{\infty} \frac{(-1)^r \left(\frac{1}{2}p\right)^{2r+n-\mu+\mu} a^{2r+n+\mu}}{\Gamma(1+r+\nu)\, r!} \cdot \frac{\Gamma(\nu-\mu)\,\Gamma(1+r+\nu)}{2\,\Gamma(\mu+r+1)}$$

$$= \sum_{r=0}^{\infty} \frac{\left(\frac{1}{2}p\right)^{\mu+2r} \left(\frac{1}{2}p\right)^{\nu-\mu} a^{\mu} a^{\mu+2r}}{r!} \cdot \frac{\Gamma(\nu-\mu)}{2\,\Gamma(\mu+r+1)}$$

$$= 2^{\mu-\nu-1}\,\Gamma(\nu-\mu)\, a^{\mu} p^{\nu-\mu} \sum_{r=0}^{\infty} \frac{(-1)^r \left(\frac{1}{2}ap\right)^{\mu+2r}}{r!\,\Gamma(\mu+r+1)}$$

$$= 2^{\mu-\nu-1}\,\Gamma(\nu-\mu)\, a^{\mu} \cdot p^{\nu-\mu}\, J_{\mu}(pa).$$

$$\therefore H_{\nu}\left[x^{\mu}(a^2-x^2)^{\nu-\mu-1} H(a-x); p\right] = 2^{\mu-\nu-1}\,\Gamma(\nu-\mu)\, a^{\mu} \cdot p^{\nu-\mu}\, J_{\mu}(pa) \quad \text{--- (1)}$$

Deductions

a) putting $u = v+1$ in (1) we get

$$H_v\left[x^v (a^2-x^2)^0 H(a-x); p\right] = 2^0 \cdot \Gamma(v+1-v)\, a^{v+1} \cdot p^{v-v-1} J_u(pa)$$

$$H_v\left[x^v H(a-x); p\right] = \frac{a^{v+1}}{p} J_{v+1}(pa) \qquad [\because \Gamma(1) = 1]$$

b) putting $u = v+\frac{1}{2}$

$$H_v\left[x^v (a^2-x^2)^{v+1/2-v-1} H(a-x); p\right] = 2^{v+1/2-v-1}\, \Gamma\left(v+\tfrac{1}{2}-v\right) a^{v+1/2} \cdot p^{v-v-1/2} \cdot J_v(pa)$$

$$H_v\left[\frac{x^v \cdot H(a-x)}{\sqrt{a^2-x^2}}; p\right] = 2^{-1} \cdot \sqrt{\pi}\; a^{v+1/2} \cdot p^{-1/2} \cdot J_u(ap)$$

$$= \sqrt{\frac{\pi}{2p}}\; a^{v+1/2} \cdot J_{v+1/2}(ap)$$

Find inverse laplace transform of

$$\left[\frac{6}{2p-3} - \frac{3+4p}{9p^2-16} + \frac{8}{16p^2+9}\right]$$

Sol $L^{-1}\left[\frac{6}{2p-3} - \frac{3+4p}{9p^2-16} + \frac{8}{16p^2+9}\right]$

$= L^{-1}\left[\frac{6}{2p-3}\right] - L^{-1}\left[\frac{3+4p}{9p^2-16}\right] + L^{-1}\left[\frac{8}{16p^2+9}\right]$

$= L^{-1}\left[\frac{6}{2(p-3/2)}\right] - L^{-1}\left[\frac{3+4p}{9(p^2-\frac{16}{9})}\right] + L^{-1}\left[\frac{8}{16(p^2+\frac{9}{16})}\right]$

$= L^{-1}\left[\frac{6}{2(p-\frac{3}{2})}\right] - L^{-1}\left[\frac{3+4p}{9(p^2-(\frac{4}{3})^2)}\right] + L^{-1}\left[\frac{8}{16(p^2+(\frac{3}{4})^2)}\right]$

$= \frac{6}{2}L^{-1}\left[\frac{6}{p-\frac{3}{2}}\right] - \frac{3}{9}L^{-1}\left[\frac{1}{p^2-(\frac{4}{3})^2}\right] + \frac{4}{9}L^{-1}\left[\frac{p}{p^2-(\frac{4}{3})^2}\right]$

$+ \frac{8}{16}L^{-1}\left[\frac{p}{p^2-(\frac{4}{3})^2}\right]$

$= 3L^{-1}\left[\frac{6}{p-\frac{3}{2}}\right] - \frac{1}{3}L^{-1}\left[\frac{1}{p^2-(\frac{4}{3})^2}\right] + \frac{4}{9}L^{-1}\left[\frac{p}{p^2-(\frac{4}{3})^2}\right]$

$+ \frac{1}{2}L^{-1}\left[\frac{p}{p^2-(\frac{4}{3})^2}\right]$

$\left[L^{-1}\left(\frac{1}{p-a}\right) = e^{-at},\ L^{-1}\left[\frac{1}{p^2-a^2}\right] = \frac{1}{a}\sinh at,\right.$

$\left. L^{-1}\left(\frac{p}{p^2-a^2}\right) = \cosh at,\ L^{-1}\left(\frac{1}{p^2+a^2}\right) = \frac{1}{a}\sin at\right]$

$= 3e^{-\frac{3}{2}t} - \frac{1}{3}\cdot\frac{1}{\frac{4}{3}}\sinh\left(\frac{4}{3}\right)t + \frac{4}{9}\cosh\left(\frac{4}{3}\right)t +$

$\frac{1}{2}\ \frac{1}{3/4}\sin(3/4)t$

$$= 3e^{-3/2 t} - \frac{1}{3}\frac{4}{3}\sinh(4/3)t + \frac{4}{9}\cosh(\frac{4}{3})t + \frac{1}{2}\frac{4}{3}\sin(3/4)t$$

$$= 3e^{-\frac{3}{2}t} - \frac{1}{4}\sinh(\frac{4}{3})t + \frac{4}{9}\cosh(\frac{4}{3})t + \frac{1}{3}\sin(3/4)t$$

∴ Inverse laplace transform of

$$\left[\frac{6}{2p-3} - \frac{3+4p}{9p^2-16} + \frac{8}{16p^2+9}\right] \text{ is}$$

$$= 3e^{-3/2 t} - \frac{1}{4}\sinh(\frac{4}{3})t + \frac{4}{9}\cosh(4/3) + \frac{1}{3}\sin(3/4)t.$$

SRR & CVR GOVT. DEGREE COLLEGE (A)

SEMINAR.

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Reg. No: 201741160307

subject: Integral Transforms.

class: II M.Sc.

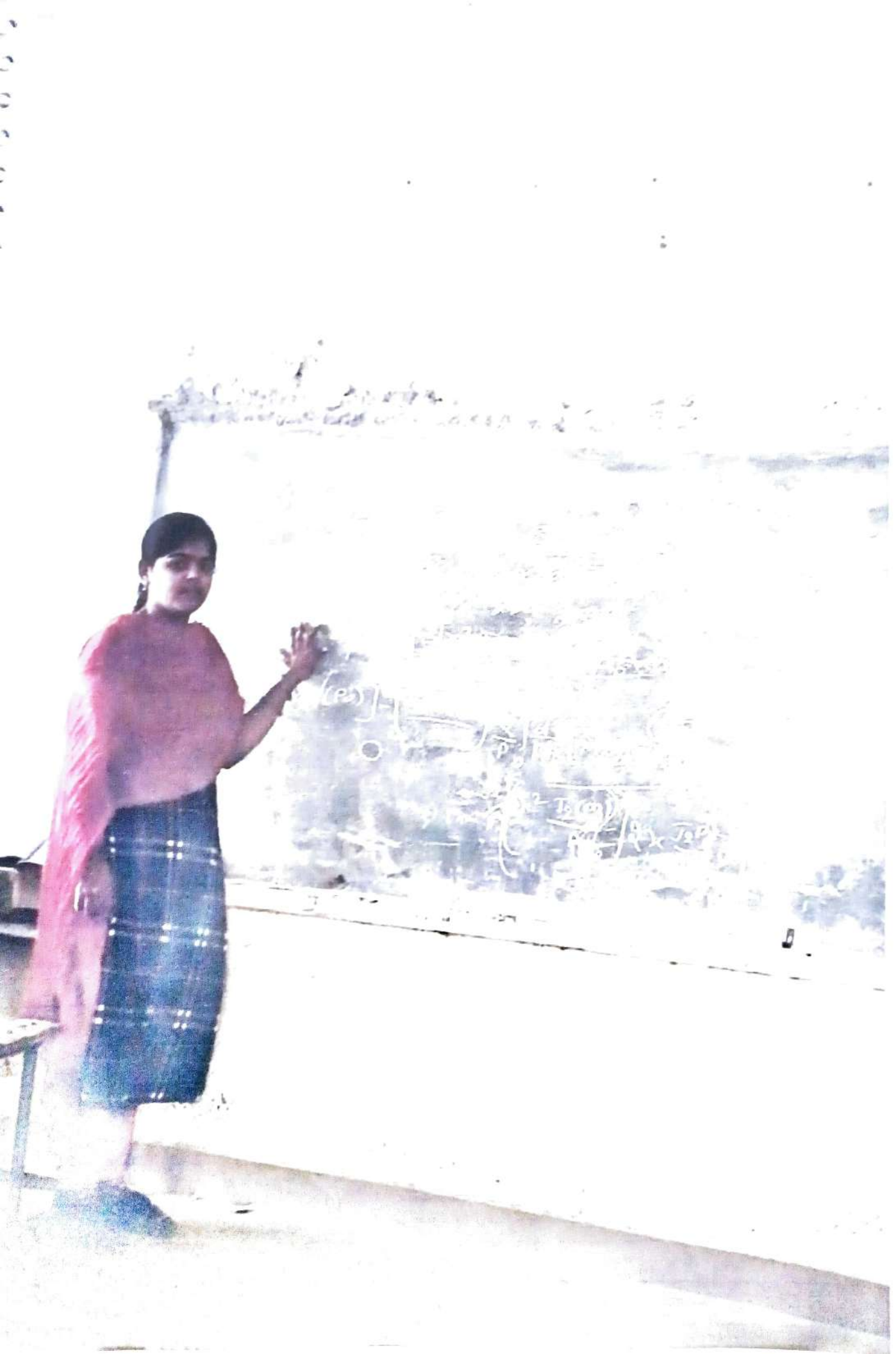
TOPIC: Hankel Transforms

Submitted To

M. Sricharan

submitted by

M. Tanuja.



Integral transforms

Find the Hankel trans form of

$$\frac{d^2f}{dx^2} + \frac{1}{x}\frac{df}{dx} - \frac{n^2}{x^2}f.$$

We know that

$$H\{f(x)\} = \int_0^\infty x J_n P(x) f(x)\,dx.$$

$$H\left\{\frac{d^2f}{dx^2} + \frac{1}{x}\frac{df}{dx} - \frac{n^2}{x^2}f\right\} = \int_0^\infty J_n P(x)\left\{x\frac{d^2f}{dx^2} + \frac{df}{dx} - \frac{n^2}{x^2}f\right\}dx.$$

$$= \int_0^\infty J_n(px)\frac{d}{dx}\left(x\cdot\frac{df}{dx}\right)dx - n\int_0^\infty \frac{1}{x} J_n(px) f(x)\,dx.$$

$$= \int_0^\infty J_n(px)\frac{xd}{dx}\Big]_0^\infty - \int_0^\infty \frac{d}{dx} J_n(px)\frac{x\,df}{dx}\,dx.$$

$$-n^2\int_0^\infty \frac{1}{x} J_n(px) f(x)\,dx.$$

Assuming $x f(x) \to 0$ when $x \to 0$, & $x \to \infty$

$$= 0 - \int_0^\infty \frac{d}{dx} J_n(px)\, x\,\frac{df}{dx}\,dx - n^2\int_0^\infty \frac{1}{x} J_n(px) f(x)\,dx.$$

$$= -\left\{\left[x\frac{d}{dx} J_n(px) f(x)\right]_0^\infty - \int_0^\infty \frac{d}{dx}\left[x\frac{d}{dx} J_n(px)\cdot f x\right]\right.$$

$$\left. -n^2\int_0^\infty \frac{1}{x} J_n(px) f(x)\,dx\right\}$$

Assuming $x f(x) \to 0$ when $x \to 0$, $x \to \infty$.

$$= \int_0^\infty \frac{d}{dx}\left[\frac{xd}{dx} J_n(px) f(x)\right] - n^2\int_0^\infty \frac{1}{x} J_n(px) f(x)\,dx.$$

$$\int_0^{\infty} \frac{1}{x^2} J_n(px) f(x) dx = \frac{1}{x^2} \cdot \frac{1}{x^2} \cdot \frac{1}{x^2} \cdot


MINAR

Note: Prove Convolution theorem of fourier transforms

Convolution:

The function $H(x) = f * G = \frac{1}{\sqrt{2\pi}} \int f(\mu) G(x-\mu) d\mu$ is called the Convolution (or) folding of the two integrable functions f & G over the interval $(-\infty, \infty)$

Convolution or folding theorem

$$F\{f(x) * g(x)\} = F\{f(x)\} F\{g(x)\}$$

Statement:- If $F\{f(x)\}$ and $F\{g(x)\}$ $F\{f(x)\}$ are the fourier transforms of the functions $f(x)$ & $g(x)$ respectively then the fourier transform of the convolution of $f(x)$ & $g(x)$ is the product of their fourier transforms

Proof: Given $F\{f(x)\}$ and $F\{g(x)\}$ are the fourier transforms of $f(x)$ & $g(x)$ respectively

By def of fourier transform

$$F\{f(x)\} = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} e^{ipx} f(x) dx$$

By Convolution theorem in Laplace.

$$f(x) * g(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} f(\mu) \cdot g(x-\mu) d\mu$$

Now By fourier transform

$$F\{f(x) * g(x)\} = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} e^{ipx + ip\mu - ip\mu} f(\mu) g(x-\mu) dx$$

$$= \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} e^{ip(x-\mu)} e^{ip\mu} f(\mu) g(x-\mu) d\mu dx.$$

$$= \left[\frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} e^{ip\mu} f(\mu) d\mu \right] \left[\frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} e^{ipy} g(y) dy \right]$$

put $x - \mu = y$

$dx = dy$

$= F\{f(x)\} \cdot F\{g(x)\}$

$= f\{f(x)\} f\{g(x)\}$

$\therefore F\{f(x) * g(x)\} = F\{f(x)\} \cdot F\{g(x)\}$

b) find $f(x)$ if its Cosine transform is

$$\bar{f}_c(p) = \begin{cases} \frac{1}{\sqrt{2\pi}} (a - p/2) & \text{if } p < 2a \\ 0 & \text{if } p \geq 2a \end{cases}$$

Sol We know that

$$f(x) = \sqrt{\frac{2}{\pi}} \int_0^\infty \bar{f}_c(p) \cos px \, dp \qquad [\because \int uv = u\int v - \int u' \int v]$$

$$= \sqrt{\frac{2}{\pi}} \int_0^\infty \frac{1}{\sqrt{2\pi}} (a - p/2) \cos px \, dp$$

$$= \frac{1}{\pi} \left[(a - p/2) \frac{\sin px}{x} \right]_0^{2a} - \int_0^{2a} \frac{1}{2} \cdot \frac{\sin px}{x} \, dp \Big]$$

$$= \frac{1}{\pi} \left[(a - p/2) \frac{\sin px}{x} \right]_0^{2a} + \frac{1}{2x} \left(-\frac{\cos px}{x} \right]_0^{2a} \Big]$$

$$= \frac{1}{\pi} \left[\frac{1}{2x^2} (-\cos 2ax + 1) \right]$$

$$= \frac{1 - \cos 2ax}{2\pi x^2} \qquad 1 - \cos 2x = 2\sin^2 x$$

$$= \frac{\sin^2 ax}{\pi x^2}$$

$$\therefore \bar{f}_c(p) = \begin{cases} \frac{1}{\sqrt{2\pi}} (a - p/2) & \text{if } p < 2a \\ 0 & \text{if } p \geq 2a. \end{cases}$$

Then

$$f(x) = \frac{\sin^2 ax}{\pi x^2}$$

SRR & CVR GOVT DEGREE COLLEGE(A)

DEPARTMENT OF MATHEMATICS

SEMINAR

INTEGRAL TRANSFORMS

SUBMITTED TO M.V.L.SIRISHA MADAM

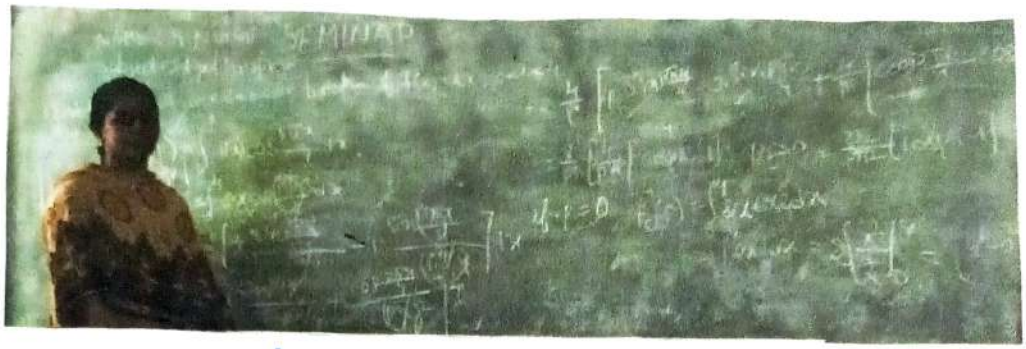
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CLASS :- 2nd M.SC(MATHS)

SUBJECT :- INTEGRAL TRANSFORMS

R.NO :- 20174160313

Find the finite fourier sine and cosine Transform of $f(x) = 2x$; $0 < x < 4$.



W.K.T $\bar{f}_s(p) = \int_0^l f(x) \sin \frac{p\pi x}{l} dx$

$l = 4$, given

$$\bar{f}_s(p) = \int_0^4 2x \sin \frac{p\pi x}{4} dx$$

$$= 2\left[x\left(\frac{-\cos \frac{p\pi x}{4}}{(p\pi/4)}\right) - \int_0^4 1 \cdot \left(\frac{-\cos \frac{p\pi x}{4}}{(p\pi/4)}\right) dx \right]_0^{\pi}$$

$$= 2\left[\frac{-x \cos \frac{p\pi x}{4}}{p\pi/4} + \frac{\sin \frac{p\pi x}{4}}{(p\pi/4)^2} \right]_0^4$$

$$= 2 \cdot \frac{4}{p\pi}\left[-x \cos \frac{p\pi x}{4} + \frac{4}{p\pi}\left(\sin \frac{p\pi x}{4}\right)\right]_0^4$$

$$\bar{f}_s(p) = \frac{8}{p\pi}\left[-4\cos p\pi + 0\right] = \frac{-32}{p\pi}\cos p\pi \quad \text{if } p > 0$$

If $p = 0$, $\bar{f}_s(p) = \int_0^l f(x) \cdot 0 \, dx = 0$

$$\bar{f}_c(p) = \int_0^l f(x) \cos \frac{p\pi x}{l} dx$$

$$= \int_0^l 2x \cos \frac{p\pi x}{4} dx$$

$$= 2\left[\frac{x \sin \frac{p\pi x}{4}}{(p\pi/4)} - \int_0^4 1 \cdot \frac{\sin \frac{p\pi x}{4}}{(p\pi/4)} \right]_0^4$$

$$\bar{f}_c(p) = 2\frac{4}{p\pi}\left[x \sin \frac{p\pi x}{4} + \frac{4}{p\pi} \cos \frac{p\pi x}{4} \right]_0^4$$

$$\bar{f}_c(p) = \frac{8}{p\pi}\left[\frac{4}{p\pi}(\cos p\pi - 1)\right]$$

$$\bar{f}_c(p) = \frac{32}{p^2\pi^2}(\cos p\pi - 1) \quad \text{if } p > 0$$

If $p = 0$ then $\bar{f}_c(p) = \int_0^4 4 - 2x \cos 0 \, dx$

$$\bar{f}_c(p) = 2\left[\frac{x^2}{2}\right]_0^4 = 16.$$

SRR & CVR GOVERNMENT DEGREE COLLEGE (AUTONOMOUS) VIJAYAWADA

II M.SC MATHEMATICS

Assignment Paper Submission

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CELL NUMBER	:: 9494455133
COURSE NAME	:: M.SC. (MATHEMATICS)
SEMESTER	:: IV
BATCH	::
PAPER NAME	:: Integral Transforms
ASSINGMENT NO.	:: Seminar

SUBMITTED TO :

[redacted]

Sirisha mam.

SUBMITTED BY :

E. Dhana Lakshmi

1. Find the Hankel transform of $f(x)$ ①

$$f(x) = \frac{d^2f}{dx^2} + \frac{1}{x}\cdot\frac{df}{dx} - \frac{n^2}{x^2}\cdot f$$

Solution: We know that

$$f(x) = \frac{d^2f}{dx^2} + \frac{1}{x}\cdot\frac{df}{dx} - \frac{n^2}{x^2}\cdot f$$

$$H\{f(x)\} = \int_0^\infty x\cdot f(x) J_n(px)\,dx$$

$$= \int_0^\infty x\cdot J_n(px)\,dx \left[\frac{d^2f}{dx^2} + \frac{1}{x}\cdot\frac{df}{dx} - \frac{n^2}{x^2}\cdot f\right]$$

$$= \int_0^\infty J_n(px)\,dx \left[x\frac{d^2f}{dx^2} + \frac{df}{dx}\right] - n^2\int_0^\infty \frac{1}{x}\cdot J_n(px) f(x)\,dx$$

$$= \int_0^\infty J_n(px)\cdot\frac{d}{dx}\left(x\cdot\frac{df}{dx}\right)dx - n^2\int_0^\infty \frac{1}{x}\cdot J_n(px) f(x)\,dx$$

$$= J_n(px)\cdot x\cdot\frac{df}{dx} - \int_0^\infty \frac{d}{dx}[J_n f(x)]\cdot x\cdot\frac{df}{dx}\,dx$$
$$- n^2\int_0^\infty \frac{1}{x}\cdot J_n(px) f(x)\,dx$$

Assuming $x f(x) \to 0$ where $x\to 0$ & $x\to\infty$

$$= 0 - \int_0^\infty \frac{d}{dx} J_n(px)\cdot x\,\frac{df}{dx}\,dx - n^2\int_0^\infty \frac{1}{x}\cdot J_n(px)\,dx$$

$$= \left\{\left[x\cdot\frac{d}{dx}[J_n(px)]\cdot f(x)\right]_0^\infty - \int_0^\infty \frac{d}{dx}\left[x\cdot\frac{d}{dx}J_n(px)\right] f(x)\right.$$
$$\left. - n^2\int_0^\infty \frac{1}{x}\cdot J_n(px) f(x)\,dx\right.$$

Assume $x f(x) \to 0$ as $x\to\infty$ & $x\to 0$

$$= \int_0^\infty \frac{d}{dx}\left[x\frac{d}{dx}J_n(px)\right]\cdot f(x)\,dx - n^2\int_0^\infty \frac{1}{x}\cdot J_n(px) f(x)\,dx.$$

$$= \int_0^\infty \left[x \cdot \frac{d^2}{dx^2} J_m(px) + \frac{d}{dx} J_m(px)\right] f(x)\,dx - n^2 \int_0^\infty \frac{1}{x} J_m(px) f(x)\,dx \quad (2)$$

$$= \int_0^\infty \frac{1}{x} \cdot f(x)\,dx \left[x^2 \cdot \frac{d^2}{dx^2} J_m(px) + \frac{d}{dx} J_m(px)\right] - \frac{n^2}{x^2} J_m(px)\Big]$$

$$= \int_0^\infty \frac{1}{x}\left[x^2 \cdot \frac{d^2}{dx^2} J_m(px) + \frac{d}{dx} J_m(px)\right] - \frac{n^2}{x^2} J_m(px)\Big] f(x)\,dx \quad -(1)$$

$J_m(x)$ is the solution of Bessels equation

$$x^2 \frac{d^2y}{dx^2} + x \frac{dy}{dx} + (x^2 - n^2) y = 0$$

$$\Rightarrow x^2 \frac{d^2}{dx^2} J_m(x) + x \cdot \frac{d}{dx} J_m(x) + (x^2 - n^2) J_m(x) = 0$$

Replace x by px we get

$$p^2x^2 \frac{d^2}{p^2 dx^2} J_m(px) + px \cdot \frac{d}{p\,dx} J_m(px) - n^2 J_m(px) = -p^2x^2 J_m(px \quad -(2)$$

from (1) & (2)

$$H\left\{\frac{d^2f}{dx^2} + \frac{1}{x} \cdot \frac{df}{dx} - \frac{n^2}{x} \cdot f\right\} = \int_0^\infty \frac{1}{x}\left[-p^2x^2 J_m(px)\right] f(x)\,dx$$

$$= -p^2 \int_0^\infty x J_m(px) f(x)\,dx$$

$$= -p^2 \tilde{f}_m(p)$$

$$\therefore H\left\{\frac{d^2f}{dx^2} + \frac{1}{x} \cdot \frac{df}{dx} - \frac{n^2}{x^2} \cdot f\right\} = -p^2 \tilde{f}_m(p)$$

1. Solve the following LPP by using Simplex method.

Maximize $Z = 4x_1 + 14x_2$

Subject to the constraints

$2x_1 + 7x_2 \leq 21$

$7x_1 + 2x_2 \leq 21$ & $x_1, x_2 \geq 0$.



Solution:- Given LPP is.

Maximize $Z = 4x_1 + 14x_2$

Subject to the constraints

$2x_1 + 7x_2 \leq 21$

$7x_1 + 2x_2 \leq 21$ and $x_1, x_2 \geq 0$.

Convert inequalities into equalities by introducing slack variables.

$$2x_1 + 7x_2 + 1S_1 = 21$$
$$7x_1 + 2x_2 + 1S_2 = 21$$

The objective function is $\text{Max } Z = 4x_1 + 14x_2 + 0S_1 + 0S_2$

& $x_1, x_2, S_1, S_2 \geq 0$

The matrix form of LPP is $AX = B$

i.e $\begin{bmatrix} 2 & 7 & 1 & 0 \\ 7 & 2 & 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ S_1 \\ S_2 \end{bmatrix} = \begin{bmatrix} 21 \\ 21 \end{bmatrix}$

From the basis matrix $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

Basic Solution $X_B = \begin{bmatrix} S_1 \\ S_2 \end{bmatrix}$

Initial basic solution is $X_B = B^{-1}b \Rightarrow \begin{bmatrix} S_1 \\ S_2 \end{bmatrix} = \begin{bmatrix} 21 \\ 21 \end{bmatrix}$

Initial Simplex table:

		C_j	4	14	0	0	
C_B	B	X_B	x_1	x_2	S_1	S_2	Min ratio.
0	S_1	21	2	(7)	1	0	3 ←
0	S_2	21	7	2	0	1	10.5
Z=0		$Z_j - C_j$	-4	-14	0	0	

↑

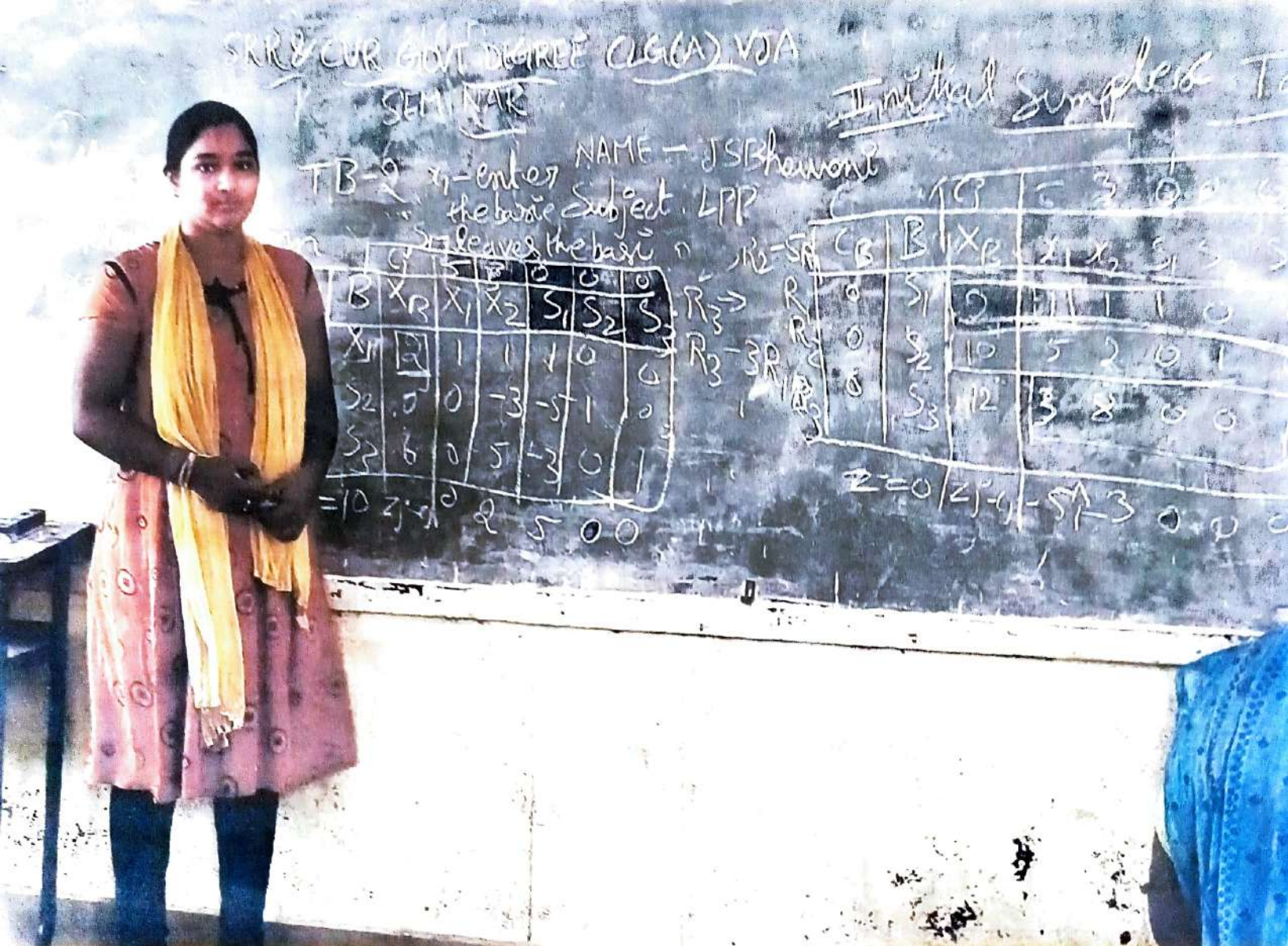
SRR & CVR Govt Degree College (A)

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Class: II M.Sc (Mathematics)

Subject: Linear Programming Problem


SNR & CUR GOVT DEGREE CLG(A) VJA
SEMINAR
NAME – JSBhawani
Initial Simplex T
TB-2
1-enter the basic Subject LPP
leaves the basic
R3->
R3-3R
R2-5R
Z=0

Solve the following LPP by simplex method

maximize $Z = 5x_1 + 3x_2$

Subject to the constraints

$$x_1 + x_2 \leq 2$$
$$5x_1 + 2x_2 \leq 10$$
$$3x_1 + 8x_2 \leq 12 \quad \text{and}$$
$$x_1, x_2 \geq 0.$$

Sol

First we have to convert the inequalities into equalities by adding slack variables

$$x_1 + x_2 + s_1 = 2$$
$$5x_1 + 2x_2 + s_2 = 10$$
$$3x_1 + 8x_2 + s_3 = 12 \quad \& \; x_1, x_2 \geq 0$$

The matrix form of the given LPP is $AX = B$

$$\begin{bmatrix} 1 & 1 & 1 & 0 & 0 \\ 5 & 2 & 0 & 1 & 0 \\ 3 & 8 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ s_1 \\ s_2 \\ s_3 \end{bmatrix} = \begin{bmatrix} 2 \\ 10 \\ 12 \end{bmatrix}$$

The initial basic matrix is $B = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

Initial basic solution is $X_B = B^{-1}b$

$$X_B = \begin{bmatrix} s_1 \\ s_2 \\ s_3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 2 \\ 10 \\ 12 \end{bmatrix} = \begin{bmatrix} 2 \\ 10 \\ 12 \end{bmatrix}$$

$$\begin{bmatrix} s_1 \\ s_2 \\ s_3 \end{bmatrix} = \begin{bmatrix} 2 \\ 10 \\ 12 \end{bmatrix}$$

The modified objective function is

$$\max Z = 5x_1 + 3x_2 + 0s_1 + 0s_2 + 0s_3$$

* SRR AND CVR GOVERNMENT DEGREE COLLEGE *

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Reg No : 201741603O4

Subject : Linear Programming Problem

SEMINAR TOPIC IN

* CONCEPT OF DUALITY - II *

Submitted To

M. Girisha Mam

Submitted by

N. Anusha

* DEGENERACY *

Resolve the Degeneracy and the solve the following LPP.

Maximize $z = 3x_1 + 9x_2$.

subject to the constraints: $x_1 + 4x_2 \leq 8$

$x_1 + 2x_2 \leq 4$, $x_1, x_2 \geq 0$

Given that Maximize $z = 3x_1 + 9x_2$

Convert inequations into Equations,

$x_1 + 4x_2 + 1S_1 = 8$

$x_1 + 2x_2 + 1S_2 = 4$

Introducing slack variables

The modified objective function

$z = 3x_1 + 9x_2 + 0S_1 + 0S_2$.



The matrix form of lpp is: $AX = B$

$$\begin{bmatrix} 1 & 4 & 1 & 0 \\ 1 & 2 & 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ s_1 \\ s_2 \end{bmatrix} = \begin{bmatrix} 8 \\ 4 \end{bmatrix}$$

The basic Matrix is in the form $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

The initial basic solution is $X_B = B^{-1}b$

$$\begin{bmatrix} s_1 \\ s_2 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 8 \\ 4 \end{bmatrix}$$

TABLE : 1

		C_j	3	9	0	0	
C_B	B	X_B	x_1	x_2	s_1	s_2	Min ratio
0	s_1	8	1	4	1	0	2
0	s_2	4	1	2	0	1	2
$z=0$		$z=z_j-c_j$	-3	-9	+0	+0	

↑

Here 'x_2' Enter the basis

Here the min ratio is not unique. This is Arises the problem degeneracy.

Rearrange the Simplex by having the basic Matrix 1st.

Degeneracy Table 1 :-

		C_j	0	0	3	9	
C_B	B	X_B	s_1	s_2	x_1	x_2	Min ratio
0	s_1	8	1	0	1	4	$8/4 = 2$ ←
0	s_2	4	0	1	1	2	$4/2 = 0.5$
$z=0$		$z=z_j-c_j$	0	0	-3	-9	

↑

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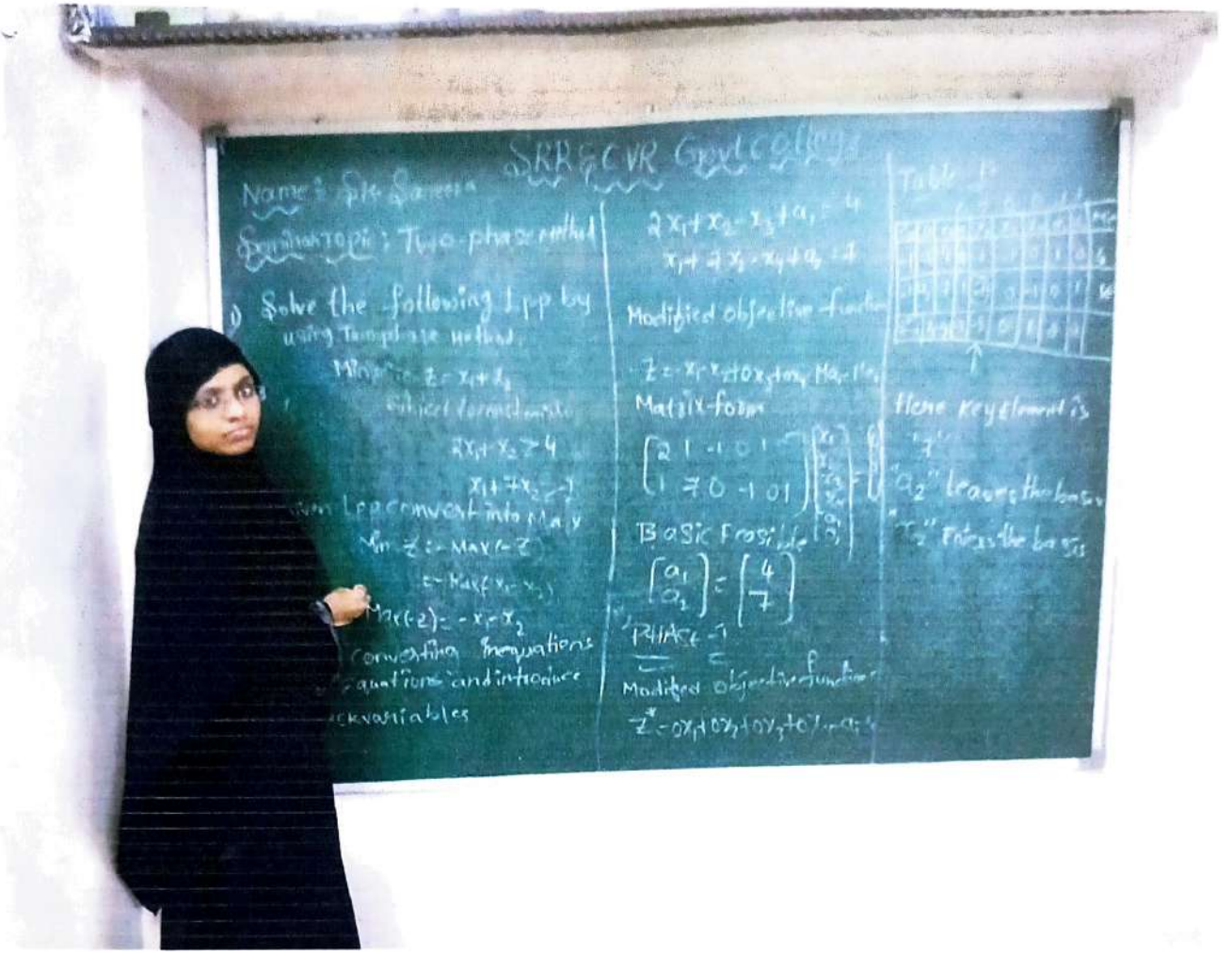
II M.SC MATHEMATICS

SEMINAR Submission

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SEMESTER	::	IV
BATCH	::	(2020 – 2022)
PAPER NAME	::	LINEAR PROGRAMMING

SUBMITTED TO : SIRISHA MADAM

SUBMITTED BY : SAMEERA



Topic: TWO-PHASE METHOD

Solve the following LPP by using Two phase method.

Minimize $z = x_1 + x_2$

Subject to the constraints

$2x_1 + x_2 \geq 4$

$x_1 + 7x_2 \geq 7$ & $x_1, x_2 \geq 0$

Sol: Given LPP is minimization convert into maximization

$\min z = -\max(-z)$

$= -\max(-x_1 - x_2)$

$-\text{Max}(-z) = -x_1 - x_2$

By converting the in Equations of the constraints into Equation

$2x_1 + x_2 - x_3 + a_1 = 4$

$x_1 + 7x_2 - x_4 + a_2 = 7$

where $x_3 \geq 0, x_4 \geq 0$ are surplus variables

where $a_1 \geq 0, a_2 \geq 0$ are artificial variables

The modified objective function is

$-Z = -x_1 - x_2 + 0x_3 + 0x_4 - Ma_1 - Ma_2$

The Matrix form of LPP is

$$\begin{bmatrix} 2 & 1 & -1 & 0 & 1 & 0 \\ 1 & 7 & 0 & -1 & 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ a_1 \\ a_2 \end{bmatrix} = \begin{bmatrix} 4 \\ 7 \end{bmatrix}$$



Define Artificial variable. If a LPP solve the LPP by using big M method

minimize $Z = 2x_1 + 3x_2$

subject to the constraints

(1) $2x_1 + x_2 \geq 10$

(2) $-3x_1 + 2x_2 \leq 6$

(3) $x_1 + x_2 \geq 6$ and $x_1, x_2 \geq 0$

Artificial variable: If all constraints are $\leq$ type then LPP provides an initial basic feasible solution, but if any one of the constraint of a LPP is $\geq$ or $=$, then a non-negative variable is to be added to the left hand side of the constraint to form an initial basic feasible solution is called an "Artificial variable."

solution: Given problem is minimization so we converting minimum to maximum by $[\min Z = -\max(-Z)]$

$$\max(-Z) = -2x_1 - 3x_2$$

By converting the inequalities constraints to equations.

$$2x_1 + x_2 - s_1 + a_1 = 10$$

$$-3x_1 + 2x_2 + s_1 = 6$$

$$x_1 + x_2 - s_2 + a_2 = 6$$

The objective function is

$$-Z = -2x_1 - 3x_2 + 0x_3 + 0x_4 + 0s_1 - Ma_1 - Ma_2$$

The matrix form of LPP is $AX = B$

$$\begin{bmatrix} 2 & 1 & -1 & 1 & 0 & 0 & 0 \\ -3 & 2 & 0 & 0 & 1 & 0 & 0 \\ 1 & 1 & 0 & 0 & 1 & 0 & -1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ s_1 \\ a_1 \\ a_2 \end{bmatrix} = \begin{bmatrix} 10 \\ 6 \\ 6 \end{bmatrix}$$

Basic matrix $B = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

Basis solution $x_B = B^{-1}b \rightarrow \begin{bmatrix} a_1 \\ s_1 \\ a_2 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 10 \\ 6 \\ 6 \end{bmatrix}$

Initial simplex table:-

	C_j		-4	-3	0	0	-M	0	-M	
C_B	B	X_B	x_1	x_2	x_3	x_4	a_1	s_1	a_2	min ratio
-M	a_1	10	[2]	1	-1	0	1	0	0	← 5
0	s_1	6	-3	2	0	0	0	1	0	-
-M	a_2	6	1	1	0	-1	0	0	1	6
$-Z = -16M$		$Z_j - C_j$	$-3M+4$	$-2M+3$	M	M	0	0	0	

↑

Here 2 is the key element. x_1 - enter the basis and a_1 leave the basis.

a_1 deleted from the entire simplex column

$R_1 \rightarrow R_1/2$, $R_2 \rightarrow R_2 + 3R_1$, $R_3 \rightarrow R_3 - R_1$

Simplex Table-2:

	C_j		-4	-3	0	0	0	-M	
C_B	B	X_B	x_1	x_2	x_3	x_4	s_1	a_2	min ratio
-4	x_1	5	1	1/2	-1/2	0	0	0	10
0	s_1	21	0	7/2	-3/2	0	1	0	6
-M	a_2	1	0	[1/2]	1/2	-1	0	1	← 2
$-Z = -20M$		$Z_j - C_j$	0	$-\frac{M}{2}+1$	$-\frac{M}{2}+2$	M	0	0	

↑

SPREC GOVT. DEGREE COLLEGE (A)

SEMINAR.

NAME: H. Tanuja

Reg. No: 201741160307

subject: LPP

class: II MSC.

TOPIC: Assignment problem.

Submitted To

Sirisha Mam

submitted by

H. Tanuja.

Travelling sales man

A sales man has to visit 5 cities the distance in miles b/w the 5 cities are given below.

From \ To	1	2	3	4	5
1	∞	6	12	6	4
2	6	∞	10	5	4
3	8	2	∞	11	3
4	5	4	11	∞	5
5	5	2	7	8	∞

If the sales man start from city one has to compared to city 1. which route should he select so that the total distance traveled is minimum.

let dij = ∞ for i=j

	1	2	3	4	5
1	∞	2	8	2	0
2	2	∞	6	1	0
3	5	1	∞	8	0
4	1	0	7	∞	1
5	3	0	5	6	∞

By subtracting the smallest element of each row from all the element of the corresponding row we get the following cost reduce matrix.



	1	2	3	4	5
1	∞	2	3	1	0
2	1	∞	1	0	0
3	4	4	∞	7	0
4	0	0	2	∞	1
5	2	0	0	5	∞

By subtracting the smallest element of the each column all the element of the corresponding column we get reduced cost matrix.

	1	2	3	4	5
1	∞	2	3	1	[0]
2	1	∞	1	[0]	⊗
3	4	4	∞	7	⊗
4	[0]	⊗	2	∞	1
5	2	[0]	⊗	5	∞

Examine the from an optimam examine all the three rows 1 x 1 strating with 1st row, if it is single '0' available in the the we assign i.e encircle '0 with □ and cancel all other zeros in its column. Ily examine as above

Chain of marking needed & drawing straight line

mark the 3rd row which has no assignment, mark the 5th column which has zero in the marked row (3rd) Mark the 1st row which assignment in marked column. Draw the straight line for un marked rows & marked column.

	1	2	3	4	5
1	∞	2	3	1	[0]
2	+	∞	+	[0]	⊗
3	4	4	∞	7	⊗
4	⊗	⊗	2	∞	1
5	2	[0]	⊗	5	∞

✓ ✓ ✓

	1	2	3	4	5
1	∞	[0]	1	⊗	[0]
2	⊗	∞	⊗	[0]	1
3	2	2	∞	6	[0]
4	[0]	⊗	2	∞	3
5	2	⊗	[0]	6	∞

Now select a minimum cost among the uncovered element in straigh line line.

i.e 2. add '2' at intersection subsitu 2 to.r each uncovered element remaing element on the straigh line.

There are 5 assignment

∴ The optimum soln is

1→2, 2→4, 3→5, 4→1, 5→3.

min distance = 26 miles.

This assignment schedule is not minimum for travelling salesmen problem.

Since he should cover all the places once & complete 1st place. But 1→2→4→1

i.e it doesn't covers the places 3 & 5

To achive this we select the next minimum non-zero element in the matrix the new minimum non-zero element is 1. But it occurs at two places i.e (1,3) & (2,5)

we chih (1,3) → (5,2)

	1	2	3	4	5
1	∞	⊗	[1]	⊗	⊗
2	⊗	∞	⊗	[0]	1
3	2	2	∞	6	[0]
4	[0]	⊗	2	∞	3
5	2	[0]	⊗	5	∞

Now the soln 1→3, 2→4, 3→5, 4→1, 5→2.

i.e 1→3→5→2→4→1

∴ In this case the optimum soln is achieved.

minimum is 12+5+3+5+2=27 miles.

Explain VAM Method

Solve the following transportation by Considering the IBFS by VAM.

	M_1	M_2	M_3	M_4	supply
A	6	3	5	4	22
B	5	9	2	7	15
C	5	7	8	6	8
demand	7	12	17	9	

a) VOGEL'S Approximation method

Step-1 :- check whether $\sum_{i=1}^{m} a_i = \sum_{j=1}^{n} b_j$ If not introduce a dummy origin or a dummy destination with the transportation cost '0' so that they are equal

Step-2 :- Identify smallest and next smallest cost in each row and in each column of the transportation table determine diffrence b/w the smallest and next smallest cost for each row and column called penalities and write them in the paranthesis and write them in the paranthesis against the respective row's and columns

	H_1	H_2	H_3	H_4		
A	6	12	3	5	4	22 (10) (1)
B	5	9	2	7	1 5	(3)
C	5	7	8	6	8	(1)
	7	12 (6)	17	9		
	(1)	(4)	(3)	(2)		

The largest penalty is (4) in the TP table Corresponding rows the min cost in the B H_2 in the cell (1,2)

H_2 get eliminated.

Table-2:-

	H_1	H_3	H_4	
A	6	5	4	(0) (1)
B	5	15 2	7	16 (3)
C	5	8	6	8 (1)
	(7)	17 (2)	9	
	(1)	8)	(2)	

The largest penalty is (3) in the TP table Corresponding rows the min cost in the B is in the cell (2,3)

∴ B get eliminated.

Table-3

	H_1	H_3	H_4	
A	6	5	4	8 10 (1)
C	5	8	6	8 (1)
	7	2 (0)	9	
	(1)	(3)	2	

The largest penalty is (3) in the TP table Corresponding column H_3 the Min cost in the

x_{13} = min (2,10) = 2

∴ H_3 gets Cancelled.

	M_1	M_4	
A	6	8 (4)	8 (0) 2
C	5	6	8 (1)
	7	9 (1)	
	(1)	(2)	

The largest penalty is (2) in the TP table corresponding row A

The min cost in the A is 4 in cell (1,4)

$x_{14} = \min(8,9) = 8$

∴ A gets cancelled

Table-5

	M_1	M_4	
C	7 5	1 6	8 (0) (0)
	7 (6)		1 (0)

The largest penalty in the TP corresponding column M_4

The min cost in M_4 is 6 in the cell (3,4)

$x_{34} = \min(8,1) = 1$

∴ M_4 Cancelled

∴ All the rim requirements are satisfied

The initial basic feasible solution is

$x_{12} = 12,\ x_{23} = 15,\ x_{13} = 2,\ x_{14} = 8,\ x_{34} = 1,\ x_{31} = 7$

The total cost of TP as given by

$$Z = \sum_{i=1}^{3} \sum_{j=1}^{4} x_{ij}, c_{ij}$$

$= 12 \times 3 + 15 \times 2 + 2 \times 5 + 8 \times 4 + 7 \times 5 + 1 \times 6$

$= 36 + 30 + 10 + 32 + 35 + 6$

$= 149$

$Z = 149$ Rs/-

SRR & CVR GOVT DEGREE COLLEGE(A)

DEPARTMENT OF MATHEMATICS

SEMINAR

LINEAR PROGRAMMING PROBLEMS

SUBMITTED TO M.V.L.SIRISHA MADAM

NAME :- K.NANDINI

CLASS :- 2nd M.SC(MATHS)

SUBJECT :- LINEAR PROGRAMMING PROBLEMS

R.NO :- 20174160313

Find the optimal solution to the following Transportation Problem obtaining the initial basic feasible soln by VAM method



	D_1	D_2	D_3	D_4	Supply
S_1	19	30	50	10	7
S_2	70	30	40	60	9
S_3	40	8	70	20	18
Demand	5	8	7	14	

Soln:- The Initial basic feasible soln by using VAM is

	D_1	D_2	D_3	D_4	
S_1	[5] 19	30	50	[2] 10	7
S_2	70	30	[7] 40	[2] 60	9
S_3	40	[8] 8	70	[10] 20	18
	5	8	7	14	

IP-1:- The largest penality is (2,2) in the IP table-1 corresponding column D_2.

The minimum cost in the D_2 is 8

in the cell (3,2)

$x_{32} = \min(8, 18) = 8$

$\therefore D_2$ Cancelled.

Iter 2:- The largest penality is (21) in the table-2 corresponding column D_1.

The min cost in the D_1 is 5 in the cell (1,1)

$x_{11} = \min(5, 7) = 5$

$\therefore D_1$ Cancelled.

Iter 3:- The largest penality is (50) in table-3 corresponding row S_3.

The min cost in the S_3 is 10 in the cell (3,4)

$x_{34} = \min(10, 14) = 10$

$\therefore S_3$ Cancelled.

Iter 4:- The largest penality is (50) in table-4 corresponding row S_1.

The min cost in the S_1 is 2 in the cell (1,4)

$x_{14} = \min(2, 4) = 2.$

$\therefore S_1$ Cancelled

$x_{32} = 8,\ x_{11} = 5,\ x_{34} = 10,\ x_{14} = 2,\ x_{23} = 7,\ x_{24} = 2.$

	D_1	D_2	D_3	D_4		
S_1	[5] 19	30	50	[2] 10	7	$u_1 = 0$
S_2	70	30	[7] 40	[2] 60	9	$u_2 = 50$
S_3	[5] 40	[8] 8	70	[10] 20	18	$u_3 = 10$
	5	8	7	14		

$v_1 = 19$ $v_2 = -2$ $v_3 = 10$ $v_4 = 10$

Calculation of u_i & v_j for basic cells:-

$(1,1)$ is basic cell

$u_1 + v_1 = c_{11}$

$0 + v_1 = 19$

$\Rightarrow v_1 = 19$

$(1,4)$ is basic cell

$u_1 + v_4 = 10$

$0 + v_4 = 10$

$\Rightarrow v_4 = 10$

$(2,3)$ is a basic cell

$u_2 + v_3 = 40$

$50 + v_3 = 40$

$\Rightarrow v_3 = -10$

$(2,4)$ is a basic cell

$u_2 + v_4 = 60$

$u_2 + 10 = 60$

$\Rightarrow u_2 = 50$

$(3,2)$ is a basic cell

$u_3 + v_2 = 8$

$10 + v_2 = 8$

$v_2 = -2$

$(3,4)$ is a basic cell

$u_3 + v_4 = 20$

$u_3 + 10 = 20$

$\Rightarrow u_3 = 10$

Calculating Net evaluation :-

$(1,2)$ is non-basic cell

$z_{12} - c_{12} = u_1 + v_2 - c_{12}$

$= 0 - 2 - 30$

$= -32$

$(1,3)$ is non-basic cell

$z_{13} - c_{13} = u_1 + v_3 - c_{13}$

$= 0 - 10 - 50$

$= -60$

$(2,1)$ is non-basic cell

$z_{21} - c_{21} = u_2 + v_1 - c_{21}$

$= 50 + 19 - 70$

$= -1$

$(2,2)$ is non-basic cell

$z_{22} - c_{22} = u_2 + v_2 - c_{22}$

$= 50 - 2 - 30$

$= 18$

$(3,1)$ is non basic cell

$\theta_{31} = c_{31} - u_3 - v_1 = (8)$

$= 10 + 19 - 40$

$= -11$

$(3,3)$ is non basic cell

$\theta_{33} = c_{33} - u_3 + v_3$

$= 10 - 10 - 70$

$= -70$

There are some +ve net evaluation then max $\{11, 9\} = 18$.

The cell $(2,2)$ entered the basis and loop begins from cell $(2,2)$ and connecting sum of the basic cells and ends at the same cell $(2,2)$, we get.

	D_1	D_2	D_3	D_4
S_1	[5] 19	(-32) 30	(60) 50	[2] 10
S_2	(-1) [θ] 70	(18) [7] 30	40	[2] 60
S_3	(-11) [8] 40	-θ 8	(-70) [10] 70	θ 20

$\theta = \min \{$ quantities negative sings of the loop $\}$

$\theta = \min \{2, 8\} = 2$

	D_1	D_2	D_3	D_4	
S_1	[5] 19	30	50	[2] 10	$u_1 = 0$
S_2	70	[2] 30	[7] 40	60	$u_2 = 32$
S_3	40	[6] 8	70	[12] 20	$u_3 = 10$
	$v_1 = 19$	$v_2 = 2$	$v_3 = 8$	$v_4 = 10$	

Calculation of basic cells u_i & v_j :-

$(1,1)$ is a basic cell

$u_1 + v_1 = c_{11}$

$0 + v_1 = 19$

$\Rightarrow v_1 = 19$

$(1,4)$ is basic cell

$u_1 + v_4 = c_{14}$

$0 + v_4 = 10$

$\Rightarrow v_4 = 10$

$(2,2)$ is basic cell

$u_2 + v_2 = c_{22}$

$u_2 + v_2 = 30$

$u_2 - 2 = 30 \Rightarrow u_2 = 32$

$(2,3)$ is basic cell

$u_2 + v_3 = c_{23}$

$32 + v_3 = 40$

$\Rightarrow v_3 = 8$

$(3,2)$ is basic cell

$u_3 + v_2 = 8$

$10 + v_2 = 8$

$\Rightarrow v_2 = -2$

$(3,2)$ is basic cell

$u_3 + v_4 = 20$

$u_3 + 10 = 20$

$\Rightarrow u_3 = 10$

Calculation of net evaluations :-

$(1,2)$ is non basic cell

$u_2 + v_2 - c_{12} = 0 + 2 - 30$

$= -32$

$(1,3)$ is a n-b cell

$u_1 + v_3 - 50$

$8 - 50 = -u_2$

$(2,1)$ is a non b.cell

$u_2 + v_1 - 70$

$32 + 19 - 70 = -19$

$(2,4)$ is non-basic cell

$u_2 + v_4 - 60$

$32 + 0 - 60 = -18$

$(3,1)$ is a n-b cell

$u_3 + v_1 - 40$

$10 + 19 - 40 = -11$

$(3,3)$ is a non basic cell

$u_3 + v_3 - 70$

$10 + 8 - 70 = -52$

Therfore all net evaluation $z_{ij} - c_{ij} \leq 0$.

Therfore the current soln is optimum soln.

$x_{11} = 5,\ x_{14} = 2,\ x_{22} = 20,\ x_{23} = 7,\ x_{32} = 6,\ x_{34} = 12.$

Therfore the minimum transportation cost is $z = \sum_{i=1}^{m} \sum_{j=1}^{n} z_{ij} c_{ij}$

$z = 5 \times 19 + 2 \times 10 + 2 \times 30 + 7 \times 40 + 6 \times 8 + 12 \times 20$

$\therefore z = 743$ Rs/

SRR & CVR GOVERNMENT DEGREE COLLEGE
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II M.SC MATHEMATICS

Assignment Paper Submission

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SEMESTER	::	IV
BATCH	::	
PAPER NAME	::	linear programming prob.
ASSINGMENT NO.	::	seminar.

SUBMITTED TO :

M.L.V Sirisha mam

SUBMITTED BY :

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1) Find the assignment of salesman to various cities which maximises the total profit.

	I	II	III	IV
A	42	35	28	21
B	30	25	20	15
C	30	25	20	15
D	24	20	16	12

Solution:

Step1: Convert the given profit matrix into loss matrix by subtracting all the elements from the highest element (42) in the given matrix. we get

	I	II	III	IV
A	0	7	14	21
B	12	17	22	27
C	12	17	22	27
D	18	22	26	30

Step2: Given matrix is square matrix. By subtracting the smallest element of each row from all the elements of the corresponding row we get the following reduced cost matrix.

	I	II	III	IV
A	0	7	14	21
B	0	5	10	15
C	0	5	10	15
D	0	4	8	12

Step3: By subtracting the smallest element of each column from all the elements of the corresponding column. we get the following reduced cost matrix.

I	II	III	IV
0	3	6	9
0	1	2	3
0	1	2	3
0	0	0	0

assignment examine all the rows one by one starting with the first row. if a single zero is available in the row, then assigned i.e encircle with '□' & cancel all other zero in its column.

similarly examine the column so that assigned zero with '□' & cancel all the other zero's in its row. we get

I	II	III	IV
0	3	6	9
0	1	2	3
0	1	2	3
0	0	0	0

steps: Here the no. of assignments ≠ no. of rows (or) no. of col. hence chain of making is needed.

□	3	6	9	
~~0~~	1	2	3	✓
0	1	2	3	✓
0	□	0	0	
✓				

steps:
Here only two assignments could be possible. Now drawing minimum no. of lines covering all positive zero. Following the procedure of Row of columns lines on unmarked row & marked columns we get

□	3	6	9	
0	1	2	3	✓
0	1	2	3	✓
0	□	0	0	
✓				

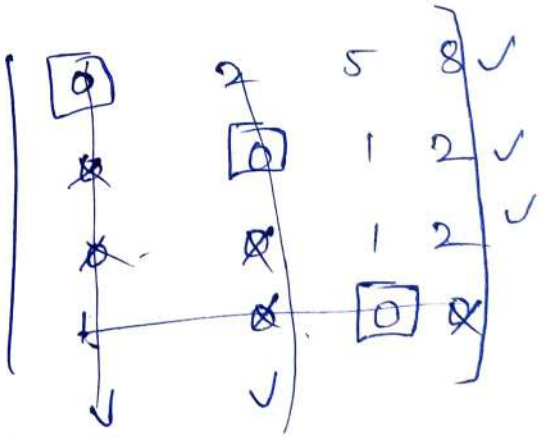
step 7: Modify the reduced matrix by subtracting the smallest element 1 from all the elements not covered by lines and adding the same at the intersection of the two lines we get

I	II	III	IV
0	2	5	8
0	0	1	2
0	0	1	2
1	0	0	0

step 8: Making the fresh assignments (Rows & columns simultaneously following the same procedure as above we get

I	II	III	IV
[0]	2	5	8
~~0~~	[0]	1	2
~~0~~	~~0~~	1	2
~~1~~	0	[0]	0

step 9:- only three assignments could be made so still the optimum solution is not reached. To create one more zero. Following the started the above procedure we get



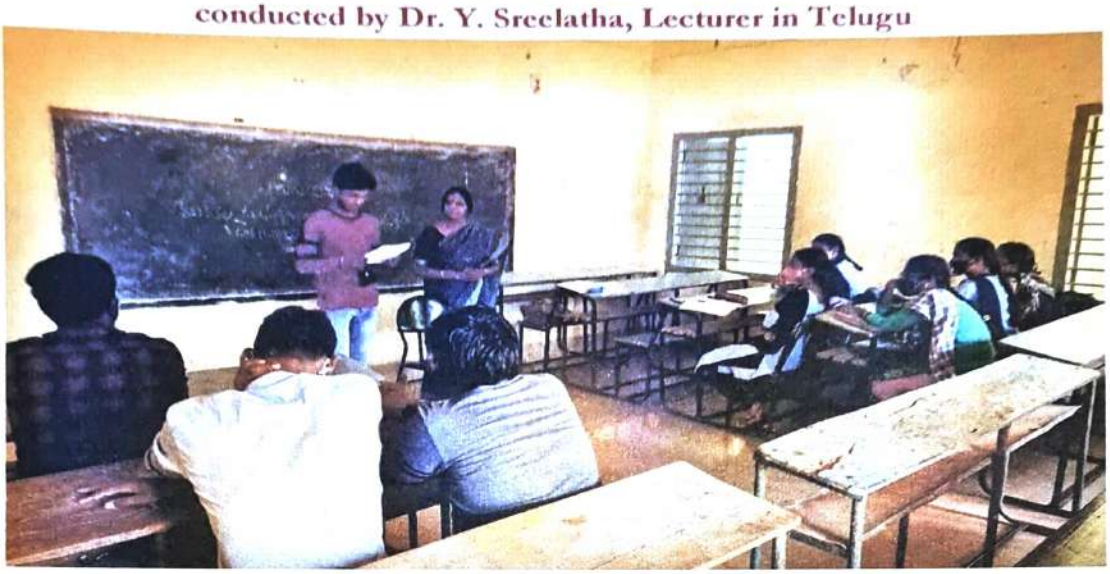
→ Modify further the reduced matrix by subtracting element 1. from all elements not covered by the lines adding the same at the intersection of two lines we get

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Department of Telugu

Class Room Activities - 2021-22

conducted by Dr. Y. Sreelatha, Lecturer in Telugu



Student Seminar on 09.11.2021

Topic: Duvvuri Ramireddy

కర్షక కవి దువ్వూరి రామిరెడ్డి దయంతిని పురస్కరించుకొని తేదీ: 9/11/21 న తరగతి గది సెమినార్ నిర్వహించబడింది. II BSc(DSCS) ఫుల్ టైమ్ సెమిస్టర్ విద్యార్థులకు ఏర్పాటు చేసిన ఈ కార్యక్రమంలో విద్యార్థి A. యశ్వంత్ దువ్వూరి రామిరెడ్డిపై ఇంటర్నెట్ ఆధారంగా సమాచారం సేకరించి పత్ర సమర్పణ చేశాడు. తన ప్రసంగంలో దువ్వూరి కవి జీవిత విశేషాలు, కవిత్వ విశిష్టతను ఉదాహరణలతో చక్కగా వివరించాడు. అనంతరం సెమినార్ అంశంపై పలు విద్యార్థులు అడిగిన సందేహాలకు విద్యార్థి A. యశ్వంత్ సమాధానాలు ఇచ్చాడు.

కార్యక్రమ నిర్వహణ: Y. Sreelatha 09/11/2021

(డాక్టర్ వై. శ్రీలత, తెలుగు అధ్యాపకురాలు)

పాల్గొన్న విద్యార్థి: A. Yaswanth II BSc(DSCS)

దువ్వూరి రామిరెడ్డి

వికీపీడియా నుండి

దువ్వూరి రామిరెడ్డి (నవంబర్ 9, 1895 - సెప్టెంబర్ 11, 1947) రైతు కవి.[1] ఆధునిక తెలుగు సాహిత్యంలో ప్రత్యేకంగా పరిచయం అక్కర్లేని పేరు దువ్వూరి రామిరెడ్డి. 'కవి కోకిల' మకుటాన్ని ఇంటిపేరులో ఇముడ్చుకున్న దువ్వూరి శైలి తెలుగు సాహిత్యంలో నవోన్మేషణమై నలుదిశలా వెలుగులు ప్రసరించింది. కలకండ వంటి కమ్మని కావ్యాలు, పలకరిస్తే అశుధారాపాతంగా జాలువారే పద్యపూరిత ప్రబంధాలే కాకుండా సంస్కృత, అరబిక్ భాషల నుంచి ఎన్నో పుస్తకాలను ఆంధ్రీకరించిన నవ్యరీతి దువ్వూరి ప్రత్యేకం. కేవలం కవిగానే కాకుండా గొప్ప విమర్శకులుగా కూడా సమానమైన ఖ్యాతి గడించారాయన. దువ్వూరి కలం నుంచి జాలువారిన సాహితీ సౌందర్యం గురించి వర్ణించి చెప్పడం కష్టం. మచ్చుకు ఒక్క రచన చదివితే తప్పించి ఆయన లోతైన అంతరంగం ఆవిష్కరించడం అంత సులభం కాదు. మృదు మధురమైన మాటలు, గంభీరమైన శైలి, అన్నిటికీ మించి ఆ రచనా చాతుర్యం చదువరులను ముగ్ధలను చేస్తాయి. కళ్ళను అక్షరాల వెంట పరుగులెత్తిస్తాయి. చెప్పవలసిన విషయాన్ని సూటిగా, నాటుకునేటట్లు చెప్పడం వల్ల దువ్వూరి విమర్శలు ఆనాటి యువతలో ఆలోచనాత్మకథోరణిని రేకెత్తించాయి. కవి, విమర్శకులుగానే కాకుండా న్యాయవాదిగా, నాటక రచయితగా, 'చిత్ర నళీయం' చలనచిత్ర సృష్టికర్తగా బహుముఖ కోణాల్లో ప్రతిభను చాటుకోవడం వల్ల దువ్వూరి పేరు సాహితీ పుటల్లో శాశ్వతస్థానం సంపాదించుకుంది. బహుభాషా కోవిదునిగా సంప్రదాయ రీతులను మిళితం చేసి కొత్తతరానికి సాహితీ బాటలు వేసిన దువ్వూరి, ఆధునికాంధ్ర కవుల్లో దువ్వూరి ముందు వరుసలో వుంటారని నిస్సందేహంగా చెప్పుకోవచ్చు.

దువ్వూరి రామిరెడ్డి.



దువ్వూరి రామిరెడ్డి

జననం	దువ్వూరి రామిరెడ్డి. నవంబర్ 9, 1895 శ్రీ పొట్టి శ్రీరాములు నెల్లూరు జిల్లా, గూడూరు
మరణం	ఏప్రియల్ 11, 1947
ఇతర పేర్లు	**కవికోకిల** "సింహపురి సిరి"
ప్రసిద్ధి	రైతు, కవి
సంతకం	

విషయాలు

- జీవిత విశేషాలు
- రచన లు
- సినిమారంగం
- సన్మానాలు
- మూలాలు, వనరులు
- బయటి లింకులు

జీవిత విశేషాలు

దువ్వూరి రామిరెడ్డి (నవంబర్ 9, 1895 -- సెప్టెంబర్ 11, 1947) **కవికోకిల** అని ప్రసిద్ధుడైన తెలుగు కవి. రైతు కవి అయిన ఇతనిని "సింహపురి సిరి"గా పండితులు కొనియాడారు. దువ్వూరి రామిరెడ్డి ప్రస్తుత శ్రీ పొట్టి శ్రీరాములు నెల్లూరు జిల్లా, గూడూరులో 09-11-1895న జన్మించాడు. 23 సంవత్సరాలనాటికే ఎన్నో రచనలు చేశాడు. స్వయంకృషితోనే అనేక భాషలలో పండితుడయ్యాడు. 11-09-1947న మరణించాడు.

రచన లు

- వన కుమారి
- కృషీవలుడు (1924) - వ్యవసాయదారుని గురించిన పద్యకావ్యం.
- పానశాల (1926) - ఉమర్ ఖయ్యామ్ రచించిన రుబాయిత్‌కు స్వేచ్ఛాతెలుగు సేత. ఇది దువ్వూరి రామిరెడ్డి రచనలన్నింటిలోను ప్రసిద్ధము.
- రసిక జనానందము (ప్రబంధం)
- స్వప్నాశ్లేషము (ప్రబంధం)
- అహల్యానురాగాలు (ప్రబంధం)
- కృష్ణరయబారము (ప్రబంధం)
- నలజారమ్మ (కావ్యం)
- కర్షక విలాసం (నాటకం)
- మాతృశతకం
- జలదాంగన (నాటకం)
- యువక స్వప్నము (నాటకం)
- కడపటి వీడికోలు (నాటకం)
- సీతా వనవాసం (నాటకం)
- కుంభరాణా (నాటకం)
- మాధవ విజయం (నాటకం)
- నక్షత్రమాల
- నైవేద్యము
- కవిత్వతత్త్వ నిరూపణము

రచనలనుండి ఉదాహరణలు

గనిమల తుంగకున్ గటికకాడల కల్గిన సాలెగూళ్ళ స
న్నని పటికంపుమంచు పడి నాణెపు ముత్తెసరాల పోలికం
గనుగొన రమ్యమయ్యె రవికాంతుల దేలుచు, నిట్టి భావమో
హనపు నిసర్గశిల్పముల, హాలిక, త్రొక్కక దాటిపొమ్మికన్ . -- (కృషీవలుడు)

అంతము లేని యీ భువనమంత పురాతన పాంథశాల, వి
శ్రాంతి గృహంబు, నందు నిరుసంజలు రంగుల వాకిళుల్, ధరా
క్రాంతలు పాదుషాలు, బహురామ్ జమిషీడులు వేనవేలుగా
గొంత సుఖించి పోయిరెటకో పెరవారికి చోటొసంగుచున్ -- (పానశాల)

గతము గతంబె యెన్నటికి కన్నులగట్టదు, సంశయాంధ సం

వృతము భవిష్యదర్థము, వివేకవతీ! ఒక వర్తమానమే
సతతమవశ్యభోగ్యమగు సంపద, రమ్ము విషాదపాత్రకీ
మతమున తావులేదు క్షణమాత్ర వహింపుము పానపాత్రికన్ -- (పానశాల)

సినిమారంగం

ఇతడు 1936లో సతీతులసి చిత్రానికి రచయితగా సినిమారంగ ప్రవేశం చేశాడు. చిత్రనళీయం సినిమాకు రచనతోపాటు దర్శకత్వం కూడా చేపట్టి సినీదర్శకుడైన మొదటి తెలుగుకవి అనే ఘనతను సాధించాడు. తరువాత తిరుపతి వేంకటేశ్వర మాహాత్మ్యం, పార్వతీ పరిణయము చిత్రాలకు కొన్ని పాటలను, పద్యాలను వ్రాశాడు. చివరగా సీతారామ జననం సినిమాకు మాటలను సమకూర్చాడు[2].

సన్మానాలు

- 1917లో, అనగా ఇతని 22వ యేటనే, సి.ఆర్. రెడ్డి అధ్యక్షతన జరిగిన ఒక సభలో స్వర్ణపతకం బహూకరించారు
- 1918లో ఇతని కావ్యం "వనకుమారి", విజయనగరం మహారాజు ఆస్థానంలోని కావ్యస్పర్ధలో ప్రథమ స్థానం పొందింది.
- 1929లో విజయవాడ ఆంధ్రమహాసభ ద్వారా **కవికోకిల** బిరుదు ప్రధానం

మూలాలు, వనరులు

1. "సాహితీ లోకంలో 'కవి కోకిల' - కె.వి. నాగేశ్వరరావు" (https://web.archive.org/web/20180824063749/http://www.andhrajyothy.com/artical?SID=46288&SupID=26). Archived from the original (http://www.andhrajyothy.com/artical?SID=46288&SupID=26) on 2018-08-24.
2. పైడిపాల (2010). "కనిపించని కవి వినిపించిన పాట". తెలుగు సినీగేయకవుల చరిత్ర (ప్రథమ ed.). చెన్నై: స్నేహ ప్రచురణలు. p. 40.

- శత వసంత సాహితీ మంజీరాలు - ప్రచురణ: ఆంధ్ర ప్రదేశ్ గ్రంథాలయ సంఘం, విజయవాడ (2002) - ఇందులో "పానశాల" గురించిన ఉపన్యాసం వ్రాసినవారు కోట రాజశేఖర్.

బయటి లింకులు

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Authority control	WorldCat Identities (https://www.worldcat.org/identities/containsVIAFID/26063125) · VIAF: 26063125 (https://viaf.org/viaf/26063125) · LCCN: n85337630 (http://id.loc.gov/authorities/names/n85337630) · ISNI: 0000 0000 2854 4481 (http://isni.org/isni/0000000028544481)

"https://te.wikipedia.org/w/index.php?title=దువ్వూరి_రామిరెడ్డి&oldid=3604967" నుండి వెలికితీశారు

ఈ పేజీలో చివరి మార్పు 22 జూలై 2022న 06:42కు జరిగింది.

పాఠ్యం క్రియేటివ్ కామన్స్ అట్రిబ్యూషన్/షేర్-ఎలైక్ లైసెన్సు; క్రింద లభ్యం అదనపు షరతులు వర్తించవచ్చు. మరిన్ని వివరాలకు వాడుక నియమాలను చూడండి.

09/11/2021

విద్యార్థి సదుస్సులో పాల్గొన్న విద్యార్థులు

క్ర.సంఖ్య	విద్యార్థి/విద్యార్థిని పేరు	గుంపు	సంతకం.
01	యం. యుగంధర	II BSc (DSCS)	yugandhar
02	ఏ. యశ్వంత	II BSc (DSCS)	A yaswanth
03	బి. శివ నాగేంద్ర బాబు	II BSc (DSCS)	B. Shiva N
04	కె. ప్రియంవదం	II BSc (DSCS)	K. Priyatham
05	కె. కిరణ్	II BSc (DSCS)	K. kiran
06	ఎల్. శ్రీనాథ్	II BSc (DSCS)	L. Srinath
07	యం. ఈశ్వర్ సాయి	II BSc (DSCS)	ఈశ్వర్ సాయి
08	బి. సుమతి	II BSc (FMB)	Sumathi.
09	బి. సిద్ధికర్	II BSc (FMB)	B Sid..

SRR & CVR GOVT. DEGREE COLLEGE(A), VIJAYAWADA

Department of Telugu

Class Room Activities - 2021-22

conducted by Dr. Y. Sreelatha, Lecturer in Telugu



Student Seminar on 21.06.2022

II BA HET సెమిస్టర్ IV విద్యార్థులకు తేదీ: 21/06/2022 న విద్యార్థి సదస్సు నిర్వహించబడింది. ఈ కార్యక్రమంలో విద్యార్థిని P. రత్నకుమారి "ఆధునిక కవిత్వ లక్షణాలు" అనే అంశాన్ని ప్రసంగించింది. ఆధునిక కవిత్వ లక్షణాలైన భిన్నదృక్పథ ప్రక్రియ, విలక్షణశ్రేయోరీతి, వస్తు నవ్యత, భావ నవ్యత, శైలీ నవ్యత, కవితా రచనలో నవ్యత మొదలైన అంశాలను వివరించింది. వీటి లక్షణాలకు సంబంధించిన ఉదాహరణలు ప్రస్తావిస్తూ సభా విద్యార్థులు అడిగిన ప్రశ్నలు, సందేహాలకు సమాధానాలు అందించింది.

కార్యక్రమ నిర్వాహకులు: Y. శ్రీలత 21/06/2022

(డా॥ వై. శ్రీలత), తెలుగు అధ్యాపకులు

పాల్గొన్న విద్యార్థిని: P. రత్నకుమారి - P. Ratnakumari

II BA HET

P. Rathanakumari
Group: 2nd BA (HET)
Admin No. 5716

ఛాందస కవిత్వ లక్షణాలు

ఛాందస సాహిత్యాన్ని నవ్య సాహిత్యం, అభినవ సాహిత్యం అని - కూడా పిలిచేవారు. కాని 'ఛాందస' కాని 1875 నుంచి - ఛాందస యుగం ప్రారంభమైందని చెప్పవీలుచ్చు. అప్పటి నుంచి - వెలువడిన సాహిత్యాన్ని ఛాందస సాహిత్యం అంటున్నారు.

అయితే ఛాందస భావాలు గలవా ఛాందస సాహిత్యం - అవుతుందనీ, ఛాందస కాలంలో వెలువడినంత మాత్రాన పురాణాలు, పద్య కావ్యాలు వంటివి ఛాందస సాహిత్యం ఎలా అవుతాయి? అని కొందరు ప్రశ్నిస్తున్నారు. అటువంటివారు ఛాందస యుగంలో 'సంప్రదాయ సాహిత్యం' గా వాటిని పేర్కొని - వదిలి ఉంటున్నారు. మొత్తం మీద 'ఛాందస' అనే పదం - కాలానికి, స్వభావానికి వాడుతున్నాం. పంతొమ్మిదో శతాబ్దం - నుంచి వెలువడిన సాహిత్యమే ఛాందస సాహిత్యం - అని - చెప్పుకోవచ్చు.

ఛాందస కవిత్వ లక్షణాలు

సి. నారాయణ రెడ్డి "ఛాందస కావ్య కవిత్వము - సంప్రదాయ - ములు - ప్రయోగములు" అనే సిద్ధాంత గ్రంథంలో ఛాందస - కవిత్వ లక్షణాలను సవివరంగా వివరించారు.

(1) ఖండ కావ్య ప్రక్రియ: 19వ శతాబ్దానికి ముందు ఖండ కావ్యాలు - లేవు. పత్రికలకి ప్రబంధాలంటి పెద్ద కావ్యాలు ప్రచు - రించి వీలు లేకపోవడం, ఛాంగ్ల కవిత్వంలో మంచి ఖండ కావ్యాలుండటం, చిన్న కావ్యాలు రాయడం, చదవడం -

కొత్తగా - సుఖంగా ఉండటంవల్ల శిథిల కావ్యాలు - మనవడ్డాయి. చిన్న కథ లేదా వికసిత స్వాశ్రయం గలది - శిథిల కావ్యం.

(2) శిథిలాశ్రయ రీతి :- ప్రాచీనులు నవ్యకవిత్వాన్ని వస్తు - -శ్రయ రీతి, శిథిలాశ్రయరీతి అని రెండుగా విభజించారు. మన ప్రాచీన కవిత్వం ఎక్కువగా వస్త్వాశ్రయమైనదే. శిథిల కవిత్వ ప్రభావంవల్ల ఆధునిక కవిత్వంలో శిథిలాశ్ర - -యం కూడా బాగా ఎదిగింది.

(3) వస్తు నవ్యత :- ప్రాచీన కవిత్వంలోని వస్తువు ఎక్కువగా పురాణాల నుంచి, కావ్యాల నుంచి గ్రహించినదే అయి ఉంటుంది. కానీ ఆధునిక కవిత్వంలో చాలావరకు సామాజిక, సమాజ - -కి సంబంధించిన అంశాలపై కథలు వింటాము.

(4) భావ నవ్యత :- ప్రాచీన కవిత్వంలో కథా ప్రాధాన్యం కన్నా, కల్పనా ప్రాధాన్యమే మిన్న. కానీ ఆధునిక కవిత్వం వల్ల - ఈ లక్షణాలకు అవకాశం లేదు. వర్ణనల కోసం వర్ణనలు - కనిపించవు. అనుభవంలోకి రాని భావాలు చాలా తక్కువ - కొత్త భావనలు, కొత్త వర్ణనలు ఎక్కువ. వెన్నదానికన్న, కన్నదానికే ప్రాధాన్యం ఇచ్చారు. క్రమమైన భావజాల - బద్ధత లేదనవచ్చు.

(5) శైలిలో నవ్యత :- ప్రాచీన కవిత్వంలో పాండిత్య ప్రదర్శన ఎక్కువ. పదాడంబరంపై మక్కువ ఎక్కువ అనిపించే పదాలు వాడటం, మోటుమాట పదాలను ప్రయోగించటం, వాక్యాల చట్రంలోనే ఇరుక్కుపోవటం అనేవి ప్రాచీన కవిత్వ శైలి లక్షణాలు. భక్తినిక కవిత్వంలో శైలీసౌరభం కనిపిస్తుంది. కొత్త రుచి పదబంధాలు, ఉపమానాలు స్ఫురిస్తాయి.

(6) కవితా రచనలో నవ్యత :- భక్తినిక కవులు యతి ప్రాస కంటే ప్రాధాన్యం ఇవ్వలేదు. దేశ రచన కవితా రచనకి ప్రాముఖ్యం ఇచ్చారు. గేయ కవితా రచనకి భక్తినిక కవిత్వంలో భద్రత, గౌరవం కల్పించబడింది. "మాత్రా ఛందస్సు" కి ప్రాచుర్యం లభించింది.

(7) ప్రక్రియా వైవిధ్యం :- భక్తినిక కవిత్వంలోని మరొక ముఖ్య ముఖ్య విశేషం "ప్రక్రియా వైవిధ్యం". కవిత్వం ప్రజలలోకి వెళ్ళటానికి వివిధ ప్రక్రియల్ని ప్రారంభించటం గమనిస్తాం. శతకం, ప్రబంధం, యక్షగానం వంటి ప్రక్రియల్ని భక్తినిక కవులు ప్రారంభించారు. "వచన కవిత" అనే ప్రక్రియ వీరి ముఖ్యులుగా విస్తరించటానికి భక్తినిక కవులే మూలకారకులు. అంతేకాకుండా పల్లె పదం, దేశభక్తి కవిత్వం, సంఘ సంస్కరణ కవిత్వం, భక్తి కవిత్వం వంటి శాఖలు కూడా వీరిని ప్రాచుర్యం పొందాయి.

గజల్

"ఉర్దూ భాషలో గజల్ ఒక కమనీయ కవితారూపం.
నేరస భావన, చమత్కార కౌశలాన్ని ఇంపూ, కుదింపూ గజల్ నైవసగాలు.
గజల్‌లో ఏకి విషయాన్ని చెప్పాలన్న నిర్బంధం లేదు. భావ
భావం యి చరణానికి భిచరణం ఎంచినా ఉండొచ్చు.
గజల్ పల్లవిని 'మత్లా' అంటారు. చివరి చరణాన్ని 'మక్తా'
అంటారు. పల్లవి చివర ఉన్నపదం ప్రతిచరణం చివరి
అంత్యప్రాసను కూపొందిస్తుంది. కొన్నిట్లో అంత్యప్రాసకు ముందు -
మరో ప్రాస పదం ఉంటుంది. వీటిని రదీఫ్, కాఫియా అంటారు.
చివరి చరణంలో కవి నామముద్ర ఉంటుంది. దీనిని
'తఖల్లుస్' అంటారు. గజల్ అంటే స్థూలంగా "ప్రియు-
రాలితో సల్లాపం." ప్రాయికంగా ఇది శృంగార పదం. కొన్నిటిలో
ఆధ్యాత్మిక స్పర్శలూ ఫుంటాయి. ఇది గజల్ గురించి సి. నారా-
యణ రెడ్డిగారు ఇచ్చిన వివరణ.

గాలిబ్ గజళ్లను మొదట దాశరథిగారు తెలుగులోకి అను-
-వదించారు. అయితే తెలుగులో సొంతంగా గజళ్ళు రాసి,
మరి 'గజల్' ప్రక్రియకి వ్యాప్తి కలిగించి తెలుగ కవిత్వానికి -
మరో కొత్తదనం తెచ్చింది సినారె. శృంగార, ఆధ్యాత్మికపరమైన
'గజల్'ని మానవీయ దృక్పథానికి, ప్రగతిశీలతకి,
అభ్యుదయానికి వాడుకొని ఆ ప్రక్రియని విస్తృతపరిచారు.

సినారె గజళ్ళకి తన గానమాధుర్యం చేత మరొక వ్యాప్తి కలిగించాడు. మురళీకృష్ణ [I.A.S] గజల్లని సంప్రదాయబద్ధంగా గానం చేసాడు. సినారె గజళ్ళు "పదం-నాదంగా, భావ రాగంగా, అనుభూతి స్వర రీతిగా సంచితా" పలికించినవి. వైవిధ్యానికి, వైశిష్ట్యానికి ఇవి నిదర్శనాలు. దళిత కవులు పిలకరిచ్చారు "నల్లగజల" రాశారు. అయితే సినారె తప్ప మిగిలిన కవులెవ్వరూ ఈ గజల రచనని పట్టించుకోవడం లేదు. సినారె మొత్తం నూటికి పైగా 'తెలుగు గజళ్ళు' రాశారు.

"ఎదురుగ క్షీరసముద్రమున్నా వ్యధంయానికి దారం
కరిగె చూలకరి మేఘాలున్నా గగనానికి దాహం
తోర్చిన సఫల తులకి అలై తెగ ఊగుతున్నా
రసికత పెంచిన చెవి తెమలని రాగానికి దాహం"

"చెరు నవ్వలాంటి మనసుంటే నా శోకమ్ము వంచుతాను
మోసం దాచిన ముఖముంటే భ్రమలను చించుతాను
సమతాదృష్టికి మసిపూసి సుస్తంభ్రతే దిరించి
బిగిసిన వర్ణ ద్వేషం కూకటి వేళ్ళు తెంచుతాను"

"రచనకు కొత్తదనం తెకుండా శుచి భిమింది 'సినారె'.
రాసిన రాతలు నిరా మోద్దుతో రాస్తానొ ఉన్నారా"

"అమ్మ ఒకవైపు - కాంచనలంతా ఒక వైపు
నరిచూచిమంటే నేను ఎరిగేను అమ్మ వైపు"

"గజలంటే మనసి కాదనొ గజిబిజి నీకెందుకు?
పరనీమల ఓస్కోలంటే ఉరవడి నీకెందుకు?"

ఈ విధంగా అన్ని భాషలకు గజలే ఎరుగుచుందని సినారె నిరూపించారు. అంత ప్రాసని ఎమంతింతగా ప్రయోగించిన తీరు ఇవి -

"మరణాంనను వరించితెనే - ఏమంటాను? నేనే మంటాను?
పాట పట్టే - పూల పాటి - పడుకోమంటాను.
కాలం పురిలాగాండ్రిస్తే - ఏమంటాను? నేనే మంటాను?
దిసలెందుకు నీయి సినారె, తెగబడమంటాను"

గజలే ని పేరని, ప్రతిగమాధారానికి అనుగుణంగా ఎూర్చిన భాషా సినారెకి దక్కుతుంది. దానిలభి శ్లోకాలం చూసిలో - సినారె గజలే ని 'సాహురే' అనేలా ప్రయోగించి తన ప్రతిభను ప్రదర్శించారు.

"అకా పనిగా బిమ్మలతుంటే అవి నినాదాలె
ఎదను ఎొుదుదు కేవిలా మాటుల పొదుమ్మీ తొక్కుంటే"

అన్నది సినారె పట్ల అక్షరసత్యం!

హైకూ

ప్రగాఢ విషయములందునే కాదు, సామాన్య విషయములలో - సైతము ఉపనిషత్తులు మహత్వమును తెలుపుచుండును, స్పృశించుచుండును. ఇందులకు వాని హైకూ కవితయు, సుమియా చిత్రకళయు ముఖ్య-ఉదాహరణములు. ఉపనిషత్తుల మీద ఏనాటి బౌద్ధపు ప్రభావమో ఎక్కువగా కలదు.

నిజానికి హైకూ ఒక భగ్నం: విశేషం. కానీ, దాన్ని అలా పరిమితం చేయలేదు. ఏమనోజ్ఞ కవితాస్థాయిలో అది ఒక ఉన్నత సంవేదన. ఉషానే లోకితం సరించి వెన్న తరువాత, వాళ్ళ - సౌందర్య దృష్టి తెలిసిన తరువాత హైకూలు పలకడం వాళ్ళకి - మాత్రమే సాధ్యమనిపిస్తుంది. సభ్యవ బాధ మనిషికి కలిగిన క్షణాని దేన కాల ప్రమాణాలుండవు. అది క్షణికమే శాశ్వతమైన దివ్యానుభవంగా ఉండిపోతుంది. మానవభాషనో స్థూపాకారాల్ని, వలుసునిడల్నే ఒకే ఒక స్వాపషాటలో పట్టే ప్రక్రియ. దానికా ప్రత్యేక. రసజ్ఞానికి రసోన్నాద వ్యక్తిపు బీజాన్ని నాటి దాటి పోయే విద్యుల్లత" - అని శ్రీ చినవీరభద్రుడు.

" నీటిలోకి రాయి విసిరి నప్పుడు ఒక దానిపై మరొకటి - వృత్తాలు ఏర్పడినట్లు, ఒకొక్కక్క హైకూ పాఠకునిలో వివిధ ఆలోచనా తరంగాలను సృష్టిస్తుంది" - ఇనాయతే.

నిజానికి హైకూలో మొదటి పాదంలో ఐదు, రెండవ పాదంలో ఏడు, మూడవ పాదంలో ఐదక్షరాలపైన పదిహేనూ సిలబుల్స్ [మాత్రలు] ఉండాలి. జపాన్ హైకూల్ని గురించి - నానారకాలు అనువదించగా 'కంజైకి' అ poetry Bulletive లో 1994 లో ప్రచురింపబడ్డాయి.

"వర్షంలో
సంభాషిస్తూ వెళ్తున్నాయి
గొడుగూ చానికోటూ"

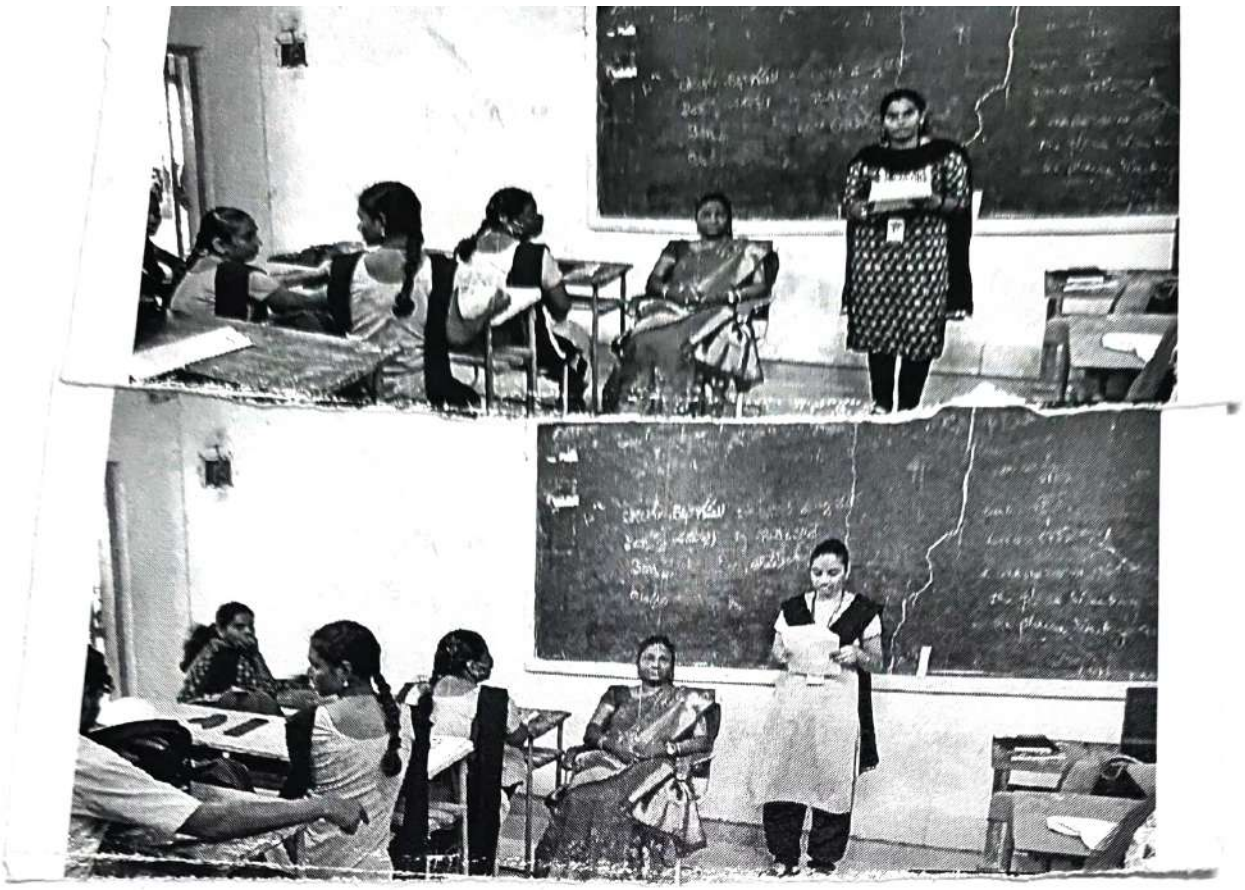
"నెయ్యం చిల్లులం కూడా
పాపమే
కొళ్ళ తన్నుకుంటున్నాయి".

తెలుగులో హైకూలు రాస్తున్న వాళ్ళెవరూ జపాన్ కవితలోని మాత్రల నియమం పాటించడం లేదు. అందువల్ని ప్రతి/కంగా 'హైకూ' అని చెప్పుకుని 'మినీకవిత' అనవలసివుంటుంది. కొన్ని కవితలు మినీ హై కొన్ని హైకూలు మినీ కవితలుగానె ఉంటున్నాయి. హైకూల్ని మొదటిగా తెలుగులోకి తెచ్చింది ఇనాయత - గారని చెప్పవచ్చు.

విద్యార్థి సదుస్సులో పాల్గొన్న విద్యార్థులు

21/06/22

క్ర.సంఖ్య	విద్యార్థి/విద్యార్థిని పేరు	గుంపు	సంతకం
01	P. రత్నకుమారి	II BA HET	P. Ratnakumari
02	B. కళ్యాణి	II BA HET	కళ్యాణి
03	VLNSSK. గాయత్రి)	II BA HET	V. Gayatri
04	T. త్రివేణి	II BA HET	T. Triveni
05	B. రాజేశ్వరి	II BA HET	Rajeswari
06	L. చందు	II BA HET	Chandu
07	P. మహేష్	II BA HET	P. Mahesh
08	M. వీరబాబు	II BA HET	Veera Babu. M



కర్నాల కవి సమ్మేళనం రమిరెడ్డి జయంతి
సందర్భంగా 09-11-2021 తేదీన
వివిధ పోటీలకు సమీక్ష నిర్వహించడం
జరిగింది.

నిర్వహణ
మీ వాసిరెడ్డి కర్నాల

9.11.2021

దువ్వూరి రామిరెడ్డి

దువ్వూరి రామిరెడ్డి గారు నెల్లూరు జిల్లా గూడూరు లో జన్మించారు. స్వయంకృషి తో పాండిత్యాన్ని సంపాదించి సంస్కృతం, పర్షియన్, ఉర్దూ, లాటిన్ మొదలైన భాషలలో పట్టు సంపాదించారు. చిత్రలేఖనం, శిల్పం, ఫొటోగ్రఫీ, రేడియో మెంటనెన్స్ లలో ప్రావీణ్యం సంపాదించారు. గ్రామీణ వాతావరణం, రైతుల జీవితం వీటిని ఆసక్తి కలిగి ఉండేవారు. రైతుకవిగా ప్రసిద్ధి చెందారు. రామిరెడ్డిగారి రాసిన రసిక జనానందం, సర్వజ్ఞక్షేత్రం, అయ్యలార్యులుతగం, కృష్ణరాయ బారం, నలజూరమ్మ, వనకుమారి, కృష్ణ వాలుకు, జలదాంగ, యువక సోవ్యం కడపటి విడుకోలు, ఫలితకేకం, కవి-రవి అనే నాటకాలు రచించారు. ప్రతిభ భాంగాలనుండి, ఒలుసంహారం, వ్యాసోపనిషత్ విలాసం, గులిస్తాను, పక్షిశాల, పాఠశాల అనే గ్రంథాలను తెలుగు కి అనువదించారు. ఈ అనువాదాలలో ఉమర్ఖయ్యామ్ రుబాయిలకు చేసిన 'పాఠశాల' గొప్ప అనువాదంగా కీర్తి పొందింది. రామిరెడ్డిగారి వీరి లోపాటు "యూత్ఫకతకం", పిత్రార్థకత అనే శతకాలను, కర్షక విజ్ఞానం, సేద్యావశ్యకాలు, కుంభరాశా, మాధవి విలాసం, కాంగ్రెస్ వాలా అనే నాటకాలను రచించారు. వీరిరచనలో కొన్ని శిథిలాలయాలు కూడా ఉన్నాయి.

రామిరెడ్డిగారి రచనల్లో గ్రామీణ ప్రకృతి, వర్ణనలు, రైతుల వాస్తవ స్థితి పాశ్చాత్య ప్రభావం లో పడుతున్న విలువలపట్ల ఆందోళన, ఉద్యోగం చేస్తున్నప్పటి దేశభక్తి కనిపిస్తాయి. వీరిరచనలు సమగ్రంగా రామిరెడ్డిగారి రచనల్ని "కవి కోకిల గ్రంథావళి" అనే పేరుతో ప్రచురించబడ్డాయి.

రామిరెడ్డి గారి "చిత్ర నళీయము" అనే సినిమాకు దర్శకత్వం
వహించారు. రామిరెడ్డి గారు నెల్లూరు లో కళ్ళెపు
రామలింగారెడ్డి గారివే సోదరి వరుసకు వస్తారు. 1929 లో
పెళ్ళయ్యాడు లో ఆంధ్రీమహాసభవారి "కవికోకిల" బిరుదు తో
సత్కరించారు. 9.11.1895 న జన్మించిన ఈ కర్మకవి
11.9.1947 న మరణించారు.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: Ch. Likitha

Class : 1.BSc.(MBF)

Semester : 2 semester

Regd no : 21315207

Topic : soya Bean recipe

Date of seminar : 19/08/2022

Name of the lecturer: Dr. K. Anu Radha



- Soya Burji :

→ Spicy Soya Burji is a good low cal, nutritious dish that can be eaten with chapathis of as a filling in sandwiches, samosas etc.. Soya granules tossed with a variety of spices.

Ingredients :

- 1 cup soya granules
- 1 big onion
- 1 Chilli
- Coriander
- 1 tbsp oil
- ½ tsp oil garam mpsala
- Tumeric powder
- Salt

- Procedure :

1. Wash soya granules and soak in water.
2. Put oil in a pan & heat.
3. Add chopped onion, chilli, garam masala & haldi
4. Add washed and soaked soya granules.
5. Mix well so that masala mixes proportionately with soya granules, till cooked.
6. Add salt to taste.

- Soya Masala :

- 150 Gram Soyabean (whole)
- 1 onion, chopped
- 2 tbsp Ginger, chopped
- 2 tbsp Garlic, chopped
- 1 Tomato, chopped
- Green chillies, chopped
- A pinch of Tumeric powder
- Red chilli Powder
- Salt
- 1 tbsp Chat Masala
- Refined oil.

Procedure :

1. Wash and soak soyabean overnight.

2. Pressure cook the soaked soybeans till they are soft.

3. Heat oil in a pan, add chopped ginger and garlic. After they turn golden brown, add chopped onions and saute.

4. Add chopped tomato to this mixture and cook till the tomato pieces are soft.

5. Add green chillies, tumeric powder, red chilli powder, salt followed by boiled beans and stir for two minutes.

6. Add two cups of water and allow to simmer for 10 minutes.

7. Keep it on low flame, stir occasionally till the water is almost gone.

8. Sprinkle chat masala over the beans and serve hot.

Kerala soya roast:

⇒ A protein-rich recipe - this Kerala-style soya roast is made using soya chunks mixed with a blend of flavourful spices and then roasted until perfection. Pair it with your evening tea and indulge in its goodness.

Ingredients:

- For Marination:
- 3 cups soaked soya chunks.
- 1 tsp Haldi
- Salt to taste
- 1 tsp Coriander powder
- 1 tsp lemon juice
- 1 tsp coconut oil
- Other ingredients:
- 2 tsp coconut oil
- 1 tsp saunf

- 1 tbsp Coconut chunks.
- 1 tsp Ginger Garlic paste.
- 2 tsp Green chillies (chopped)
- Red chilli powder to taste
- To taste Black pepper
- Water (as required)
- 1 tsp Garam Masala.

Procedure :

1. Soak soya chunks in warm water with salt. Cover and keep it aside for some time. Once the soyachunks turn soft and mushy, drain out the excess water.

2. Once done, marinate these chunks. For marination, take a bowl, add tumeric powder, red chilli powder, salt, coriander powder, lemon juice, and coconut oil. Coat all the soya chunks properly.

3. Heat coconut oil in a pan and add saunf, coconut chunks, curry leaves, ginger garlic paste, green chillies, saute them well.

4. Now, add chopped onion and cook until they turn brownish in colour.

5. Add spices like red chilli powder, black pepper powder, coriander powder and salt to taste.

6. Mix everything well. Then add marinated soya chunks, a bit of water and mix again.

7. Keep simmering for 4-5 minutes. Add water if required.

8. Sprinkle garam masala, coriander leaves, lemon juice and enjoy!

Soya Uttapam :

→ Low in fat yet high on flavours! Here is an excellent uttapam recipe with an add on healthiness. Bite on the goodness of soy coupled with fresh vegetables and terrific spices.

Ingredients :

- ½ cup soya flakes
- 1 cup buttermilk
- ½ cup rice flour
- ½ cup sooji
- 1 onion, chopped
- 1 tomato, chopped
- 1 capsicum, chopped
- 1 tsp jeera powder
- 1 tsp red chilli powder
- 1 tsp black pepper powder
- 2 tsp oil

- ½ tsp urad daal.
- ½ tsp channa daal
- ½ tsp mustard seeds
- 6 curry leaves
- 1 tsp coriander leaves, chopped
- 1 cup water.

Procedure :

1. Heat a frying pan and add oil.
2. Make a tadka of urad daal, channa daal, mustard seeds, curry leaves & heeng.
3. Fry for about a minute and soya flakes stir well.
4. Add water & salt.
5. Cook till the flakes are soft to touch, remove from stove.
6. Let it cool for 10 minutes.

7. Add rice flour, sooji, seasonings & buttermilk to the soya mixture, mix well.

8. Add water if needed to make into thick consistency.

9. Keep covered for half an hour.

10. Heat a tawa and grease with a little oil.

11. Pour a ladle full of batter, sprinkle chopped vegetables, salt & chilli powder.

12. Pour some oil on all sides.

13. Cover and cook on medium flame till sides are loose and base gets golden brown.

14. Flip over and cook.

15. Serve with non-fat curd spiced with black salt, pepper and chopped coriander.

Soya dosa :

- 1 cup Soya milk
- ¼ cup whole wheat flour
- 1 green chilli, chopped.
- ½ cup onions, grated
- 1 tbsp coriander, chopped
- ¼ tsp baking soda
- 1½ tsp oil
- Salt
- For serving : Garlic tomato chutney.

(5)

Procedure :

1. Mix all the ingredients together, making a thin batter.

2. Heat a non-stick pan and grease it with a little oil.

3. Pour two tablespoons of the batter on the non-stick pan and spread it using a circular motion to make a thin dosa.

4. Cook on both till they turn golden brown.

5. Serve hot.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: k. Naga Sriya

Class : 1.BSc.(MBF)

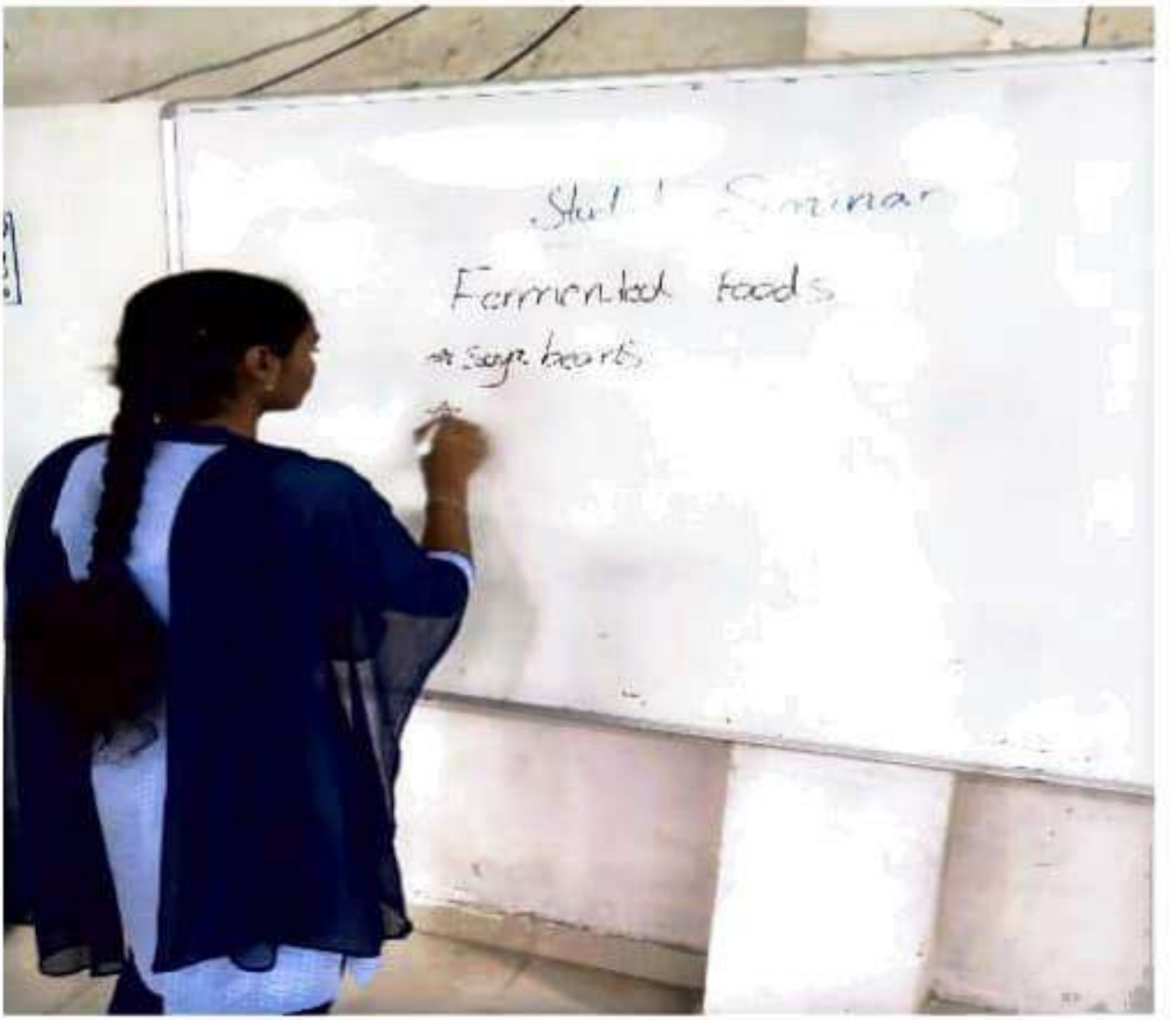
Semester : 2 semester

Regd no : 21315203

Topic : Fermented food products

Date of seminar : 20/08/2022

Name of the lecturer: Dr. K. Anu Radha



Kefir

Ingredients:

½ tsp kefir grains
1 pint milk (organic whole milk for best results)
1 slice lemon or 1 drop lemon oil (optional)
500ml clip top jar with gasket for fermenting
a sieve jug/bowl, storage bottle or a staining funnel and wide necked bottle.

Method

1. Put ½ tsp kefir grains in the jar, Add the milk leaving about 2cm head room if using clip top jar or at least 5cm for a cloth-covered jar.
2. Set aside at room temperature for 18-20 hrs to ferment. Its turned to kefir when the milk has thickened. It may have set and separated with pockets of whey forming.
3. If you can't strain it straight away put it in the fridge to stop it fermenting further, the flavour can get quite strong. you can strain it anytime over the next 48 hrs.
4. Strain the kefir throught the sieve or straining funnel into you jug or bottle. The grains are quite robust and will withstand gentle stirring.
5. you can drink it straight away flavour and refrigerate it.

Sourdough Bread

Ingredients

- 700g strong white flour
- 300g strong white flour, plus extra for dusting
- 1 tsp fine salt
- 1 tsp clear honey
- 300g sourdough starter
- Flavourless oil, for greasing

Method

1. First make your starter, In a large bowl mix together 100gm of the flour with 125ml slightly warm water whisk together until smooth and lump free.
2. Transfer the starter to a large jar leave the jar lid a jar for 1hr or so in a warm place.
3. For next 6 days, you will need to feed the starter add 100gm of flour and 85ml slightly warm water
4. After 3-4 days should start to see bubbles appearing on the surface and it will smell yeastly and a little acidic
5. on day 7 starter should be quite bubbly and smell much sweeter. It is now ready to be used in baking.
6. place a large baking tray in the oven, and heat 230C/210C/ gas 8. Fill a small roasting tin with a little water and place this is the bottom of the

the oven to create steam.
7. Slash the top a few times with a sharp knife if you like then bake 35-40min until golden brown It will sound hollow when tapped on the bottom leave to cool on a wire rack for 20min before serving

Kombucha

Ingredients

- 1 liter water
- 60gm white sugar
- 3-4 gm of green tea
- 1 bag ginger or fruit juice as per taste.

Method

1. Take 1-liter water add 60gm of white sugar and boil for a couple of minutes.
2. After removing it from the flame. add about 2-4gm of green tea leaves and allow it to steep for 15-20 min.
3. when the temperature of the tea falls to below 30oc then pour it in a sanitized wide mouth glass container.
4. Add the SCOBY and some mother liqued (a portion of tea from the previous batch). Cover it with a muslin cloth and wait for a week.

5. you can drink it fresh, or bottle in an airtight bottle to get carbonation.

6. Adding some fruit juice or spices in the glass bottle (secondary fermentation) can help infuse some interesting flavours. If ginger or fruits are added, 2-3 additional days in secondary is advised.

Apple cider Vinegar

Ingredients

- Apple peelings & cores sugar
- water
- glass jar

Method

1. Fill the glass jar 3/4 of the way with the apple peels and cores.
2. Stir the sugar into the water until its mostly dissolved and pour over the apple scraps until they are completely covered.
3. Cover loosely and set in a warm dark place for around 2 weeks.
4. you can give it a stir every few days, if you like any brownish/ greyish scum develops on the top simply skim it off.
5. Once two weeks has passed Strain the scraps from the liquid.

6. At this point, my vinegar usually has a pleasnty sweet apple cider smell, but is still missing that unmistakable tang.

7. Discard the scraps and set the strained liquid aside for another 2-4 weeks

8. youll know your apple cider vinegar is complete once it has that unmistakable vinegary smell and taste. If it's not quite there yet, simply allow it to sit a while longer.

9. Once you are happy with the taste of your vinegar simply cap and store it has long as you like.

10. Use your homemade vinegar just like you would store bought vinegar. for cooking cleaning and every thing in between.

Kimchi

Ingredients

- 1kg cabbage
- 1 tsp salt
- 2 tbsp spring onions, finely chopped
- 1 tbsp garlic
- 1 tbsp ginger
- 1 cup soysauce
- 1½ tbsp sugar

- 1 cup white vinegar
- 1 tbsp chilli flakes
- Sesame oil.

Method

1. Chop cabbage place in a glass or steel bowl and sprinkle salt over it and mix well.
2. leave it for 3-4 hours. till a little wilted.
3. squeeze a few times till cabbage has softened
4. Mix in the rest of the ingredients except the oil and transfer into sterilized jars.
5. seal and leave for 24 hours before using
6. To serve garnish with some sesame oil.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A)

VIJAYAWADA

STUDENT SEMINAR

Name of the student: G. Anil kumar

Class : 1.BSc.(MBF)

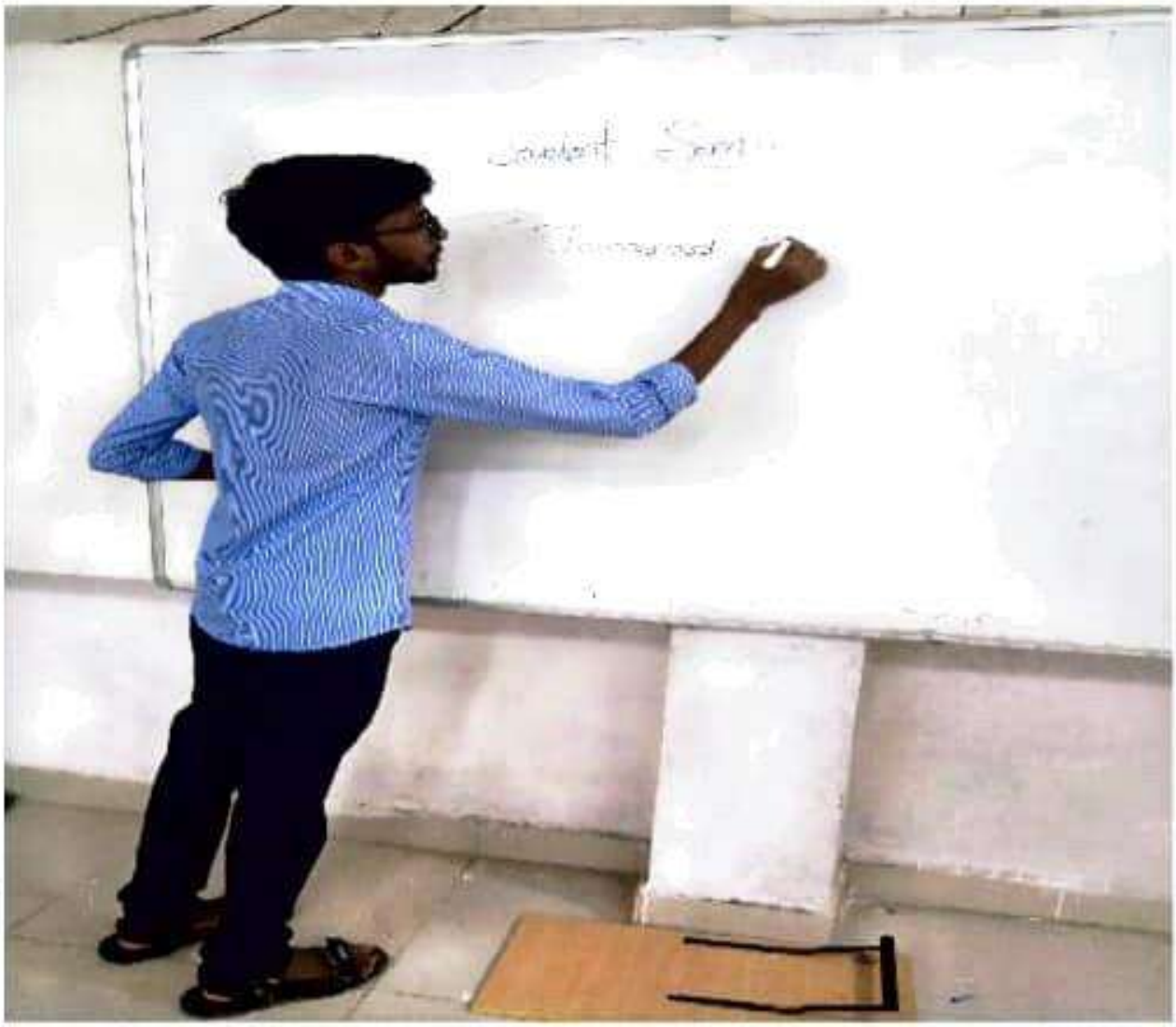
Semester : 2 semester

Regd no : 21315202

Topic : Fermented food products

Date of seminar : 20/08/2022

Name of the lecturer: Dr. K. Anu Radha



Soyabean Recipe

Soyabean is recognized as an oil seed containing several useful nutrients including protein, carbohydrates, vitamins and minerals. Dry soybean contain 36% protein, 19% oil 35% carbohydrate (17% of which dietary fiber), 5% minerals and several other components including vitamins

⇒ Soybean protein is considered to be a good substituent for animal protein.

Soybean and soy foods may reduce the risk of a range of health problems, including cardiovascular disease, stroke, coronary heart disease (CHD), some cancers as well as improving bone health. One or two daily serves of soy products can be beneficial to our health.

1. Thai Soyabean in cabbage cups:

⇒ Its vegetarian, its low fat and filled with flavor. Try this thai soya bean salad with bean sprouts chillies, the crunchiness of vegetables and the tanginess of lemon juice.

Recipe:

1. Oak soya bean in water for at least half hour. Wash 3-4 times. Now squeeze them and take all water Out.

2. In a wok, heat 1 tablespoon oil. Saute the chopped onion. Now add chopped garlic and green chillies.

3. Toss in soyabean saute till water dries.

4. Add the tomato sauce, soy sauce, Thai red curry paste and if not vegetarian put in ½ chicken stock cube crumbled.

5. Add little crushed black pepper and saute. Now add spring onions and saute till crisp.

6. Add coriander spring onions, chilli flakes and few toasted peanuts. Taste for salt and squeeze lemon juice

7. Serve with cabbage cups made out of small cabbage.

2. Zucchini stuffed with soya

⇒ Zucchini is rich in anti-oxidants and anti-inflammatory which flush out toxins, inflamation and free radicals from body which are responsible for aging. Zucchini contains great amount of fiber and lesser amount of carbohydrates. which takecare of lessening diabetes. Zucchini is an exclent source of lutein and Zeaxantin which promote good eye health.

Recipe:

1. Soak the soya kernels in lukewarm water for an hour so that they turn soft.

2. Cut the zucchini in two halves and scoop out some of the inner parts.

3. Heat oil in a pan and saute green chillies and ginger garlic paste in it.

4. Add the soya kernels to it, some coriander leaves, lime juice and all the spices.

5. Stir-fry the mixture until it is cooked.

6. Fill the Zuechini with the soya mixture and place them on a greased tray and bake for about 5 min.

3. Soya Kebabs

1. Take bowl, add mustard oil, garlic paste, ginger paste kashmir chilli paste, garam masala, coriander powder, curd, kasturi methi powder, chat masala, salt, lemon juice, cashew nut paste and mix well.

2. Add cooked Nutrela soya chunks and keep it marinated for 30 minutes.

3. Take satay stick and infuse marinated soya chunks and grill.

4. Serve hot with chutney and ketchup.

* It contains nutritious, interesting and most of all rich in protein.

4. Soya Florentine

1. Wash soya granules and drain the water keep aside
2. Blanch the washed and chopped spinach in boiling water for 30 seconds.
3. wash in cold water and drain.
4. Add butter in a pan and fry chopped garlic
5. Add spinach, green chilli paste and salt to taste
6. Cook for five minutes and transfer to a serving dish.
7. Heat oil in a pan and fry onions till they are light brown in colour.
8. Add soya granules and cook for few minutes.
9. Add salt, papper, powder, tomato sauce, mix well and pour this mixture over the cooked spinach.
10. Cover it with white sauce.
11. spread grated cheese and bake in a preheated oven for 15 minutes.

5. Oat and soya Pancakes

1. Soak soya bean in water for 3-4 hours or over night. Boil them in the morning.
2. Soak poha in water for 3-5 minutes.
3. Grind together oats, soyabean, poha, bread slices, potatoe

in a grinder.

4. Add rest of the ingredients and spices mentioned above and make the batter by adding water. Mix the batter throughly. The batter should not be too thick or thin.

5. Take a flat nonstick pan or tava and brush it with oil. Now take the batter and spread it in a circular shape.

6. Cook both the sides on medium flame and transfer them into a serving plate once done.

7. Delicious and healthy 'soya oats pancakes' are ready to be served.

Kefir

Ingredients:

½ tsp kefir grains (see

1 pint milk (organic whole milk for best results)

1 slice lemon or 1 drop lemon oil (optional)

500ml clip-top jar with gasket for fermenting.

a sieve jug/bowl, storage bottle or a straining funnel and wide necked bottle.

Method

① put ½ tsp kefir grains in the jar. Add the milk leaving about 2cm head room if using clip top jar, or at least 5cm for a cloth-covered jar.

② set aside at room temperature for 18-24 hrs to ferment. It's turned to kefir when the milk has thickened. It may have set and separated, with pockets of whey forming.

③ If you can't strain it straight away, put it in the fridge to stop it fermenting further, the flavour can get quite strong. you can strain it anytime over the next 48 hrs.

④ After 3-4 days should start to see bubbles appearing on the surface, and it will smell yeasty and a little acidic.

⑤ On day 7 starter should be quite bubbly and smell much sweeter. It is now ready to be used in baking

⑥ place a large baking tray in the oven, and heat 230c / 210c fan / gas 8. Fill a small roasting tin with a little water and place this is the bottom of the oven to create steam.

⑦ slash the top a few times with a sharp knife, if you like, then bake 35-40 min until golden brown It will sound hollow when tapped on the bottom Leave to cool on a wire rack for 20 min before serving.

KOMBUCHA

Ingredients

- 1 liter water
- 60 gm white sugar
- 3-4 gm of green tea
- 1 bug ginger or fruit juice as per taste.

Method

① Take 1-liter water, add 60 gm of white sugar and boil for a couple of minutes.

② Stir the sugar into the water until it's mostly dissolved and pour over the apple scraps until they are completely covered.

③ Cover loosely and set in a warm dark place for around two weeks.

④ You can give it a stir every few days, if you like if any brownish/greyish scum develops on the top simply skim it off.

⑤ Once two weeks has passed strain the scraps from the liquid.

⑥ At this point, my vinegar usually has a pleasanty sweet apple cider smell, but is still missing that unmistakable tang.

⑦ Discard the scraps and set the strained liquid aside for another 2-4 weeks.

⑧ You'll know your apple cider vinegar is complete once it has that unmistakable vinegary smell and taste. If it's not quite there yet, simply allow it to sit a while longer.

⑨ Once you are happy with the taste of your vinegar simply cap and store it as long as you like.

⑩ Use your homemade vinegar just like you would storebought vinegar - for cooking, cleaning and everything in between.

Kimchi

Ingredients

- 1kg cabbage
- 1 tbsp salt
- 2tbsp spring onions, finely chopped
- 1 tbsp Garlic
- 1 tbsp ginger
- 1 cup soya sauce.
- 1½ tbsp sugar
- 1 cup white vinegar
- 1 tbsp chilli flakes
- Sesame oil.

Method:

① chop cabbage, place in a glass or steel bowl and sprinkle salt ove it, and mix well.

② Leave it for 3-4 hours, till a little wilted.

③ Squeeze a few times till cabbage has softened.

④ Mix in the rest of the ingredients except the oil and transfer into sterilized jars.

⑤ Seal and leave for 24 hours before using.

⑥ To serve garnish with some sesame oil.

5

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT

SEMINAR

Name of the student :- Bezawada Bharath Kumar

Class :- 1st BSC [MBF]

Semister :- 2nd

semesterRegd No :-
21315205

Topic :- soyabean recipes

Date of seminar :- 18-08-2022

Name of the lecturer :- Dr. k Anuradha



SOYABEAN RECIPE

Soyabean is recognised as an oil seed containing several useful nutrients including protein vitamine and minerals, Soyabeen contain 36%. protein. 19%. oil 3.5%. carbohydrate 5%. mineral.

Thai soyabean in cabbage cups

*. It's vegetarian its low fat and filled with flawer try this thai soys bean salad with bean sprouts chillies. the crunchine of vegetable and the tangmen of lemon juice

Recipe:-

1. soak soyabean in water for at leas half hour. wash 3-4 times. Now squeeze them and take out. In a wok treat 1 tablespoon oil saut the chipped onion Now add chopped garlic and green chillies.

2. Tose in soyabean saut till water

3. Add the tumato sauce, soya bean thai red curry paste and if not vegetation put in 1/2 chicken stock cube crembled.
4. Serve with cabbage cups made out of small cabbage.

zucchini stuffed with soya

zucchini is rich in anti-oxident and anformation ary which flush out toxine and free radicale from body which are reposible to aging centoine.

Recipe:-

1. soak the soya kernels in hot lukewarm water for an hour so that they turn soft.
2. Heat oil in a pan and source green chilies and ginger garlic paste in it.
3. Add the soya kernel to it some coriander leaves time and Jeise all spices.
4. Stir for the mixture until it cooked.

SRR & CVR GOVERNMENT DEGREE COLLEG

VIJAYAWADA

STUDENT SEMINAR

Name of the student :- T. Vineetha

Class :- 1st BSC [MBF]

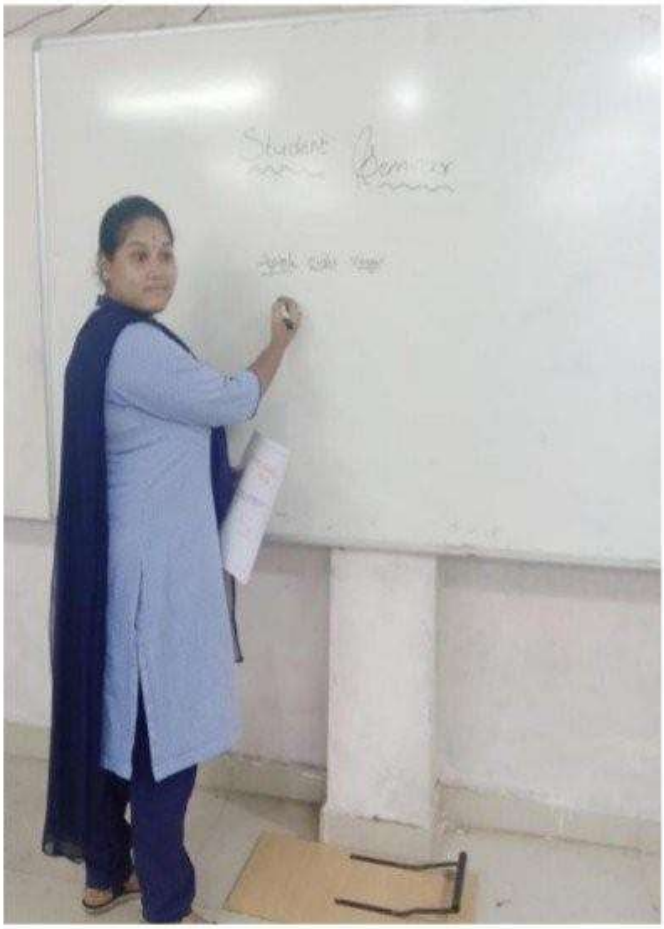
Semister :- 1nd semester

Regd No :- 21315227

Topic :- Soyabean recipes

Date of seminar :- 10-02-2022

Name of the lecturer :- Dr. Anurada (mam)



Soyabean Sundal

Recipe Name: Soyabean Sundal

Ingredients : Soyabeans, water, Salt, Coconut oil, mustard Seeds, dry red chilli, grated fresh ginger root, Curry leaves, grated coconut, Coriander leaves, lemon juice.

Instructions:

1. wash and Soak Soyabeans for 3hrs
2. Then, drain the water and add fresh water and Salt and let them boil correctly
3. Drain the cooked beans and Save Some of the cooking water.
4. In a pan add the oil followed by the mustard seeds. When they Spultter add the chilli, ginger (grated) and Curry leaves and roast them well, now add the Coconut give a quick swish around.

Masala Soyabeans

Recipe Name: Masala Soya beans

Ingredients: Soyabeans, onions, Ginger, garlic, tomato green chillies, turmeric powder, red chilli powder, Salt, chat masala, Refined oil.

Directions:

* Wash and Soak Soyabean overnight.
* pressure cook the Soaked Soyabeans till they are Soft
* Heat oil in a pan, add chopped ginger and garlic After they turn golden brown add chopped onions and Saute.
* Add chopped tomatoes to this mixture and cook till the tomato pieces are Soft.
* Add green chillies, turmeric powder, red chilli powder, Salt followed by boiled beans and Stir for two mixture.
* Add two cups of water and allow to Simmer for 10 minutes.

* keep it on low flame, stir till water is gone.

* Sprinkle chat masala over the beans and Serve hot.

Oat and Soya pancake

Recipe Name: Oat and Soya pancake

Ingredients: 200gms, Oats, 150gms Soya flour, 2 chillies, 1tbsp coriander, 1tbsp ginger garlic paste.

Instructions:

* Soak the oats in water for about 40-45m
* Grind the soaked oats along with all the other ingredients and salt.
* Add water to the batter if desired.
* Batter should be of pouring consistency.
* Heat 2-3 drops oil on a non-stick pan
* pour the batter to make a pancake. about 1/4 inch thick.
* Cook this on both sides till medium brown.
* Serve hot with Sauce / chutney / curd.

Soyabean Cutlet

Recipe Name: Soyabean Cutlet

Ingredients: Soya nuggets, carrot, teaspoon garam masala, powder, pinches of salt, tbsp gram flour, turmeric, cloves garlic, bread crumbs, refined oil, potatoes, black pepper.

Directions:

* Boil potatoes and peel them. wash the carrot and chop it on small pieces
* Take a bowl and add gram flour to it. Add water and salt in it and make a batter of thick consistency.
* Mix all the other ingredients without lumps make round patties with palm. Dip them in gram flour batter and roll them in bread crumbs.
* Deep fry the cutlet in deep bottomed pan.
* Garnish them with chopped coriander leaves and serve hot with green chutney (or) any sauce, Serve warm.

Soyabean bhel

Recipe Name: Soya bean bhel

Ingredients: Soya bean granules, Tomatoes, onion, Capsicum, carrot, mushrooms, cheese (or) tofer, Green chillies, lemon, salt, garam masala, chat masala.

Directions:

* Boil the Soyabean granules.
* Boil mushrooms, capsicum, carrots along with little amount of salt.
* chop tomatoes, onions, green chillies and other healthy vegetables.
* Cut few pieces of cheese (or) tofu.
* Take a bowl and mix boiled soya beans, pieces of cheese (or) tofu, onion, tomatoes, Capsicum, carrot, green chillies and mushroom
* Then add a pinch of garam masala and chat masala mix it well.
* Garnish them with coriander leaves.

Fermented foods and Their recipies:

pickles:

pickling begins when vegetable are immersed in a salty, acidic brine. outer time, micro-organisms turn the sugars in the vegetables into lactic acid, leading to the notorious sharp flavour.

Cucumbers are common vegetables of choice to pickle, but other vegetables can work as well such as onions, peppers and beets.

pickles are a source of probiotics which can help to improve digesion and enhance the availability of nutrients in our foods and drinks.

A jar of pickled pepper makes for a great topping on salads of sandwiches.

Apple Cider Vinegar:

Vinegar is said to originate as far back as 400 B.C in greece, when Hippocrates used it as a medicinal treatment.

Apple cider vinegar has subtle fruit notes that can add flavour to salad dressings and sauces.

The process begins by crushing apples into juice, adding yeast and letting it ferment in barrels.

Research suggests apple cider vinegar can help to control blood sugars after a sugary meal. Also, apple cider vinegar has polyphenols a potential cancer-fighting nutrients.

Kombucha:

Kombucha is a sugared tea that has been fermented via a symbiotic culture of bacteria and yeast (or) a scoby for short.

Directions:

* Fill vessel with 2 cups of plain kombucha tea if available to kick start the brew
* Boil 1 gallon of water add 1 cup of sugar and wait till it dissolves.
* steep 8 tea bags for 5 min in the water.
* Let cool to room temp and then add a vessel
* Carefully slide SCOBY in the vessel and store with cover that allows air to pass through (paper towel as cheese cloth)
* wait and let ferment for 7-10 days.
* Bottle and enjoy.

Kombucha is a stable for 1 month in Refrigerhor.

Strawberry Banana Kefir Smoothie Recipe:

Kefir is more liquid and pourable than yougurt and thus can be used to make smoothies without on the addition of milk. this is a recipe for a strawberry smoothie but any fruit in these proportions will blend well.

Directions:

* Cut 1 large banana into several slices.
* Measure out 1 cup of strawberries cut off the leaves and then slice a few times.
* Measure out 1 cup of plain kefir.
* place all in a blender, blend till smooth and poor into a glass.

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VIJAYAWADA

STUDENT SEMINAR

Name of the student :- Sajida

Class :- 1st BSC [MBF]

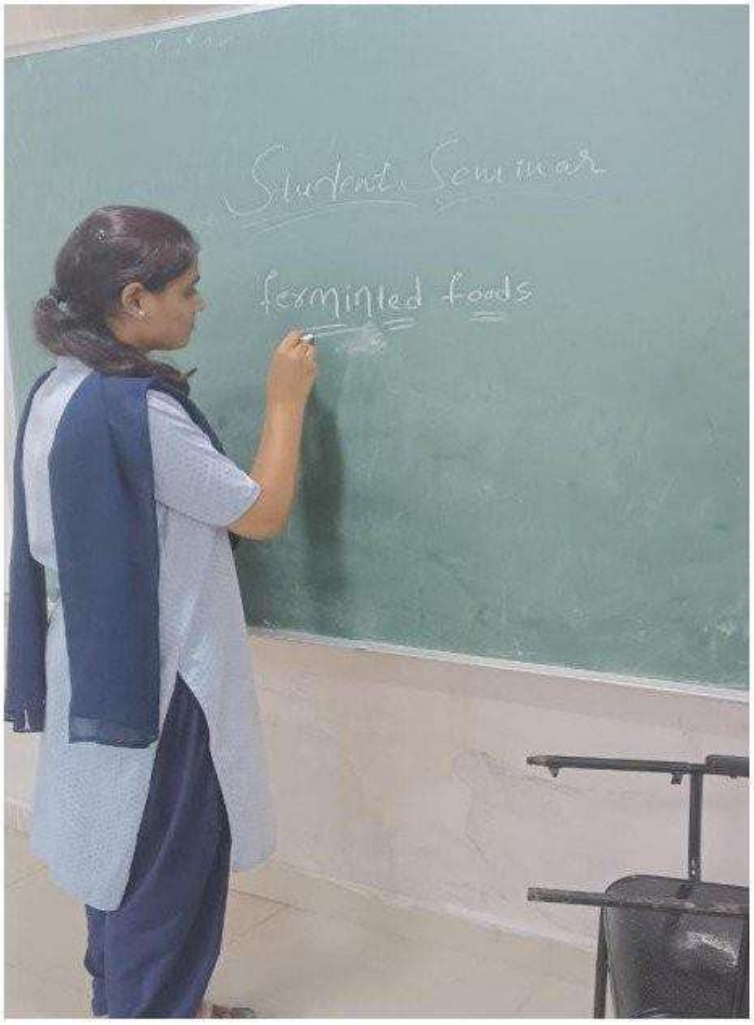
Semister :- 1 St semester

Regd No :- 21315217

Topic :- fermentation foods

Date of seminar :- 08-02-2022

Name of the lecturer :- Dr.Anurada mam



Directions:-

fill vessel with 8 cups of plain kombucha tea if available to kick start the brew

Boil 1 gallon of water add 1 cup of sugar and wait till it dissolves.

* steep 8 teabags for 5 mins in the coated vessel.
* let cool to room temp and then add a vessel.
* carefully slide SCOBY in the vessel and store with cover that allows air to pass through [paper towel as cheesecloth]
* wait and let ferment for 7-10 days
* Bottle and enjoy [kombucha is stable for 1 month of refrigerator

Sauerteraut Recipe:-

Souetevaut is a traditional fermented cabdage dish from Germant commonly served as a side or as a condiment Gratcourst

Soyabean Bhel

Recipe Name: Soyabean Bhel

Ingrediants:- Soya bean granules, Tomatoes onion, carrot, capsicum, Mushroom, cheese or tofu, green chillies, lemon, salt garam masala, chat masala.

Direction:-

1) Boil the soya bean granules

2) Boil Mushroom, capsicum, carrot along with little amount of salt.

3) chop tomotoes, onion, green chilies and other healthy vegetables.

4 cut few pieces of chese or tofu

5. Take a Boul and mix Boiled soya Beans pieces of cheese or tofu, onion, tomotoes, capsicum, carrot, green chilly and mushrooms.

6. Then add a Pinch of gram malala and chat masala mix it well.

7) Granish them with coriander leaves

Masala Soya Beans

Recipe Names: Masala Soya Beans

Ingredients: Soya Beans, onions, Ginger, garlic Tomatto green chillies Turmeric Powder, Red Chili Poweder salt chaat Masala, Rafined oil

Directions:

1. wash and Soak over night.
2. Pressure cook the Soya Beans till they are soft
3. Heat oil in a Pan, add chapped ginger and garlic. After they turn golden brown Add chopped onions a Saute.
4. Add chopped tomatoes to this mixture and cook till tomoto piec are soft.
5. Add green Chilies, turmeric Powd red chilli Powder, Salt followed b boiled beand and stir for two min
6) Add two cups of water and to summer for 10 minutes.
7) keep it low flame stir is aim

Oat and Soya Pancakes

Recipe name:- oat and soya Pancakes

Ingredients:- 200gm, oats, 150gms soya-flour
2 chillies, coriander, 1tsp ginger
garlic paste

Instruction:- 1) Soak the oats in water for abo
40-45m

2) Grid the soaked oats along with
all the other ingrediants and salt

3) Add water to the batter is des

4) Batter should be of pouring consiste

5) Heat 2-3drops oil on a non-stick pa

6) Pour the batter to make a pancak
about ¼ inch thick

7) cook this on both the sides till
medium brown

8) Serve hot with sauce/chutney/
curd

Soya bean cutlet.

Recipe Name: Soya bean cutlet

Ingrediants - Soya nuggets, carrot teaspoon garam masala Powder, Pinches of salt, tbsp, graom flour, turmerrc, cloves garirc, bread crumbs refined oil, Potatoes, black peppey

Directions: -1) Boil potatoes and peel them wash the carrot and chop it on small pieces.

2) Take a boul and add gram flour to it Add water and salt in it and make a batter of thick consistency

3) Mix all the other Ingreadans with -out lumps make around Potters with palm. Dip them in gram flour batter and rolle them.

4) Deep fry the cutlets indeep bottom pan.

5) Granish them with chopped coriander leaves serve hot with green chutney

Soya Bean Sundal

Recipe Name: Soya Bean Sundal

Ingrediants:- Soya Bean water, salt, coconut oil, mustard seeds, dry red chilli, grated fresh ginger root curry leaves, grated coconut, coriander leaves lemon juice

Instruction: 1) wash and soak soya beans for 3hours

2) Then drain, the water and add freshwater and salt and let them boil correctly.

3) Drain the cooked beans and sa some of the cooking water

4) In a pan add the oil followed by the mustard seeds. when the splutter add the chilli, ginge and curry leaves and roost the well, now add the coconut giv a quick around

5) Granish with coriandey leaves an

will blend well

Direactions:-

→ cut 1 large banana into several slices

→ Measure out 1cup of strawberries cut of the leaves and then slice a few times.

→ measure out 1 cup of Plan kefir

→ Place All in a blender, blend till smooth Pour Into a glass

Directions

- Slice 8 large cabbages and place into a large mixing bowl
Add 2 table spoons of salt and table spoon of aarcoas seeds, mix together
→ Place the mixture into glass canning Jars and cover with a Paper towel secured by a rubber band.
→ let ferment in a cool dark Place for 3-4 weeks, replace top with a lid, and enjoy! store in refriger and eat within 2 months.

Strawberry Banana kefir.-

Kevif is mare liquid and Powrable than yogurt and thus can be used to make Smothies without an the addition of milk. This is a recipe for a stracoberry Smoothic but only fruit in these Proposhions

Apple cider vinegar

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Kombucha:- kombucha is sugared tea that has been fermented via a Symbiotic culture of bacteria and yeast or a Scoby for short.

fermented foods

their recipies:

pickles. pickling begins when vegtables are immersed in a salty, acidic brine, over time, micro-organisms turns the sugars in the vegetables into lactic acid, leading to the notarious sharp flavor.

cucumbers are common vegetable of choice to pickle but other vegetables can work as well such as onions, peppers, and beets

Pickles are a source of Probiotics which can help to improve digasion and enhance the availability of nutrients in our food and drinks

* Jar of pickled pepers makes for a great topping of salods of sandcoiche

SRR & CVR Government College (A):Vijayawada

Department of Statistics

Student Presentations/Seminars

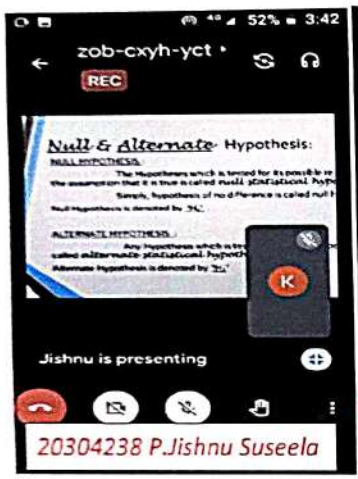
II B.Sc M.S.Cs **2020-21** **Sem-III** **Paper-III: Statistical Inference**

S.No	Regd No.	Name of the Student	Seminar Topic	Remarks
1	20304202	A Jagadish	t-distribution - Properties	20/1/22
2	20304205	B Venkateswara Rao	t-distribution - Properties	3/2/22
3	20304209	B Vivek	Sampling Distribution and Properties	20/1/22
4	20304212	G Jyothi	Methods of Estimation	2/2/22
5	20304219	K Chaitanya Vardhan	t-distribution - Properties	20/1/22
6	20304220	K Rajesh	t-distribution - Properties	3/2/22
7	20304222	K Anjaneyulu	t-distribution - Properties	2/2/22
8	20304223	K Sudheer Kumar	F-distribution-Properties	29/1/22
9	20304230	Md Yasin Ali	F-distribution-Properties	20/1/22
10	20304231	M Syam	F-distribution-Properties	3/2/22
11	20304234	N Lavanya	Criteria of a good estimator	19/1/22
12	20304235	N Priyanka	Thoery of Estimation	19/1/22
13	20304237	P Hemanth	Sampling Distribution and Properties	3/2/22
14	20304238	P Jishnu Suseela	Testing of Hypothesis	19/1/22
15	20304243	R Indira Bhavani	Basic concepts of Statistical Inference	2/2/22
16	20304245	S Abraham Lincoln	Chi-square distribution-Properties	20/1/22
17	20304247	S Uma Mahesh	Testing of Hypothesis	19/1/22
18	20304249	T Satya Kameswari	Hypothesis and its types	2/2/22
19	20304250	T Eswar	Chi-square distribution-Properties	2/2/22
20	20304251	V Naveen	t-distribution - Properties	3/2/22

II B.Sc D.S.Cs Jan **2020-21** **Sem-III** **Paper-III: Statistical Inference**

S.No	Regd No.	Name of the Student	Seminar Topic	Remarks
1	20307201	M Yugandhar	About Life	
2	20307202	A Mohan Venkata Sai	Swiggy	
3	20307205	L Manoj Kumar	B4, B6 Vehicle	Jan-2022
4	20307207	K Priyatham	Internet	
5	20307208	K Sasi Kiran	Stock Market	
6	20307209	K Kiran	Computer Knoledge	
7	20307211	Md Ahmedkhan	Zomoto and Rapido	
8	20307212	M Eswara Sai	Drugs	
9	20307213	P Mani Chand	Online Transactions - Phone Pay, G-Pay, etc	
10	20307214	S Naga Raju	LiFi	

Sem III | Seminars/Presentations | 2021-22 | Statistical Inference



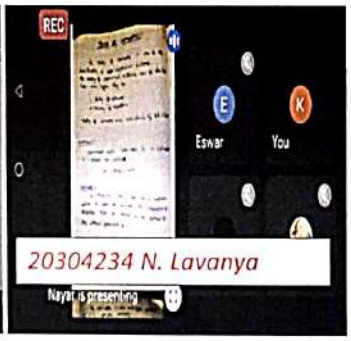
20304238 P.Jishnu Suseela



20304235 N. Priyanka

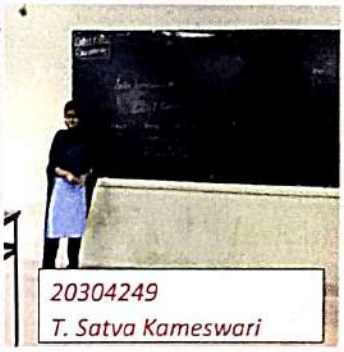


20304247 S.Uma Mahesh



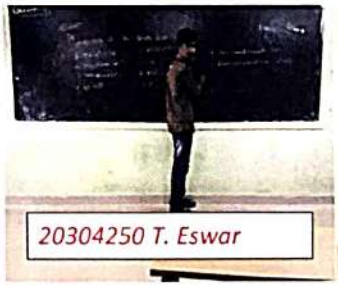
20304234 N. Lavanya


20304212 G. Jyothi

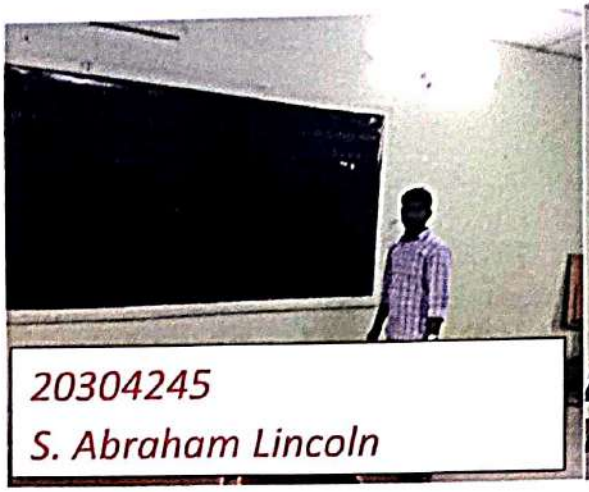

20304249
T. Satva Kameswari


20304243 R. Indira Bhavani


20304223 K. Sudheer Kumari


20304250 T. Eswar


20304230 Md.Yasin Ali



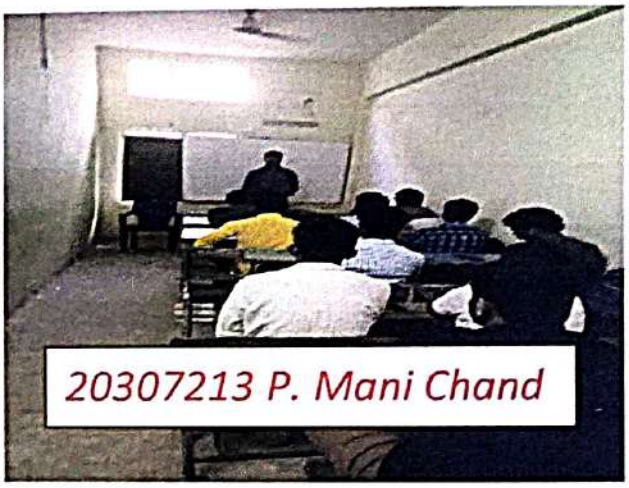
20304245
S. Abraham Lincoln



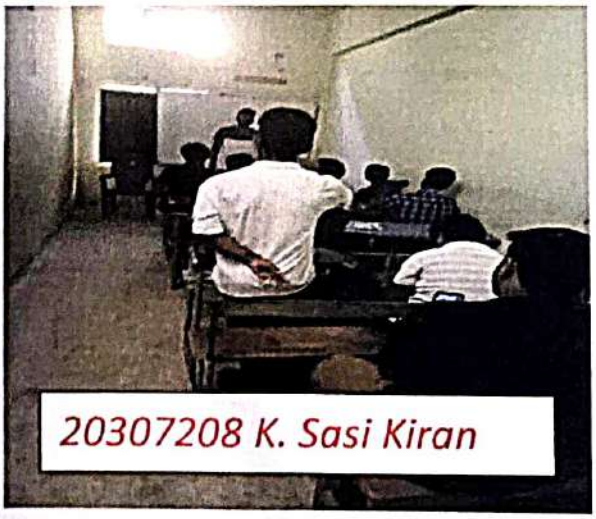
20304209 B.Vivek



20307214 S. Naga Raju



20307213 P. Mani Chand



20307208 K. Sasi Kiran

SRR & CVR Government College (A):Vijayawada

Department of Statistics

Student Presentations/Seminars

17-12-2021
18-12-2021
31-12-2021
06-01-2022

III B.Sc M.S.Cs 2021-22 Sem-V Paper-VI: Quality & Reliability

S.No	Regd No.	Name of the Student	Seminar Topic	Remarks
1	19304204	G Revathi	Consumer's and Producer's Risk	
2	19304205	Ch Sai Sarada	Consumer's and Producer's Risk	
3	19304206	Sk Chandini	X-bar Chart	
4	19304207	B Ganga Bhavani	Double Sampling Plan	
5	19304209	G Renuka Vaishnavi	Single Sampling Plan	
6	19304210	J Ravi Teja	SQC- Basic Concepts	
7	19304211	P Yamuna	Memoryless property of Exponential Distribution	
8	19304214	B Naga Lakshmi	Double Sampling Plan	
9	19304215	T Leela Bhavani	Single Vs Double Sampling Plans	
10	19304216	K Sirisha	Double Sampling Plan	
11	19304217	Ch Bhavana Venkata Durga Sai	Product and Process Control	
12	19304218	Ch Mukunda Priya	Single Sampling Plan	
13	19304219	S Lokeswari	4 M's in SQC	
14	19304220	Sk Shahina	p-chart for fixed sample size	
15	19304221	Sk Parvin Sultana	AOQL	
16	19304222	S Jyothi	Importance of SQC	
17	19304223	K Bharath	OC curves	
18	19304224	G Venu	Rectifying Sampling Inspection Plans	
19	19304225	P Karishma	Statistical Quality Control-Basic Concepts	
20	19304226	M Vaneswari	Reliability	
21	19304227	Ch SaiBabu	Reliability	
22	19304232	V Naga Prasanna Abhila	4 M's in SQC	
23	19304233	K Akhil	SQC - Basics and Control Charts	
24	19304235	G sravani sandhya	SQC- Basics and Uses	
25	19304236	K Anuhya	AOQL	
26	19304237	G Avinash	Control Charts	
27	19304238	J Prabhu Kumar	OC curves	
28	19304243	P Sudha	Double Sampling Plan	
29	19304244	M Johnson	SQC-Basics and Uses	
30	19304246	A Balaram Krishna	Reliability	
31	19304247	T Veena Sahithi	4 M's in SQC	
32	19304259	M Bhavya	Specification Limits	

Sem V | Seminars/Presentations | 2021-22 | Quality & Reliability


19304233 K. Akhil


19304210 J. Ravi Teja


19304204 G. Revathi


19304225 P. Karishma


19304244 M. Johnson


19304224 G. Venu



19304218 Ch. Madhu Priya



19304220 Sk. Sahina



19304214 B. Naga Lakshmi



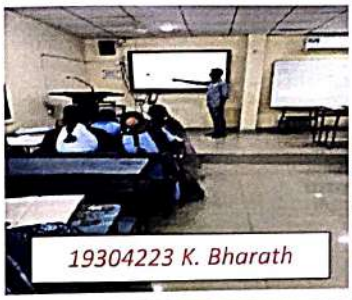
19304222 S. Jyothi



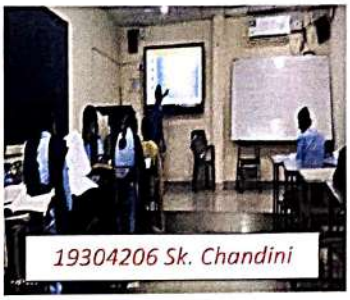
19304209 G.Renuka Vyshnavi



19304221 Sk.Parvin Sultana



19304223 K. Bharath



19304206 Sk. Chandini



19304226 M. Vaneswari



19304243 P. Sudha



19304211 P.Yamuna



19304232 V. Naga Prasanna Abhilash



19304246 A. Bala Rama Krishna

Department of Statistics

Student presentations / Seminars.

2021-22 Jan-2022

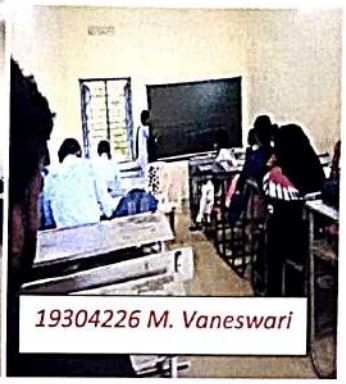
III BSC M.S.C.S Sem-V paper V - Sampling Tech & DOE

S.No	Regd No.	NAME	Seminar Topic
1	19304204	G. Revathi	Problems in Society.
2	19304205	Ch. Sai Sarada	Jobs based on degree.
3	19304214	B. Naga lakshmi	Jobs based on degree
4	19304218	Chimukurda priya	Jobs based on degree
5	19304222	S. Jyothi	Artificial Intelligence
6	19304224	G. Venu	problems in education System.
7	19304226	M. Vanusuari	Education
8	19304225	P. Krishna	Jobs based on 10+2
9	19304227	Ch. Sai babu	Subash Chandra Bose
10	19304233	K Akhil	E-vechicle.

Sem V | Seminars/Presentations | 2021-22 | Sampling Tech. & DOE



19304233 K. Akhil



19304226 M. Vaneswari

SRR & CVR Government College (A):Vijayawada

Department of Statistics

CIA Activity-I: Student Seminars/Web Assignments/Work Sheets

I B.Sc M.S.Cs 2021-22 (Feb) Sem-I Paper-I: Descriptive Statistics

S.No	Regd No.	Name of the Student	Title	Remarks
1	21304201	PALLAPOTHU SWAMY DHARMA TEJA	Work Sheet on "Importance & Scope of Statistics"	
2	21304202	KAVATI KAVYA	Work Sheet on "Statistics-Data types"	
3	21304203	VANUKURU RAVI KUMAR	Web assignment on "MOSPI"	
4	21304204	GEDALA DHANUSH	Web assignment on "MOSPI"	
5	21304205	VAKKALAGADDA KEERTHI	Web assignment on "MOSPI"	
6	21304206	MOTAKATLA SIVA SANKAR REDDY	Seminar on Measures of Central Tendency	
7	21304207	PALA SANTHOSH	Web assignment on "MOSPI"	
8	21304208	BURAGA ANKAMMA	N/S	
9	21304209	BADDA RUPAS	Web assignment on "MOSPI"	
10	21304210	MADDIBOINA HEMANTH	Web assignment on "MOSPI"	
11	21304211	GAVINI DURGAPRASAD	A survey on Agriculture	
12	21304212	PEDAMALLU TISWITHA	N/S	
13	21304213	UTLA BALAJI	Not Submitted	
14	21304214	CHINNI LAVANYA	Web assignment on "MOSPI"	
15	21304215	Jonnalagadda Hemanth sai	N/S	
16	21304216	MAMILLAPALLI VENKATA DURGA MALLESH	N/S	
17	21304217	KADIYALA JAYAPRAKASH	Web assignment on "MOSPI"	
18	21304218	DUDEKULA BABU	Web assignment on "MOSPI"	
19	21304219	CHINNIMGARI NARENDRA	Web assignment on "MOSPI"	
20	21304220	KASKANI ANIL	N/S	
21	21304221	SANGISETTI GANESH SAI	Web assignment on "MOSPI"	
22	21304222	ADIREDDY POOJITHA	Work Sheet on "Skewness" & Web assignment on "MOSPI"	
23	21304223	GURAJA PRATHIBHA	Work Sheet on "Correlation"	
24	21304224	TORLAPATI VIJAY KUMAR	Web assignment on "MOSPI"	
25	21304225	GOGULAMUDI CHARAN	N/S	
26	21304226	KOMMA LAKSHMI DURGA	Work Sheet on "Karl Pearson's Correlation"	
27	21304227	JETTI VINAY	N/S	

28	21304228	NANDA VENKATA ABHISHEK	N/S	
29	21304229	KALINGAPATNAM SAI KUMAR	N/S	
30	21304230	KOLLIPAKA NARENDRA	N/S	
31	21304231	DEVARAKONDA SWAMI	N/S	
32	21304232	SUREPALLI SIVA GURUVULU	Web assignment on "MOSPI"	

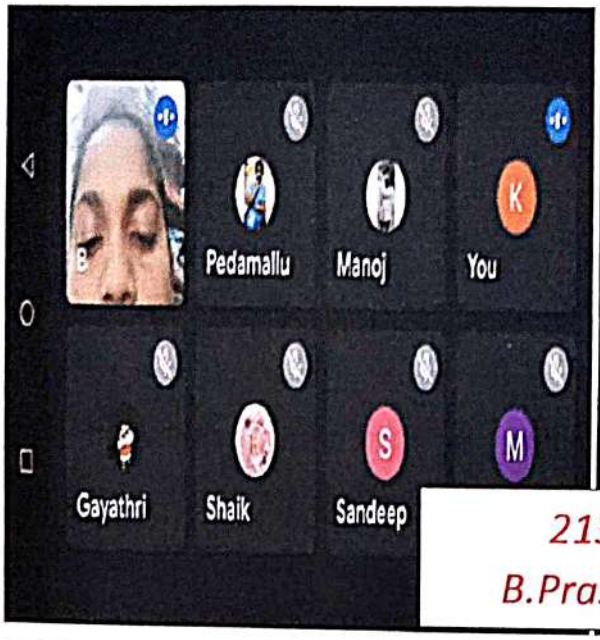
I B.Sc D.S.Cs 2021-22 Sem-I Paper-I: Descriptive Statistics

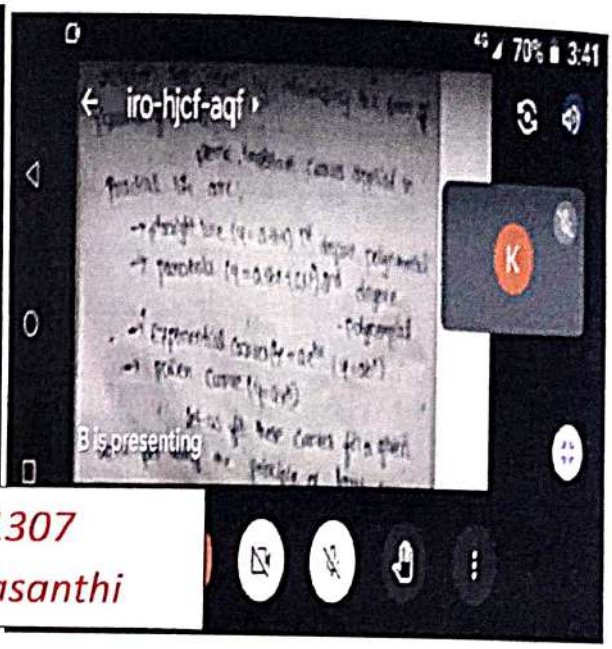
S.No	Regd No.	Name of the Student	Title	Remarks
1	21307201	PONNAMPALLI MANOJ	Web Assignment on "MOSPI"	
2	21307202	KANKIPATI MOHAN SIVA GOPAL	Web Assignment on "MOSPI"	
3	21307203	GOTTIMUKKALA GAYATHRI	Seminar on "Presentation of data-Diagrams & Graphs"	
4	21307204	SHAIK SHAKEERA	Web Assignment on "MOSPI"	
5	21307205	BONTHA PRASANTHI	Seminar on "Curve Fitting"	
6	21307206	BATTULA VENKATA SANDEEP	Survey on 'Covid-19"	
7	21307207	SHAIK KOWSAR	Seminar on "Correlation-Measures"	
8	21307208	TUMATI MAHESH BABU	Web Assignment on "MOSPI"	
9	21307209	KALIDASU IMMANIELU	Web Assignment on "MOSPI"	
10	21307210	KONDAPALLI PUJITHA	Web Assignment on "MOSPI"	
11	21307211	JANGAM RAKESH	Web Assignment on "MOSPI"	
12	21307212	MIRIYALA MOUNIKA	Web Assignment on "MOSPI"	
13	21307213	INDUPALLI VAMSI	Web Assignment on "MOSPI"	
14	21307214	SANTHATI SAI	Web Assignment on "MOSPI"	
15	21307215	GANJETI DURGAPRASAD	N/S	
16	21307216	BODDU PRAKASH	Web Assignment on "MOSPI"	
17	21307217	VEERADASU JOSEPH	Web Assignment on "MOSPI"	
18	21307218	KATTA GOPI CHAND	Web Assignment on "MOSPI"	
19	21307219	THOTTEMPUDI SHIVA RAMAKRISHNA	Web Assignment on "MOSPI"	
20	21307220	LANKALAPALLI CHITTIBABU	N/S	
21	21307221	MUCHU MAHENDRA	N/S	
22	21307222	DUPATI GOPI	N/S	
23	21307223	KUNCHALA JYOTHI PRAKASH REDDY	N/S	

Sem I | Seminars/Presentations | 2021-22 | Descriptive Statistics

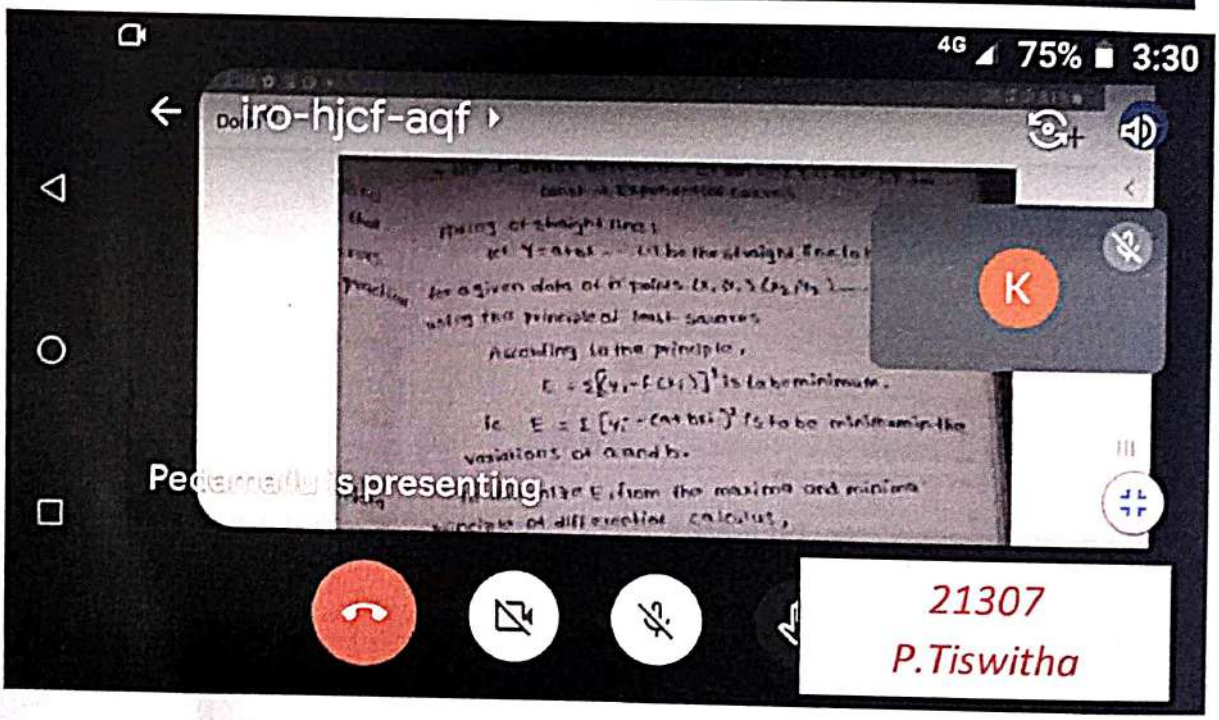








21307
B.Prasanthi



21307
P.Tiswitha

SRR & CVR GOVT.DEG.COLLEGE (AUTONOMOUS)2018-2019

DEPARTMENT OF STATISTICS

IIB.Sc STUDENT SEMINARS

S.NO.	Name of the student	Topic
1	N.VENKATA NAGA LAKSHMAIAH	Curve fitting
2.	J.SUBRAMANYAM	Exponential curves
3.	CH. ANIL	REGRESSION & CORRE-LATION.
4.	P.SURENDRA	REGRESSION & CORRELATION
5.	A.kishankumar	curve fitting
6.	N.Venkateswarlu	kpcc
7.	J. srinivasa	Properties of regression lines
8.	Mohammed Shariff Baig	Population
9.	G. Durga Chaitanya	curve fitting
10.	G. CHANDU RAM	KPCC
11.	B. Durga Prasad	Independent of attributes
12.	E. Venkatesh	Exponential curves.
13.	P. Amar kumar	Curve fitting
14.	V. Narendra	Yules Co-efficient of association
15.	U. Vasu	Independent of attributes
16.	S. Rajesh	Yules co-efficient of associations

SRR & CVR GOVT.DEG.COLLEGE (AUTONOMOUS)2018-2019

DEPARTMENT OF STATISTICS

IIB.Sc STUDENT SEMINARS

S.NO.	Name of the student	Topic
17.	B. Sukanya	Association of attributes
18.	M. Radhika	Correlation ratio
19.	M. Lakshmi prasana	Consistancy of data
20.	J. Kalyani	yule's co-efficie
21.	K. Nandini	Student's t-distribution collagation
22.	K. Madhosi	Snedecor's F-distribut
23.	Y. Bhavani	least square of linear curv
24.	G. Bindu Sree	Introduction of Attribut
25.	R. pushpa Sai	exact Sampling (def
26.	B. Bhavani	Relation b/w class frequency.
27.	M. Sushmitha Rani	Fitting of a curve
28.	M. Tanuja	Regression Lines
29.	M. soni	chi-square distribut
30.	G. Bhaskara Rao	Regression Lines
31.	P. Sai	Binte yules co-efficient associations

SRR & CVR GOVT.DEG.COLLEGE (AUTONOMOUS)2018-2019

DEPARTMENT OF STATISTICS

IIB.Sc STUDENT SEMINARS

S.NO.	Name of the student	Topic
32	D. Siva Rama Krishna	exponetial curve.
33	S. Narasimha Swamy	cofficient of contin-gency

II B.Sc(M.Sc) - Statistics - Seminars

2018-19









DEPARTMENT OF STATISTICS 2018-19

I BSC (MSC'S) STUDENT SEMINARS

S.NO	Name of the Student	Topic
1.	Md. Hafeejunnisa	Measures of dispersion
2.	T. Kala	Addition theorem
3.	P. Anusha	Problem on addition theorem
4.	M. Gayathri	Bay's theorem
5.	G. Rajeswari	Multiplication theorem
6	P. Prathy	Measures of dispersion
7	Md. Habibulla	Bayes thm
8	Y. Sriadh	Standard Deviation
9	A. Ganesh	Addition theorm n events
10	T. Sruthi	Addition theorm of Prob
11	D. Nelima	multiplication theorem
12	M. Manasvini	Multiplication Theorem
13.	Madhu Sudhan Reddy. H	Addition theorem
14	V. Sirisha	Bayes theorem
15.	G. Vamsi	Multiplication Theorem
16	A. Bhagyalakshmi	Multiplication theorem
17,	A. Jahnavi	Multiplication for n events
18	A. krishnaveni	complementary event
19.	K. Sauthi	Probability for two events
20	P. Yamuna	Central tendency
21	Y. Sivaganesh	Skewness
22.	B. Suryateja	Conditional probability
23	J. Durga Prasad	Probability for impossible event
24	T. Siva Kumar	Addition Theorem for 2 events
25	J. Ravi Teja	probability of complementary
26	S Bhavani	Independent Events
27	K. Neelamathi	Bocale's coeff of skewness
28.	T. Bhavani	kurtosis pearsons coeff

S.NO	Name of the Student	Topic
29	B. Leela sankar	Addition theorm of Probability

I BSC (MSc's) - Student Seminars











S.R.R&C.V.R GOVT.DEG.COLLEGE(Autonomous)2017-1

Department of Statistics

IB.Sc. Student Seminars 5/2/18

S.No.	Name of the student	Topic
1.	B. Revanth	Primary data,
2.	Mohammed Shariff Baig	secondary data
3.	Ch. Kishan	non-central moments
4.	G. Bhaskara Rao	Central Moments
5.	ch. Anil	Central moments.
6.	M. Tanuja	Questioneer
7.	Mamata kumari	Schedule
8.	K. Nandini	Hyper Geometric distribution
9	B. Sukanya	Binomial distribution
10.	V. Devi	Possion distribution
11.	M. Sushmitha Rani	kurtosis and skeeone
12.	A. Kishankumar	Binomial distribution
13.	E. Venkatesh	Binomial distribution.
14.	J. Srinivasa	central moments
15.	B. Bhavani	Questioneer.
16.	R. pushpa sai	primary data secondary data.
17.	N. Venkateswarlu	central moments
18.	Y. Bhavani	Geometric distribution
19	G. Bindu Sree	Geometric distribution

S.R.R&C.V.R GOVT.DEG.COLLEGE(Autonomous)2017-18

Department of Statistics

IB.Sc. Student Seminars

S.No.	Name of the student	Topic
1.	M. Sushmitha Rani	
2.	Mamata kumari	
3.	B. Bhavani	
4.	K. Nandini	
5.	B. Sukanya	
6.	V. Devi	
7.	ch. Kishan	
8.	B. Revanth.	
9.	Mohammed Shariff Baig	
10.	Ch. Anil.	
11.	G. Bhaskara Rao.	
12	M. Tanya.	
13.	V. Vasu	Binomial Distribution
14.	M. Mounika	Binomial Distribution
15.	M. Soni	
16.	G. Chandu Rao.	
17.	N. Venkateswarlu.	central moments
18.	B. Neelakanteswararao	Poission distribution
17.	J. Subramanyam	Negative Binomial distribution

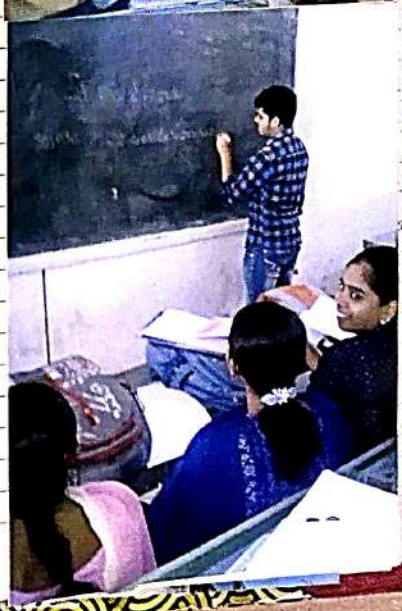
Lecturer:

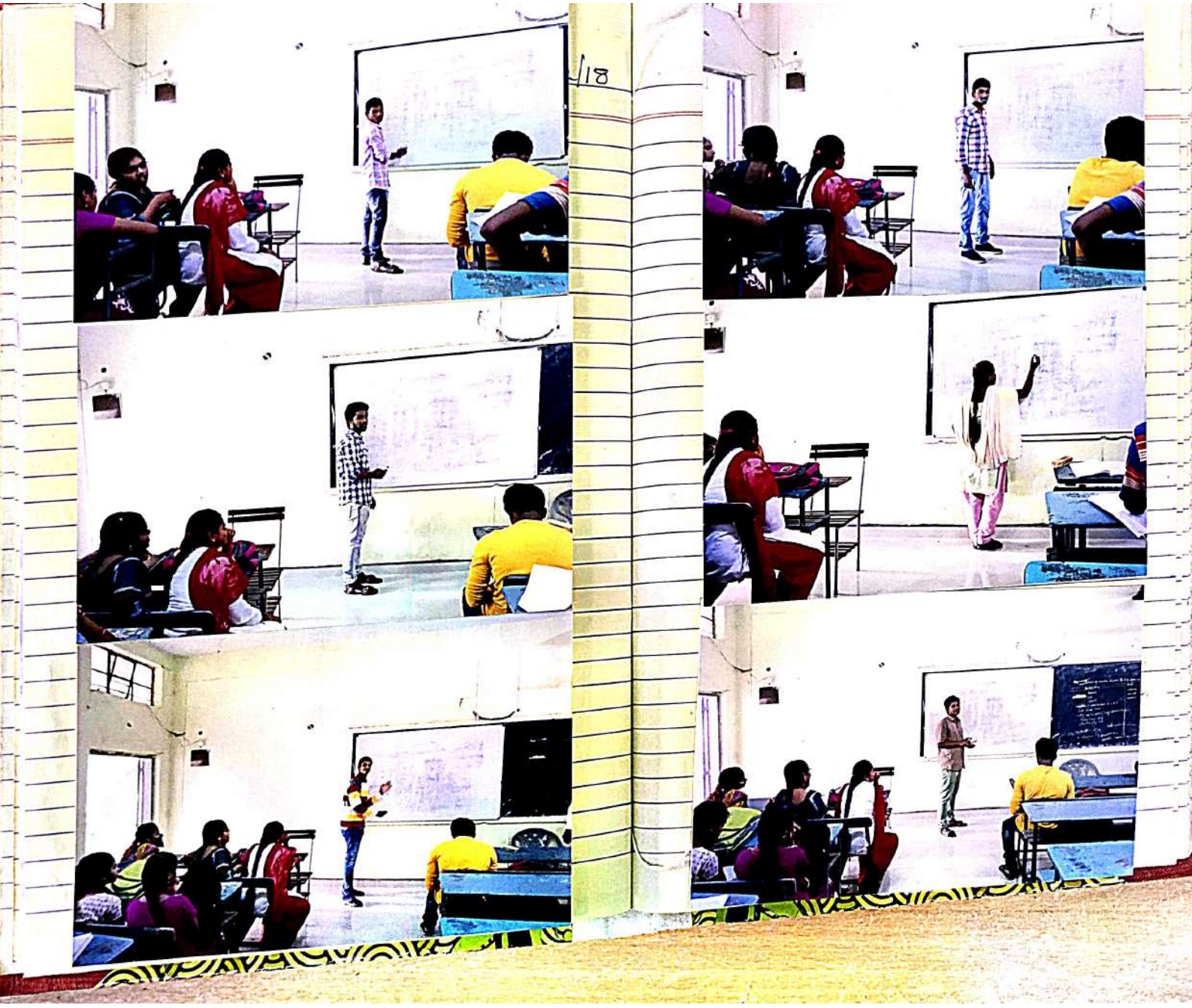
Principal











Department of Statistics

Student Seminars

2016-17

50

1) Name of the student: M. Niharika
Admission No : 2463
Class : I^st B.Sc [MSCS]
Name of the topic : Primary data.
Date : 14/10/2016
Hour : 3rd hour.

This statistical data which collected for the first time in original units, is called Primary data. 4 types of Primary sources:-
① Direct personal interview ② Indirect personal interview
③ Mailed questionnaire method ④ Information there local agents

Signature.
M. Niharika.

2) Name of the student : K. Padmavathi.
Admission no : 2239
Class : I BSC (MSCS)
Name of the topic : Addition theorem for 'n' events
Date : 14-10-2016
Hour : 3rd hour

Addition theorem for 'n' events :- $A_1, A_2, A_3 \ldots A_n$ are 'n' events then

$$P(\bigcup_{i=1} A_i) = \sum_{i=1} P(A_i) - \sum_{1\le i<j\le n} P(A_i \cap A_j) + \sum_{1\le i<j<k\le n} P(A_i \cap A_j \cap A_k)$$

$$- \ldots\ldots + (-1)^{n-1} P(A_1 \cap A_2 \cap \ldots\ldots \cap A_n) \quad \text{—①}$$

Signature.
K. Padmavathi

17.5.

3) Name of the Student : L. Sai Surya.
Admission No : 2336
class : I BSC (MSCS)
Name of the topic : Boole's 1st inequality
Date : 14-10-2016
Hour : 3rd hour

Boole's 1st inequality :-

For 'n' events $A_1, A_2 \ldots A_n$
we have $P(\bigcup_{i=1}^{n} A_i) \ge \sum_{i=1}^{n} P(A_i) - (n-1)$ —I

Signature.
L. Sai Surya.

4) Name of the Student : T. Akhil
Admission No : 2760
Class : I. Bsc (MSCS)
Name of the topic : Sheppard Corrections
Date : 14-10-2016
Hour : 3rd hour

Sheppard Corrections :

In case of grouped frequency distribution, while calculating mean or any other frequency we assume that the mid value is Concentrated on the frequency, otherwise some error will exist

$$\mu_2 = \mu_2' - \frac{h^2}{12} \; ; \; \mu_3 = \mu_3' \; ; \; \mu_4 = \mu_4' - \frac{1}{2} h^2 \mu_2' + \frac{7}{240} h^4.$$

Signature : T. Akhil.

5) Name of the Student :- G. Suribabu
Admission No :- 2416
Class :- I^st B.Sc [MSCS]
Name of the topic :- Extention theorem for "n" events
Date :- 14/10/16
Hour :- 3rd hour

Extention theorem for "n" events :- If $A_1, A_2, \ldots, A_n$ are any "n" events then $P(A_1 \cap A_2 \cap \ldots \cap A_n) = P(A_1) \cdot P(A_2/A_1) \cdot P(A_3/A_1 \cap A_2) \cdots P(A_n/A_1 \cap A_2 \cap \ldots \cap A_{n-1})$ — 2

Signature
G. Suribabu

6) Name of the student :- V. Nagaraju
Admission No :- 2228
Class :- I^st BSC [MSCS]
Name of the topic :- Bode's 2nd inequality
Date :- 14-10-2016
hour :- 3rd hour.

Bode's 2nd inequality :- For n events $A_1, A_2, \ldots, A_n$ we have
$P\left(\bigcup_{i=1}^{n} A_i\right) \leq \sum_{i=1}^{n} P(A_i) \longrightarrow (1)$

Signature
V. Nagaraju

7) Name of the Student :- G. Nagendra Babu
Admission No :- 2280
Class :- I^st Bsc (MSCS)
Name of the topic :- Distribution Function
Date :- 14-10-2016
hour :- 3rd hour

Distribution Function :- It is denoted by $F_X(x)$ and it is defined as $F_X(x)$.

$F(x) = P(X \leq x) = \sum_{-\infty}^{x} P(x)$ (if x discrete)

$= P(X \leq x) = \int_{-\infty}^{x} f(x)\,dx$ (if x continuous)

8) Name of the Student :- T. yasodadurga
Admission No :- 2335
Class :- I^st B.Sc (M.S.CS)
Name of the topic :- Multiplication theorem for 2 events.
Date :- 14-10-2016
hour :- 3rd hour.

Multiplication theorem for 2 events :-

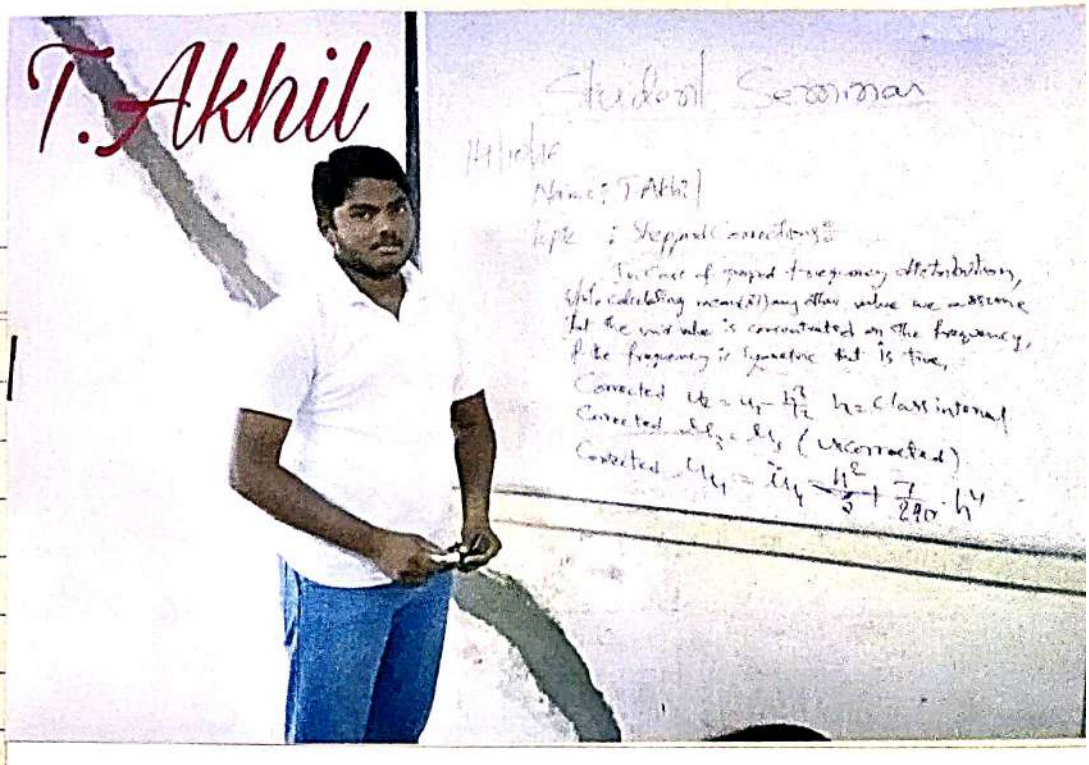
Statement :-

If A and B are any two events of them

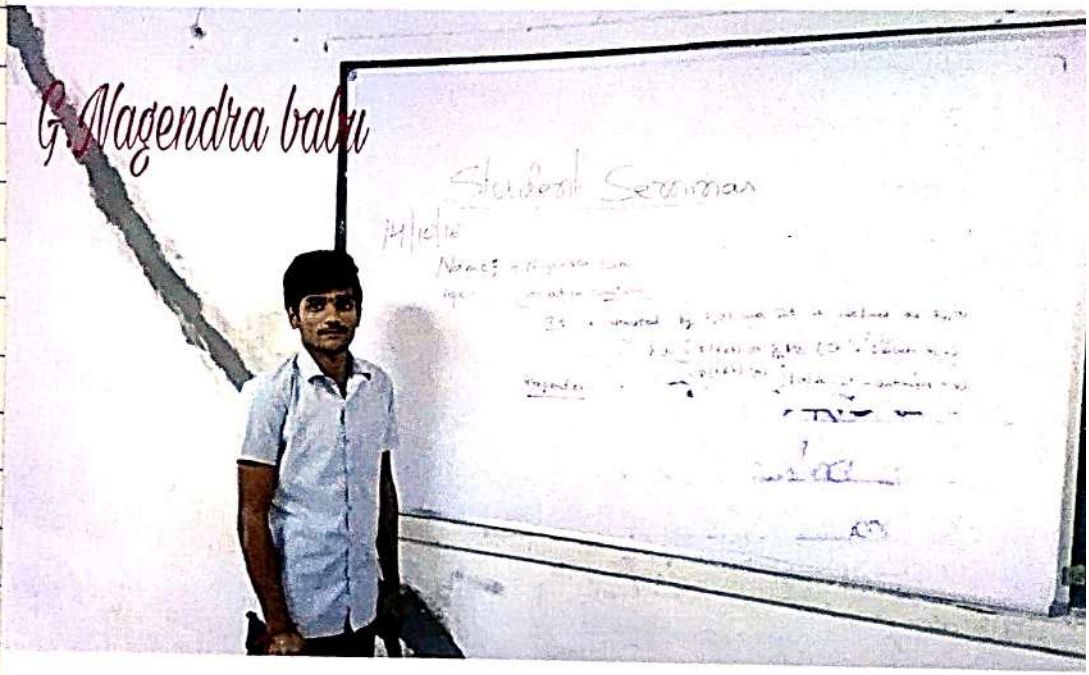
$P(A \cap B) = P(A) \cdot P(B/A)$:- then $A \neq 0$
(or)
$P(B) \cdot P(A/B)$:- then $B \neq 0$

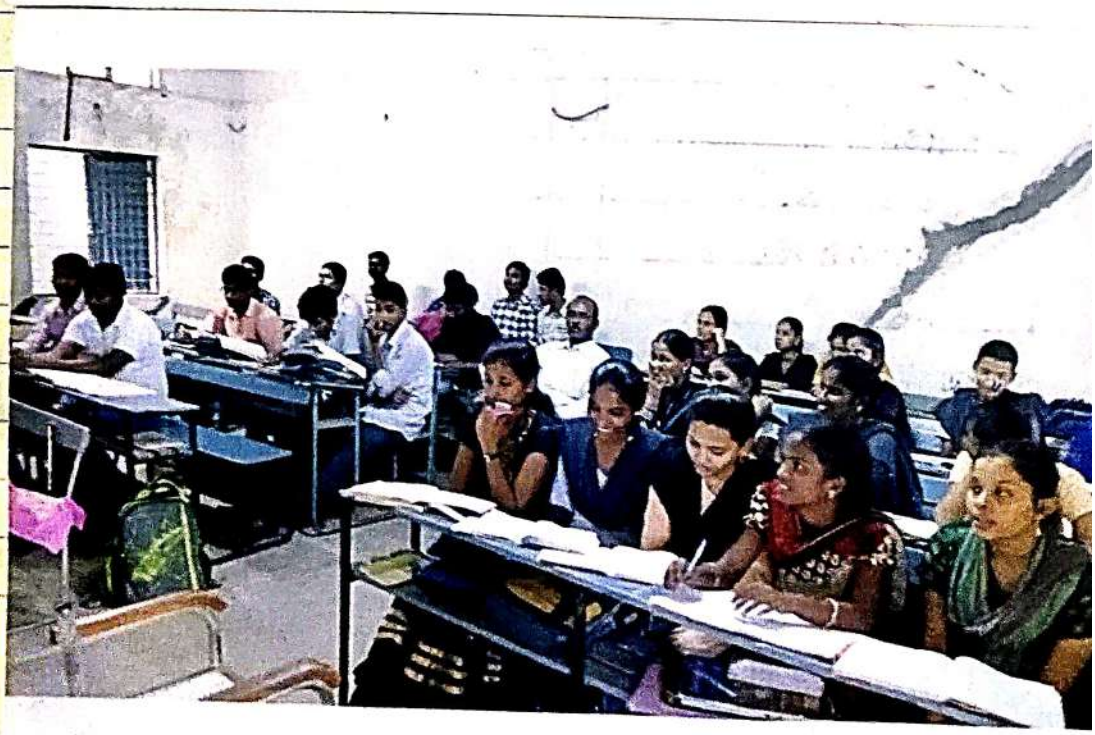
T. yasodadurga

T. Akhil



G. Nagendra babu





Statistics - Student seminars

14-10-2016

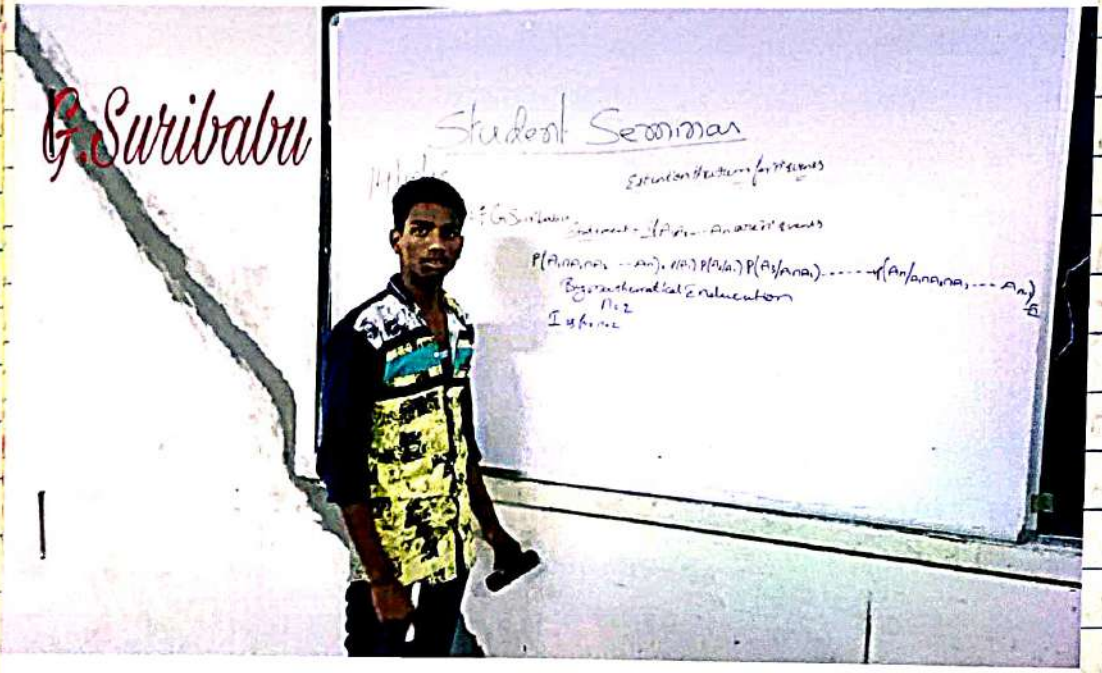
Signatures of the Students participated in the Seminar 55

1	K. Durga	Durga. K
2.	M. Aruna	Aruna
3.	T. Swathi	T. Swathi
4.	Ch. Bhavani	Ch. Bhavani
5.	E. Twinkle Monica	E. Twinkle Monica
6.	P. Swetha	P. Swetha
7.	M. Madhavi latha	M. Madhavi latha
8.	S. Rama devi	S. Rama devi
9.	ch. Devi	ch. Devi
10	G. Venkata sai Pavani	G. Venkata sai Pavani
11.	Y. Navya	Y. Navya
12.	Y. Hasina	Y. Hasina
13.	S. Bhavani	S. Bhavani.
14.	G. Jyothi	G. Jyothi.
15.	ch. Sivaparvathi	ch. Siva parvathi
16.	T. Yasodadurga	T. Yasodadurga
17.	G. Nagendra Babu	G. Nagendra Babu
18.	G. Surendra	G. Surendra
19.	A. Mohan	A. Mohan
20.	O. Gladcliffe	O. Gladcliffe
21	T. Venkatesh	T. Venkatesh
22.	B. Srinu	B. Srinu
23.	A. Ramakrishna	A. Ramakrishna
24.	A. Khaja hussain	A. Khaja hussain.
25.	K. Sai kumar	K. Sai kumar
26.	N. H. V. Srinivas	
27	P. Prakash	P. Prakash
28	Ch. Saisravan kumar	Ch.

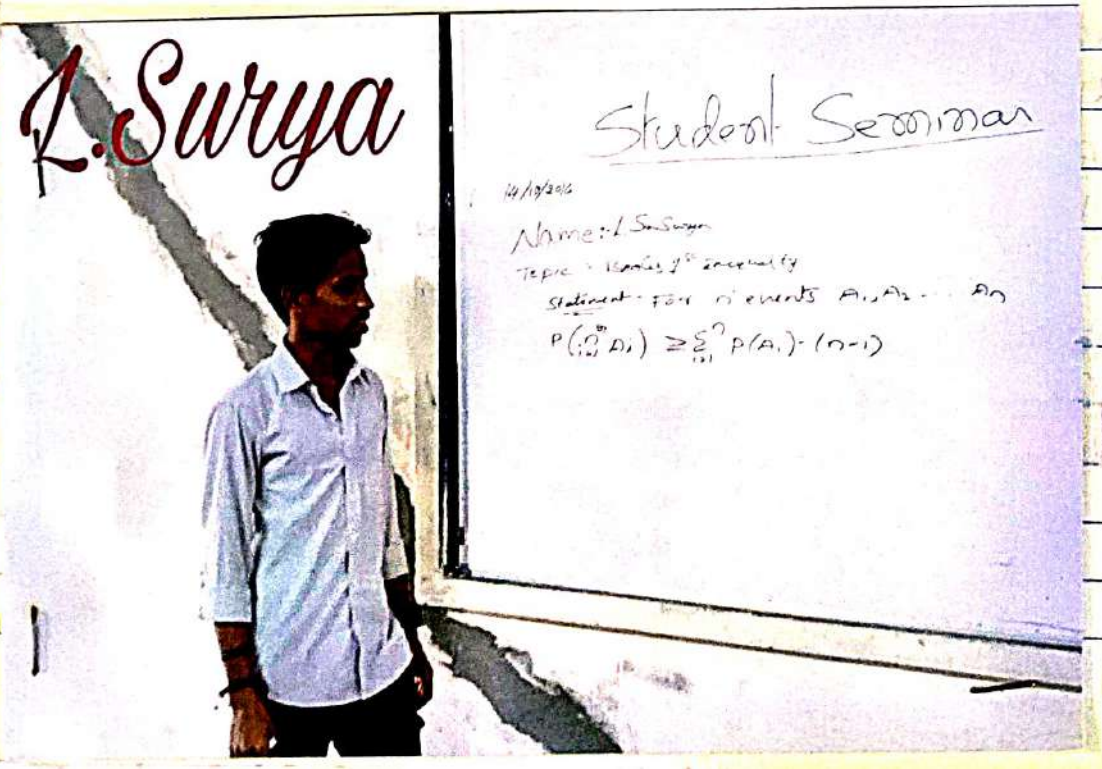
V. Nagaraju



G. Suribabu



L. Surya



1) Name of the Student : M. DIVYA Jyothi
Register Number : Y153174160
class : II Bsc (MSCS)
Name of the topic : Karal Pearson's coefficient of correlation
Hour : IV Hour
Date : 13-10-2016

The karal pearson's coeffient of correlation is denoted by the 'r'. and the KPCC which not only tells the nature of the correlation but also give's the amount of the correlation. and it is given by $r(x,y) = \frac{cov(x,y)}{\sigma_x \cdot \sigma_y}$.

$cov(x,y) = \frac{\Sigma xy}{n} - \bar{x}\bar{y}$

$\sigma_x = \sqrt{\frac{\Sigma x^2}{n} - (\bar{x})^2}$; $\sigma_y = \sqrt{\frac{\Sigma y^2}{n} - (\bar{y})^2}$

2) Name of the student : SHAIK. AFRIN
Register Number : Y153174169
class : II B.Sc [MSCS]
Name of the topic : correlation, population, sample
Date : 13-10-2016

correlation : If two variables x and y are said to be correlated if the change in one variable corresponding change in other variable then that is called correlation. There four types positive correlation, negative correlation, Linear correlation, non-linear correlation.

population : A group of individuals under investigation is called population.
sample :- Any part of the population is called sample.

3) Name of the student : TYAGAMRAJU SRINIVASULU
Register number : Y153174171
class : II B.Sc (M.S.C)
Name of the TOPIC : Sampling distribution, Standard error
Date : 13-10-2016

Sampling distribution :- Suppose we want to draw a sample size (n) from a finite population (N) then the total no. of possible samples are

$NCn = \frac{N!}{(N-n)!n!}$ = K (say)

for each of these samples we can compute any statistic

Standard error : The standard error of the sampling distribution of the statistic is called standard error of the statistic

eg: Sample error of sample mean $= \frac{c}{\sqrt{n}}$

13-10-2016

Signatures of the Students Participated in the Seminar

1)	Sk. Afsin	Sk. Afsin
2)	N. Parvani	N. Parvani
3)	R. Renuka	R. Renuka
4)	D. Divya.	D. Divya
5)	E. Ramya.	E. Ramya.
6)	R. Sailaja	R. Sailaja
7)	S. KESAVA RAO	S. Kesava Rao
8)	T. Srinivasulu	T. Srinivasulu
9.	V. RAM GOPAL.	Ram gopal. V
10.	K. Navya	K. Navya.
11.	V. Gamanika Rani	V. Gamanika Rani
12.	B. Bhagyavathi	B. Bhagyavathi
13.	P. Durga Bhavani	P. Durga Bhavani
14.	M. Naga bushanam	M. Naga bushanam
15.	M. Divya Jyothi	M. Divya Jyothi
16.	T. Venkateswarlu	T. Venkateswarlu
17.	M.J. Krishna Surya	M.J. Krishna Surya
18.	Shaik Rasheed	Sk. Rasheed
19.	Y. Srikanth	Y. Srikanth.
20.	Ch. Durga Rao	Ch. Durga Rao.
21.	K. Prasanth kumar	K. Prasanth kumar
22.	B. Satish	B. Satish
23.	G. Rajesh	G. Rajesh

SRR & CVR Government College (A):Vijayawada

Department of Statistics

Student Presentations/Seminars

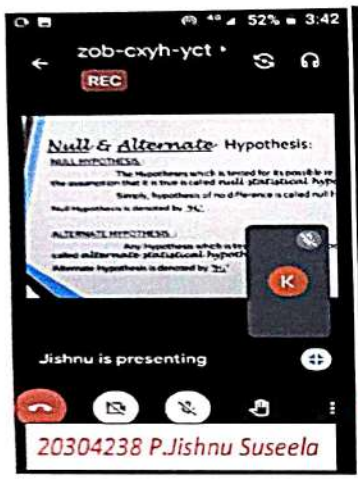
II B.Sc M.S.Cs **2020-21** **Sem-III** **Paper-III: Statistical Inference**

S.No	Regd No.	Name of the Student	Seminar Topic	Remarks
1	20304202	A Jagadish	t-distribution - Properties	20/1/22
2	20304205	B Venkateswara Rao	t-distribution - Properties	3/2/22
3	20304209	B Vivek	Sampling Distribution and Properties	20/1/22
4	20304212	G Jyothi	Methods of Estimation	2/2/22
5	20304219	K Chaitanya Vardhan	t-distribution - Properties	20/1/22
6	20304220	K Rajesh	t-distribution - Properties	3/2/22
7	20304222	K Anjaneyulu	t-distribution - Properties	2/2/22
8	20304223	K Sudheer Kumar	F-distribution-Properties	29/1/22
9	20304230	Md Yasin Ali	F-distribution-Properties	20/1/22
10	20304231	M Syam	F-distribution-Properties	3/2/22
11	20304234	N Lavanya	Criteria of a good estimator	19/1/22
12	20304235	N Priyanka	Thoery of Estimation	19/1/22
13	20304237	P Hemanth	Sampling Distribution and Properties	3/2/22
14	20304238	P Jishnu Suseela	Testing of Hypothesis	19/1/22
15	20304243	R Indira Bhavani	Basic concepts of Statistical Inference	2/2/22
16	20304245	S Abraham Lincoln	Chi-square distribution-Properties	20/1/22
17	20304247	S Uma Mahesh	Testing of Hypothesis	19/1/22
18	20304249	T Satya Kameswari	Hypothesis and its types	2/2/22
19	20304250	T Eswar	Chi-square distribution-Properties	2/2/22
20	20304251	V Naveen	t-distribution - Properties	3/2/22

II B.Sc D.S.Cs Jan **2020-21** **Sem-III** **Paper-III: Statistical Inference**

S.No	Regd No.	Name of the Student	Seminar Topic	Remarks
1	20307201	M Yugandhar	About Life	
2	20307202	A Mohan Venkata Sai	Swiggy	
3	20307205	L Manoj Kumar	B4, B6 Vehicle	Jan-2022
4	20307207	K Priyatham	Internet	
5	20307208	K Sasi Kiran	Stock Market	
6	20307209	K Kiran	Computer Knoledge	
7	20307211	Md Ahmedkhan	Zomoto and Rapido	
8	20307212	M Eswara Sai	Drugs	
9	20307213	P Mani Chand	Online Transactions - Phone Pay, G-Pay, etc	
10	20307214	S Naga Raju	LiFi	

Sem III | Seminars/Presentations | 2021-22 | Statistical Inference



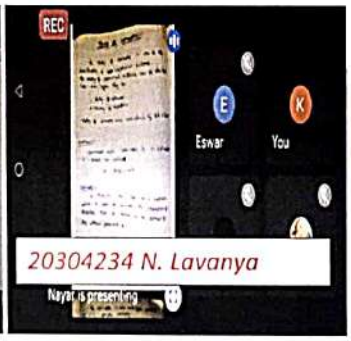
20304238 P.Jishnu Suseela



20304235 N. Priyanka

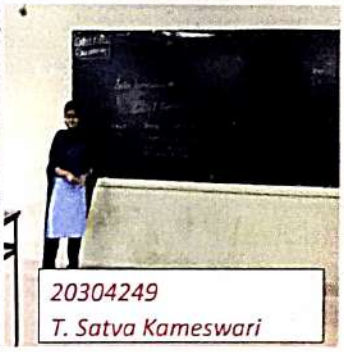


20304247 S.Uma Mahesh



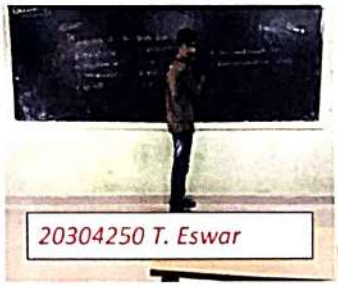
20304234 N. Lavanya


20304212 G. Jyothi

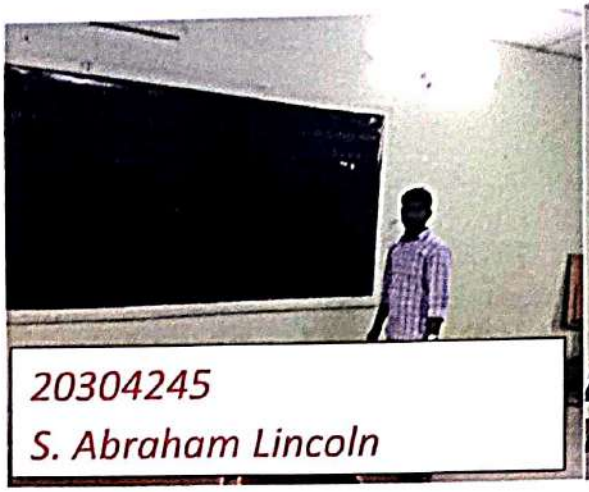

20304249
T. Satva Kameswari


20304243 R. Indira Bhavani


20304223 K. Sudheer Kumari


20304250 T. Eswar


20304230 Md.Yasin Ali



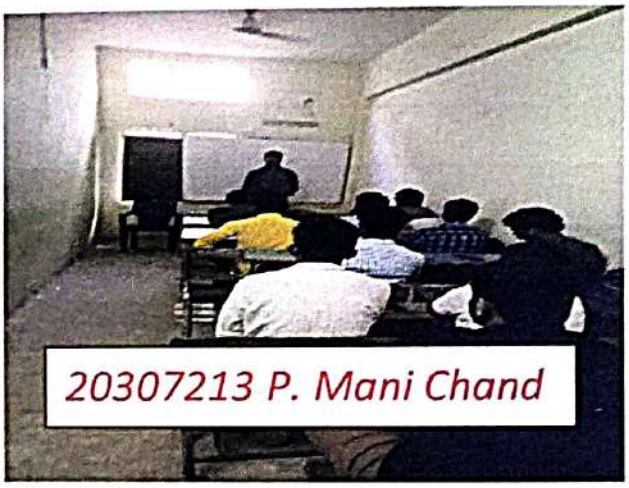
20304245
S. Abraham Lincoln



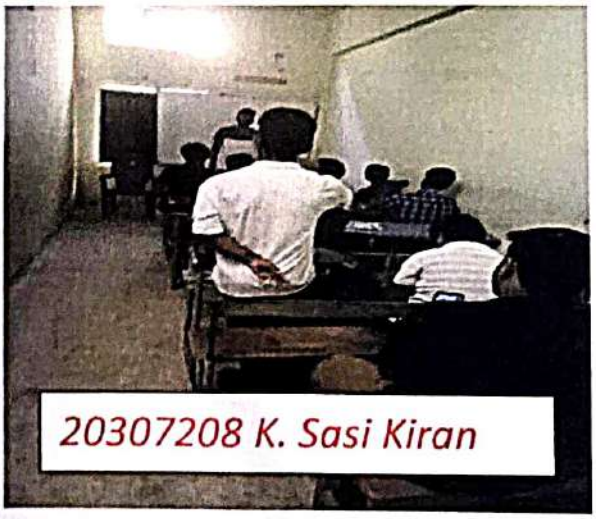
20304209 B.Vivek



20307214 S. Naga Raju



20307213 P. Mani Chand



20307208 K. Sasi Kiran

SRR & CVR Government College (A):Vijayawada

Department of Statistics

Student Presentations/Seminars

17-12-2021
18-12-2021
31-12-2021
06-01-2022

III B.Sc M.S.Cs 2021-22 Sem-V Paper-VI: Quality & Reliability

S.No	Regd No.	Name of the Student	Seminar Topic	Remarks
1	19304204	G Revathi	Consumer's and Producer's Risk	
2	19304205	Ch Sai Sarada	Consumer's and Producer's Risk	
3	19304206	Sk Chandini	X-bar Chart	
4	19304207	B Ganga Bhavani	Double Sampling Plan	
5	19304209	G Renuka Vaishnavi	Single Sampling Plan	
6	19304210	J Ravi Teja	SQC- Basic Concepts	
7	19304211	P Yamuna	Memoryless property of Exponential Distribution	
8	19304214	B Naga Lakshmi	Double Sampling Plan	
9	19304215	T Leela Bhavani	Single Vs Double Sampling Plans	
10	19304216	K Sirisha	Double Sampling Plan	
11	19304217	Ch Bhavana Venkata Durga Sai	Product and Process Control	
12	19304218	Ch Mukunda Priya	Single Sampling Plan	
13	19304219	S Lokeswari	4 M's in SQC	
14	19304220	Sk Shahina	p-chart for fixed sample size	
15	19304221	Sk Parvin Sultana	AOQL	
16	19304222	S Jyothi	Importance of SQC	
17	19304223	K Bharath	OC curves	
18	19304224	G Venu	Rectifying Sampling Inspection Plans	
19	19304225	P Karishma	Statistical Quality Control-Basic Concepts	
20	19304226	M Vaneswari	Reliability	
21	19304227	Ch SaiBabu	Reliability	
22	19304232	V Naga Prasanna Abhila	4 M's in SQC	
23	19304233	K Akhil	SQC - Basics and Control Charts	
24	19304235	G sravani sandhya	SQC- Basics and Uses	
25	19304236	K Anuhya	AOQL	
26	19304237	G Avinash	Control Charts	
27	19304238	J Prabhu Kumar	OC curves	
28	19304243	P Sudha	Double Sampling Plan	
29	19304244	M Johnson	SQC-Basics and Uses	
30	19304246	A Balaram Krishna	Reliability	
31	19304247	T Veena Sahithi	4 M's in SQC	
32	19304259	M Bhavya	Specification Limits	

Sem V | Seminars/Presentations | 2021-22 | Quality & Reliability


19304233 K. Akhil


19304210 J. Ravi Teja


19304204 G. Revathi


19304225 P. Karishma


19304244 M. Johnson


19304224 G. Venu



19304218 Ch. Madhu Priya



19304220 Sk. Sahina



19304214 B. Naga Lakshmi



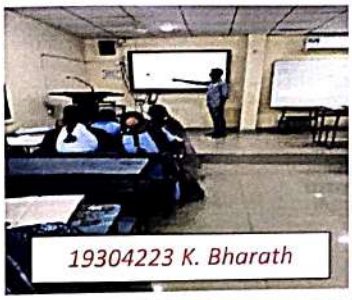
19304222 S. Jyothi



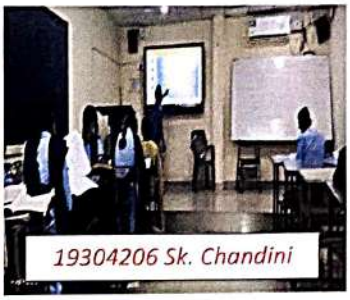
19304209 G.Renuka Vyshnavi



19304221 Sk.Parvin Sultana



19304223 K. Bharath



19304206 Sk. Chandini



19304226 M. Vaneswari



19304243 P. Sudha



19304211 P.Yamuna



19304232 V. Naga Prasanna Abhilash



19304246 A. Bala Rama Krishna

Department of Statistics

Student presentations / Seminars.

2021-22 Jan-2022

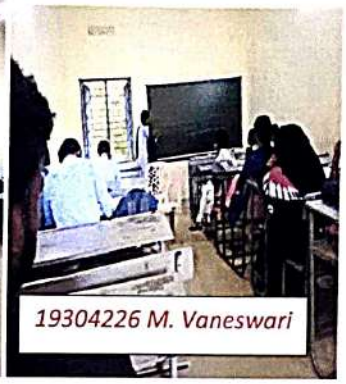
III BSC M.S.C.S Sem-V paper V - Sampling Tech & DOE

S.No	Regd No.	NAME	Seminar Topic
1	19304204	G. Revathi	Problems in Society.
2	19304205	Ch. Sai Sarada	Jobs based on degree.
3	19304214	B. Naga lakshmi	Jobs based on degree
4	19304218	Chimukurda priya	Jobs based on degree
5	19304222	S. Jyothi	Artificial Intelligence
6	19304224	G. Venu	problems in education System.
7	19304226	M. Vanusuari	Education
8	19304225	P. Krishna	Jobs based on 10+2
9	19304227	Ch. Sai babu	Subash Chandra Bose
10	19304233	K Akhil	E-vechicle.

Sem V | Seminars/Presentations | 2021-22 | Sampling Tech. & DOE



19304233 K. Akhil



19304226 M. Vaneswari

SRR & CVR Government College (A):Vijayawada

Department of Statistics

CIA Activity-I: Student Seminars/Web Assignments/Work Sheets

I B.Sc M.S.Cs 2021-22 (Feb) Sem-I Paper-I: Descriptive Statistics

S.No	Regd No.	Name of the Student	Title	Remarks
1	21304201	PALLAPOTHU SWAMY DHARMA TEJA	Work Sheet on "Importance & Scope of Statistics"	
2	21304202	KAVATI KAVYA	Work Sheet on "Statistics-Data types"	
3	21304203	VANUKURU RAVI KUMAR	Web assignment on "MOSPI"	
4	21304204	GEDALA DHANUSH	Web assignment on "MOSPI"	
5	21304205	VAKKALAGADDA KEERTHI	Web assignment on "MOSPI"	
6	21304206	MOTAKATLA SIVA SANKAR REDDY	Seminar on Measures of Central Tendency	
7	21304207	PALA SANTHOSH	Web assignment on "MOSPI"	
8	21304208	BURAGA ANKAMMA	N/S	
9	21304209	BADDA RUPAS	Web assignment on "MOSPI"	
10	21304210	MADDIBOINA HEMANTH	Web assignment on "MOSPI"	
11	21304211	GAVINI DURGAPRASAD	A survey on Agriculture	
12	21304212	PEDAMALLU TISWITHA	N/S	
13	21304213	UTLA BALAJI	Not Submitted	
14	21304214	CHINNI LAVANYA	Web assignment on "MOSPI"	
15	21304215	Jonnalagadda Hemanth sai	N/S	
16	21304216	MAMILLAPALLI VENKATA DURGA MALLESH	N/S	
17	21304217	KADIYALA JAYAPRAKASH	Web assignment on "MOSPI"	
18	21304218	DUDEKULA BABU	Web assignment on "MOSPI"	
19	21304219	CHINNIMGARI NARENDRA	Web assignment on "MOSPI"	
20	21304220	KASKANI ANIL	N/S	
21	21304221	SANGISETTI GANESH SAI	Web assignment on "MOSPI"	
22	21304222	ADIREDDY POOJITHA	Work Sheet on "Skewness" & Web assignment on "MOSPI"	
23	21304223	GURAJA PRATHIBHA	Work Sheet on "Correlation"	
24	21304224	TORLAPATI VIJAY KUMAR	Web assignment on "MOSPI"	
25	21304225	GOGULAMUDI CHARAN	N/S	
26	21304226	KOMMA LAKSHMI DURGA	Work Sheet on "Karl Pearson's Correlation"	
27	21304227	JETTI VINAY	N/S	

28	21304228	NANDA VENKATA ABHISHEK	N/S	
29	21304229	KALINGAPATNAM SAI KUMAR	N/S	
30	21304230	KOLLIPAKA NARENDRA	N/S	
31	21304231	DEVARAKONDA SWAMI	N/S	
32	21304232	SUREPALLI SIVA GURUVULU	Web assignment on "MOSPI"	

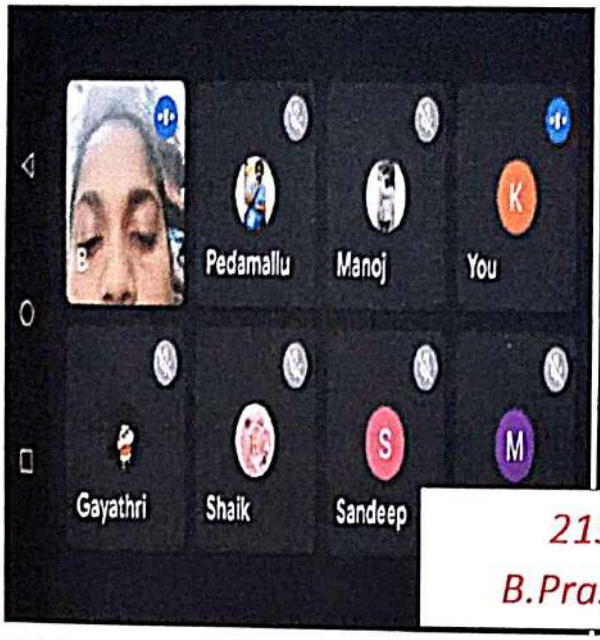
I B.Sc D.S.Cs 2021-22 Sem-I Paper-I: Descriptive Statistics

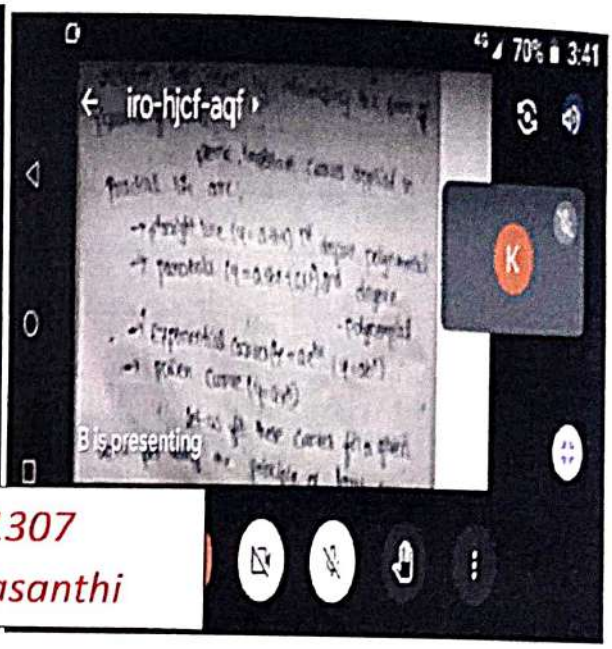
S.No	Regd No.	Name of the Student	Title	Remarks
1	21307201	PONNAMPALLI MANOJ	Web Assignment on "MOSPI"	
2	21307202	KANKIPATI MOHAN SIVA GOPAL	Web Assignment on "MOSPI"	
3	21307203	GOTTIMUKKALA GAYATHRI	Seminar on "Presentation of data-Diagrams & Graphs"	
4	21307204	SHAIK SHAKEERA	Web Assignment on "MOSPI"	
5	21307205	BONTHA PRASANTHI	Seminar on "Curve Fitting"	
6	21307206	BATTULA VENKATA SANDEEP	Survey on 'Covid-19"	
7	21307207	SHAIK KOWSAR	Seminar on "Correlation-Measures"	
8	21307208	TUMATI MAHESH BABU	Web Assignment on "MOSPI"	
9	21307209	KALIDASU IMMANIELU	Web Assignment on "MOSPI"	
10	21307210	KONDAPALLI PUJITHA	Web Assignment on "MOSPI"	
11	21307211	JANGAM RAKESH	Web Assignment on "MOSPI"	
12	21307212	MIRIYALA MOUNIKA	Web Assignment on "MOSPI"	
13	21307213	INDUPALLI VAMSI	Web Assignment on "MOSPI"	
14	21307214	SANTHATI SAI	Web Assignment on "MOSPI"	
15	21307215	GANJETI DURGAPRASAD	N/S	
16	21307216	BODDU PRAKASH	Web Assignment on "MOSPI"	
17	21307217	VEERADASU JOSEPH	Web Assignment on "MOSPI"	
18	21307218	KATTA GOPI CHAND	Web Assignment on "MOSPI"	
19	21307219	THOTTEMPUDI SHIVA RAMAKRISHNA	Web Assignment on "MOSPI"	
20	21307220	LANKALAPALLI CHITTIBABU	N/S	
21	21307221	MUCHU MAHENDRA	N/S	
22	21307222	DUPATI GOPI	N/S	
23	21307223	KUNCHALA JYOTHI PRAKASH REDDY	N/S	

Sem I | Seminars/Presentations | 2021-22 | Descriptive Statistics

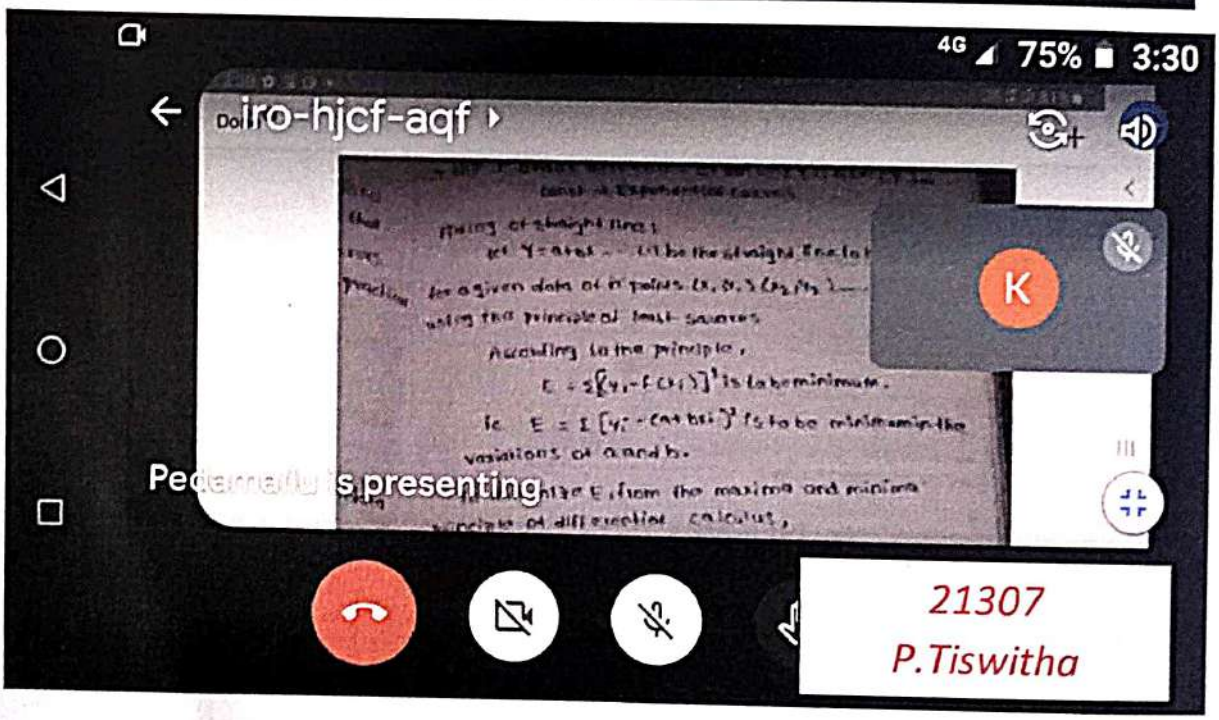








21307
B.Prasanthi



21307
P.Tiswitha

SRR & CVR GOVT.DEG.COLLEGE (AUTONOMOUS)2018-2019

DEPARTMENT OF STATISTICS

IIB.Sc STUDENT SEMINARS

S.NO.	Name of the student	Topic
1	N.VENKATA NAGA LAKSHMAIAH	Curve fitting
2.	J.SUBRAMANYAM	Exponential curves
3.	CH. ANIL	REGRESSION & CORRE-LATION.
4.	P.SURENDRA	REGRESSION & CORRELATION
5.	A.kishankumar	curve fitting
6.	N.Venkateswarlu	kpcc
7.	J. srinivasa	Properties of regression lines
8.	Mohammed Shariff Baig	Population
9.	G. Durga Chaitanya	curve fitting
10.	G. CHANDU RAM	KPCC
11.	B. Durga Prasad	Independent of attributes
12.	E. Venkatesh	Exponential curves.
13.	P. Amar kumar	Curve fitting
14.	V. Narendra	Yules Co-efficient of association
15.	U. Vasu	Independent of attributes
16.	S. Rajesh	Yules co-efficient of associations

SRR & CVR GOVT.DEG.COLLEGE (AUTONOMOUS)2018-2019

DEPARTMENT OF STATISTICS

IIB.Sc STUDENT SEMINARS

S.NO.	Name of the student	Topic
17.	B. Sukanya	Association of attributes
18.	M. Radhika	Correlation ratio
19.	M. Lakshmi prasana	Consistancy of data
20.	J. Kalyani	yule's co-efficie
21.	K. Nandini	Student's t-distribution collagation
22.	K. Madhosi	Snedecor's F-distribut
23.	Y. Bhavani	least square of linear curv
24.	G. Bindu Sree	Introduction of Attribut
25.	R. pushpa Sai	exact Sampling (def
26.	B. Bhavani	Relation b/w class frequency.
27.	M. Sushmitha Rani	Fitting of a curve
28.	M. Tanuja	Regression Lines
29.	M. soni	chi-square distribut
30.	G. Bhaskara Rao	Regression Lines
31.	P. Sai	Binte yules co-efficient associations

SRR & CVR GOVT.DEG.COLLEGE (AUTONOMOUS)2018-2019

DEPARTMENT OF STATISTICS

IIB.Sc STUDENT SEMINARS

S.NO.	Name of the student	Topic
32	D. Siva Rama Krishna	exponetial curve.
33	S. Narasimha Swamy	cofficient of contin-gency

II B.Sc(M.Sc) - Statistics - Seminars

2018-19









DEPARTMENT OF STATISTICS 2018-19

I BSC (MSC'S) STUDENT SEMINARS

S.NO	Name of the Student	Topic
1.	Md. Hafeejunnisa	Measures of dispersion
2.	T. Kala	Addition theorem
3.	P. Anusha	Problem on addition theorem
4.	M. Gayathri	Bay's theorem
5.	G. Rajeswari	Multiplication theorem
6	P. Prathy	Measures of dispersion
7	Md. Habibulla	Bayes thm
8	Y. Sriadh	Standard Deviation
9	A. Ganesh	Addition theorm n events
10	T. Sruthi	Addition theorm of Prob
11	D. Nelima	multiplication theorem
12	M. Manasvini	Multiplication Theorem
13.	Madhu Sudhan Reddy. H	Addition theorem
14	V. Sirisha	Bayes theorem
15.	G. Vamsi	Multiplication Theorem
16	A. Bhagyalakshmi	Multiplication theorem
17,	A. Jahnavi	Multiplication for n events
18	A. krishnaveni	complementary event
19.	K. Sauthi	Probability for two events
20	P. Yamuna	Central tendency
21	Y. Sivaganesh	Skewness
22.	B. Suryateja	Conditional probability
23	J. Durga Prasad	Probability for impossible event
24	T. Siva Kumar	Addition Theorem for 2 events
25	J. Ravi Teja	probability of complementary
26	S Bhavani	Independent Events
27	K. Neelamathi	Bocale's coeff of skewness
28.	T. Bhavani	kurtosis pearsons coeff

S.NO	Name of the Student	Topic
29	B. Leela sankar	Addition theorm of Probability

I BSC (MSc's) - Student Seminars











S.R.R&C.V.R GOVT.DEG.COLLEGE(Autonomous)2017-1

Department of Statistics

IB.Sc. Student Seminars 5/2/18

S.No.	Name of the student	Topic
1.	B. Revanth	Primary data,
2.	Mohammed Shariff Baig	secondary data
3.	Ch. Kishan	non-central moments
4.	G. Bhaskara Rao	Central Moments
5.	ch. Anil	Central moments.
6.	M. Tanuja	Questioneer
7.	Mamata kumari	Schedule
8.	K. Nandini	Hyper Geometric distribution
9	B. Sukanya	Binomial distribution
10.	V. Devi	Possion distribution
11.	M. Sushmitha Rani	kurtosis and skeeone
12.	A. Kishankumar	Binomial distribution
13.	E. Venkatesh	Binomial distribution.
14.	J. Srinivasa	central moments
15.	B. Bhavani	Questioneer.
16.	R. pushpa sai	primary data secondary data.
17.	N. Venkateswarlu	central moments
18.	Y. Bhavani	Geometric distribution
19	G. Bindu Sree	Geometric distribution

S.R.R&C.V.R GOVT.DEG.COLLEGE(Autonomous)2017-18

Department of Statistics

IB.Sc. Student Seminars

S.No.	Name of the student	Topic
1.	M. Sushmitha Rani	
2.	Mamata kumari	
3.	B. Bhavani	
4.	K. Nandini	
5.	B. Sukanya	
6.	V. Devi	
7.	ch. Kishan	
8.	B. Revanth.	
9.	Mohammed Shariff Baig	
10.	Ch. Anil.	
11.	G. Bhaskara Rao.	
12	M. Tanya.	
13.	V. Vasu	Binomial Distribution
14.	M. Mounika	Binomial Distribution
15.	M. Soni	
16.	G. Chandu Rao.	
17.	N. Venkateswarlu.	central moments
18.	B. Neelakanteswararao	Poission distribution
17.	J. Subramanyam	Negative Binomial distribution

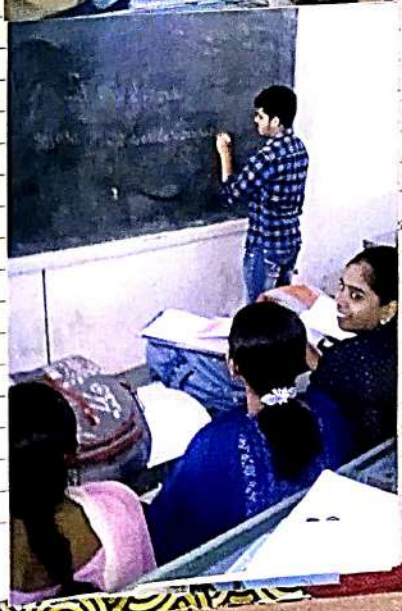
Lecturer:

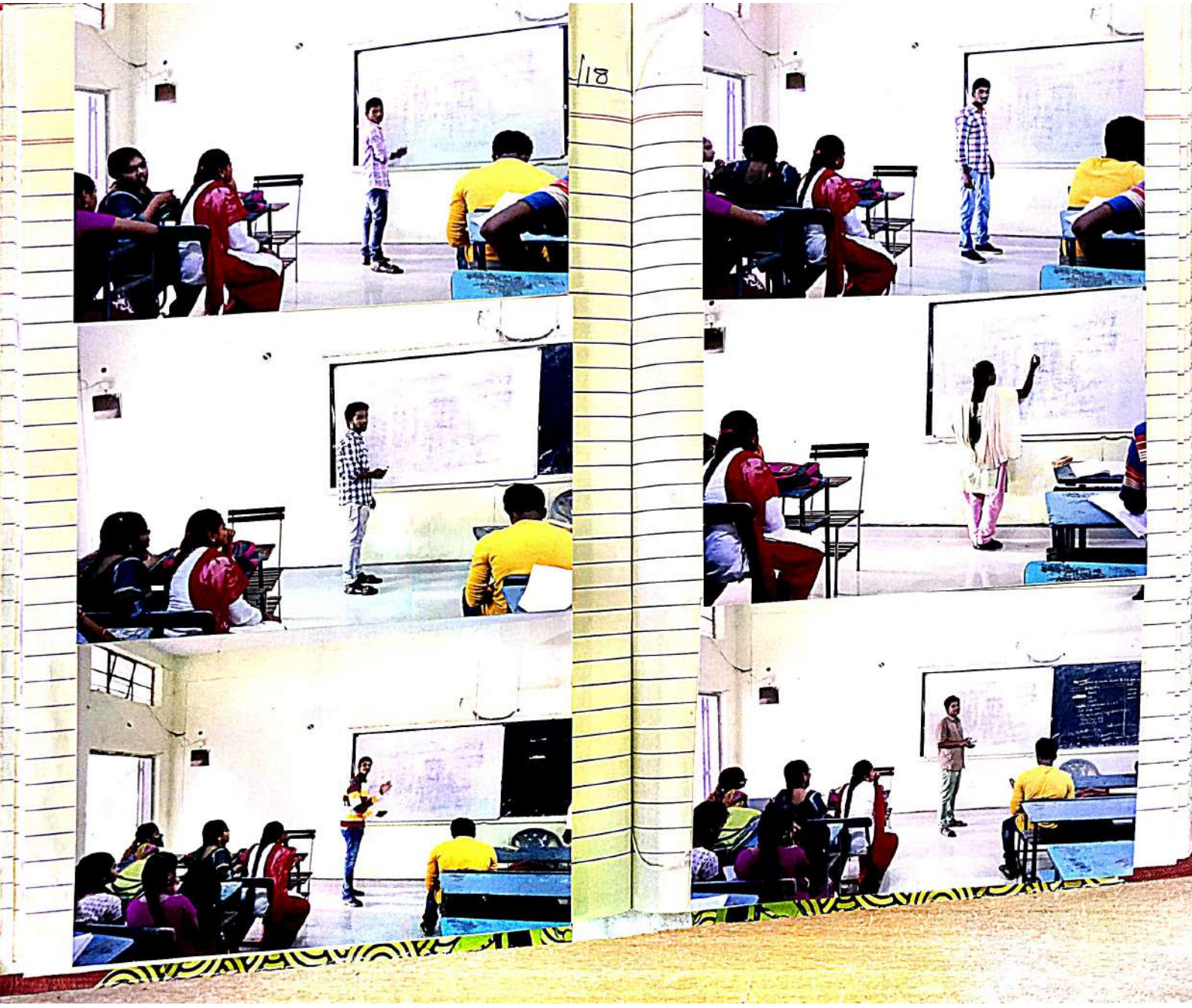
Principal











Department of Statistics

Student Seminars

2016-17

50

1) Name of the student: M. Niharika
Admission No : 2463
Class : I^st B.Sc [MSCS]
Name of the topic : Primary data.
Date : 14/10/2016
Hour : 3rd hour.

This statistical data which collected for the first time in original units, is called Primary data. 4 types of Primary sources:-
① Direct personal interview ② Indirect personal interview
③ Mailed questionnaire method ④ Information there local agents

Signature.
M. Niharika.

2) Name of the student : K. Padmavathi.
Admission no : 2239
Class : I BSC (MSCS)
Name of the topic : Addition theorem for 'n' events
Date : 14-10-2016
Hour : 3rd hour

Addition theorem for 'n' events :- $A_1, A_2, A_3 \ldots A_n$ are 'n' events then

$$P(\bigcup_{i=1} A_i) = \sum_{i=1} P(A_i) - \sum_{1\le i<j\le n} P(A_i \cap A_j) + \sum_{1\le i<j<k\le n} P(A_i \cap A_j \cap A_k)$$

$$- \ldots\ldots + (-1)^{n-1} P(A_1 \cap A_2 \cap \ldots\ldots \cap A_n) \quad \text{—①}$$

Signature.
K. Padmavathi

17.5.

3) Name of the Student : L. Sai Surya.
Admission No : 2336
class : I BSC (MSCS)
Name of the topic : Boole's 1st inequality
Date : 14-10-2016
Hour : 3rd hour

Boole's 1st inequality :-

For 'n' events $A_1, A_2 \ldots A_n$
we have $P(\bigcup_{i=1}^{n} A_i) \ge \sum_{i=1}^{n} P(A_i) - (n-1)$ —I

Signature.
L. Sai Surya.

4) Name of the Student : T. Akhil
Admission No : 2760
Class : I. Bsc (MSCS)
Name of the topic : Sheppard Corrections
Date : 14-10-2016
Hour : 3rd hour

Sheppard Corrections :

In case of grouped frequency distribution, while calculating mean or any other frequency we assume that the mid value is Concentrated on the frequency, otherwise some error will exist

$$\mu_2 = \mu_2' - \frac{h^2}{12} \; ; \; \mu_3 = \mu_3' \; ; \; \mu_4 = \mu_4' - \frac{1}{2} h^2 \mu_2' + \frac{7}{240} h^4.$$

Signature : T. Akhil.

5) Name of the Student :- G. Suribabu
Admission No :- 2416
Class :- I^st B.Sc [MSCS]
Name of the topic :- Extention theorem for "n" events
Date :- 14/10/16
Hour :- 3rd hour

Extention theorem for "n" events :- If $A_1, A_2, \ldots, A_n$ are any "n" events then $P(A_1 \cap A_2 \cap \ldots \cap A_n) = P(A_1) \cdot P(A_2/A_1) \cdot P(A_3/A_1 \cap A_2) \cdots P(A_n/A_1 \cap A_2 \cap \ldots \cap A_{n-1})$ — 2

Signature
G. Suribabu

6) Name of the student :- V. Nagaraju
Admission No :- 2228
Class :- I^st BSC [MSCS]
Name of the topic :- Bode's 2nd inequality
Date :- 14-10-2016
hour :- 3rd hour.

Bode's 2nd inequality :- For n events $A_1, A_2, \ldots, A_n$ we have
$P\left(\bigcup_{i=1}^{n} A_i\right) \leq \sum_{i=1}^{n} P(A_i) \longrightarrow (1)$

Signature
V. Nagaraju

7) Name of the Student :- G. Nagendra Babu
Admission No :- 2280
Class :- I^st Bsc (MSCS)
Name of the topic :- Distribution Function
Date :- 14-10-2016
hour :- 3rd hour

Distribution Function :- It is denoted by $F_X(x)$ and it is defined as $F_X(x)$.

$F(x) = P(X \leq x) = \sum_{-\infty}^{x} P(x)$ (if x discrete)

$= P(X \leq x) = \int_{-\infty}^{x} f(x)\,dx$ (if x continuous)

8) Name of the Student :- T. yasodadurga
Admission No :- 2335
Class :- I^st B.Sc (M.S.CS)
Name of the topic :- Multiplication theorem for 2 events.
Date :- 14-10-2016
hour :- 3rd hour.

Multiplication theorem for 2 events :-

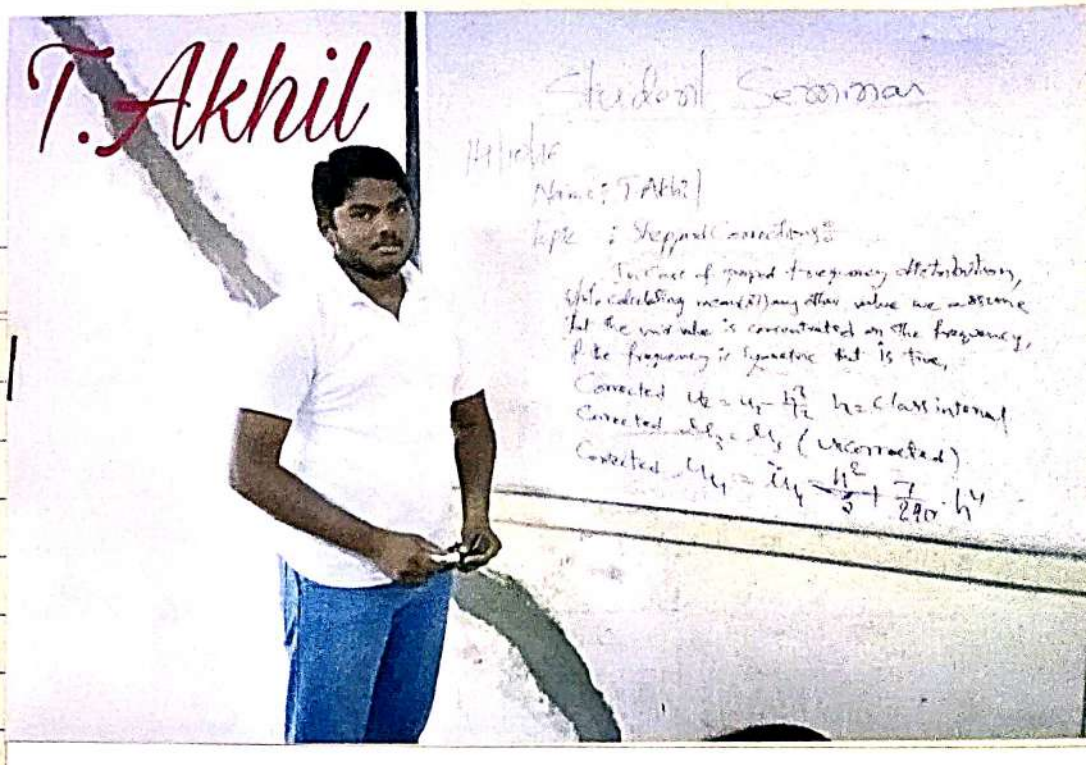
Statement :-

If A and B are any two events of them

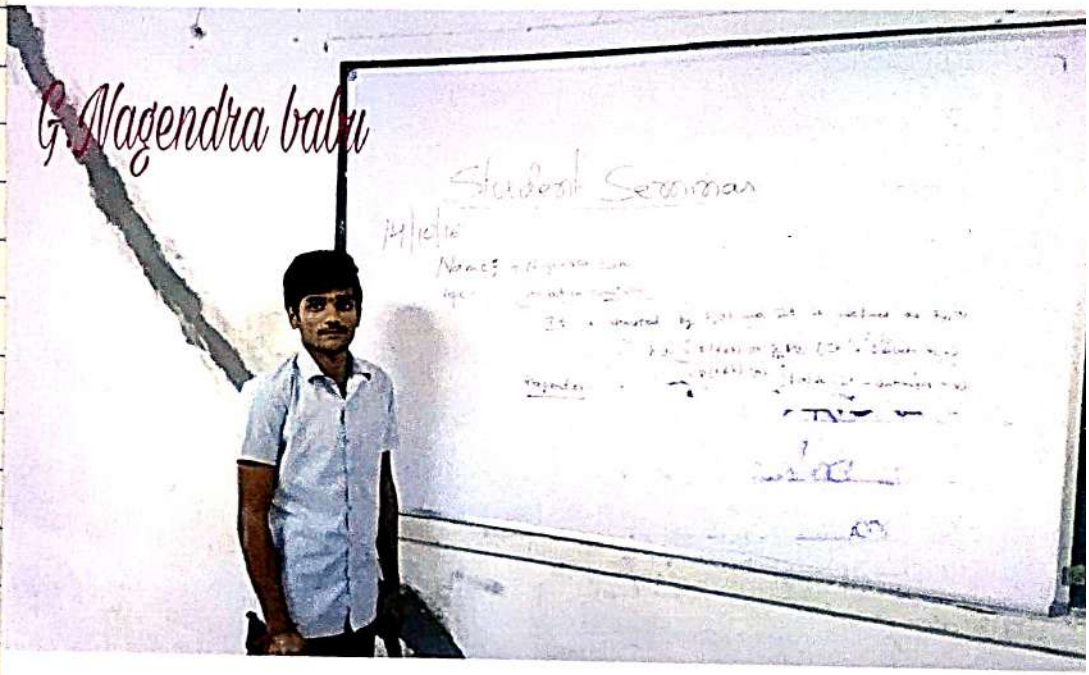
$P(A \cap B) = P(A) \cdot P(B/A)$:- then $A \neq 0$
(or)
$P(B) \cdot P(A/B)$:- then $B \neq 0$

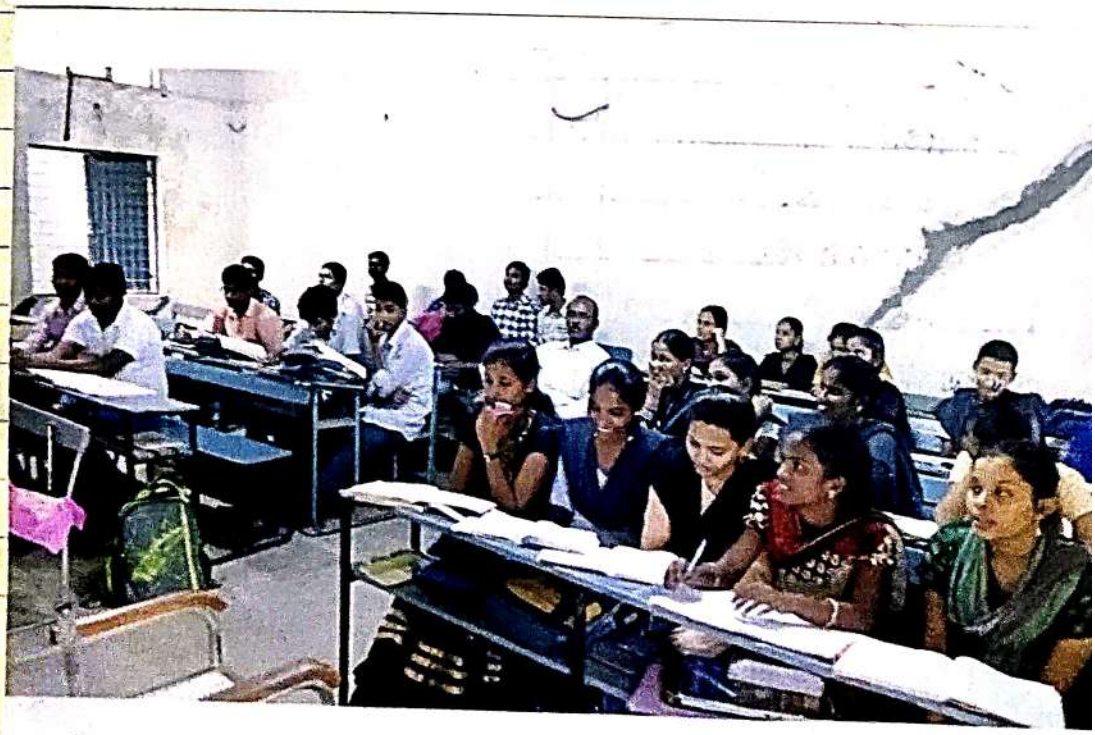
T. yasodadurga

T. Akhil



G. Nagendra babu





Statistics - Student seminars

14-10-2016

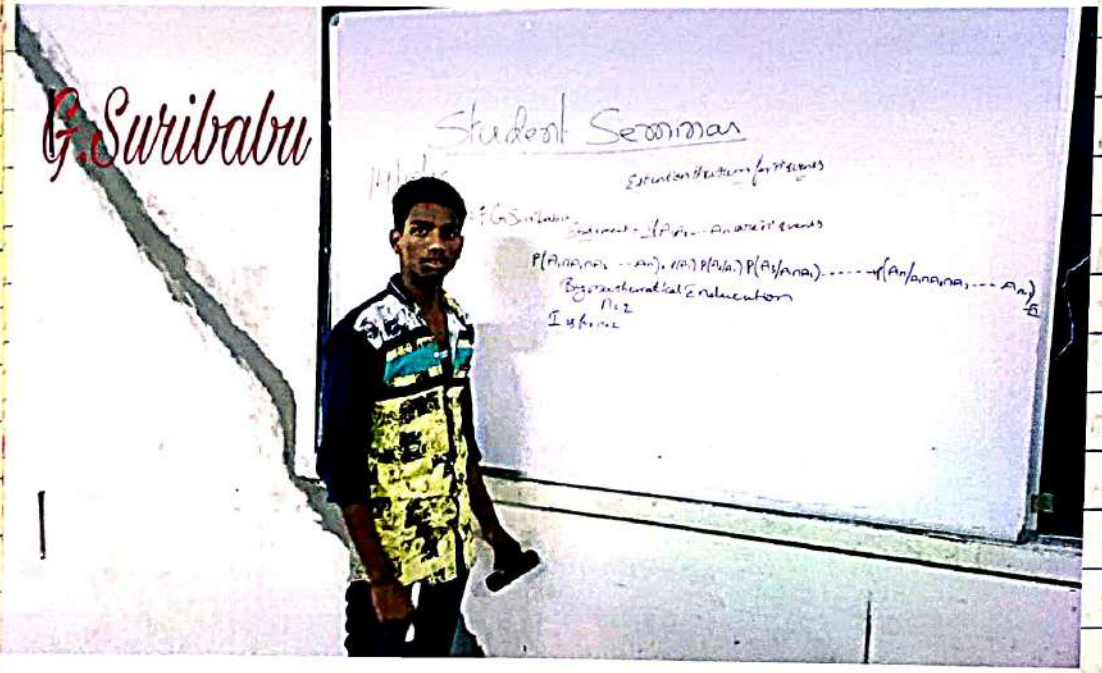
Signatures of the Students participated in the Seminar 55

1	K. Durga	Durga. K
2.	M. Aruna	Aruna
3.	T. Swathi	T. Swathi
4.	Ch. Bhavani	Ch. Bhavani
5.	E. Twinkle Monica	E. Twinkle Monica
6.	P. Swetha	P. Swetha
7.	M. Madhavi latha	M. Madhavi latha
8.	S. Rama devi	S. Rama devi
9.	ch. Devi	ch. Devi
10	G. Venkata sai Pavani	G. Venkata sai Pavani
11.	Y. Navya	Y. Navya
12.	Y. Hasina	Y. Hasina
13.	S. Bhavani	S. Bhavani.
14.	G. Jyothi	G. Jyothi.
15.	ch. Sivaparvathi	ch. Siva parvathi
16.	T. Yasodadurga	T. Yasodadurga
17.	G. Nagendra Babu	G. Nagendra Babu
18.	G. Surendra	G. Surendra
19.	A. Mohan	A. Mohan
20.	O. Gladcliffe	O. Gladcliffe
21	T. Venkatesh	T. Venkatesh
22.	B. Srinu	B. Srinu
23.	A. Ramakrishna	A. Ramakrishna
24.	A. Khaja hussain	A. Khaja hussain.
25.	K. Sai kumar	K. Sai kumar
26.	N. H. V. Srinivas	
27	P. Prakash	P. Prakash
28	Ch. Saisravan kumar	Ch.

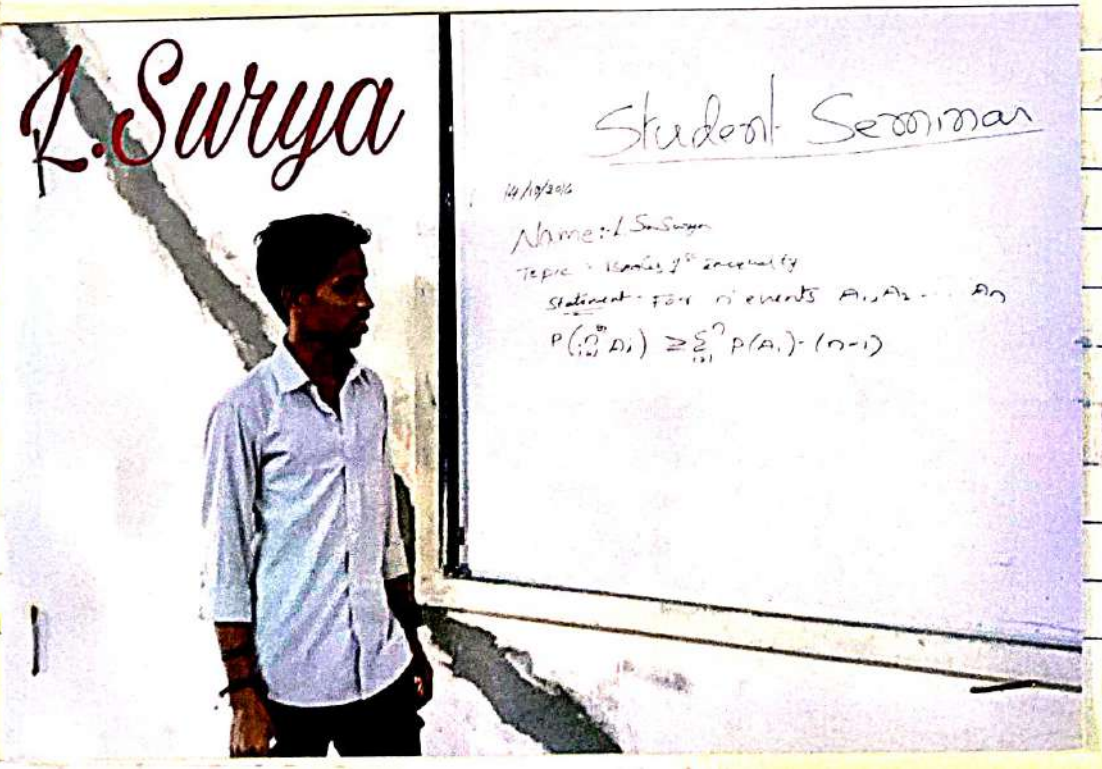
V. Nagaraju



G. Suribabu



L. Surya



1) Name of the Student : M. DIVYA Jyothi
Register Number : Y153174160
class : II Bsc (MSCS)
Name of the topic : Karal Pearson's coefficient of correlation
Hour : IV Hour
Date : 13-10-2016

The karal pearson's coeffient of correlation is denoted by the 'r'. and the KPCC which not only tells the nature of the correlation but also give's the amount of the correlation. and it is given by $r(x,y) = \frac{cov(x,y)}{\sigma_x \cdot \sigma_y}$.

$cov(x,y) = \frac{\Sigma xy}{n} - \bar{x}\bar{y}$

$\sigma_x = \sqrt{\frac{\Sigma x^2}{n} - (\bar{x})^2}$; $\sigma_y = \sqrt{\frac{\Sigma y^2}{n} - (\bar{y})^2}$

2) Name of the student : SHAIK. AFRIN
Register Number : Y153174169
class : II B.Sc [MSCS]
Name of the topic : correlation, population, sample
Date : 13-10-2016

correlation : If two variables x and y are said to be correlated if the change in one variable corresponding change in other variable then that is called correlation. There four types positive correlation, negative correlation, Linear correlation, non-linear correlation.

population : A group of individuals under investigation is called population.
sample :- Any part of the population is called sample.

3) Name of the student : TYAGAMRAJU SRINIVASULU
Register number : Y153174171
class : II B.Sc (M.S.C)
Name of the TOPIC : Sampling distribution, Standard error
Date : 13-10-2016

Sampling distribution :- Suppose we want to draw a sample size (n) from a finite population (N) then the total no. of possible samples are

$NCn = \frac{N!}{(N-n)!n!}$ = K (say)

for each of these samples we can compute any statistic

Standard error : The standard error of the sampling distribution of the statistic is called standard error of the statistic

eg: Sample error of sample mean $= \frac{c}{\sqrt{n}}$

13-10-2016

Signatures of the Students Participated in the Seminar

1)	Sk. Afsin	Sk. Afsin
2)	N. Parvani	N. Parvani
3)	R. Renuka	R. Renuka
4)	D. Divya.	D. Divya
5)	E. Ramya.	E. Ramya.
6)	R. Sailaja	R. Sailaja
7)	S. KESAVA RAO	S. Kesava Rao
8)	T. Srinivasulu	T. Srinivasulu
9.	V. RAM GOPAL.	Ram gopal. V
10.	K. Navya	K. Navya.
11.	V. Gamanika Rani	V. Gamanika Rani
12.	B. Bhagyavathi	B. Bhagyavathi
13.	P. Durga Bhavani	P. Durga Bhavani
14.	M. Naga bushanam	M. Naga bushanam
15.	M. Divya Jyothi	M. Divya Jyothi
16.	T. Venkateswarlu	T. Venkateswarlu
17.	M.J. Krishna Surya	M.J. Krishna Surya
18.	Shaik Rasheed	Sk. Rasheed
19.	Y. Srikanth	Y. Srikanth.
20.	Ch. Durga Rao	Ch. Durga Rao.
21.	K. Prasanth kumar	K. Prasanth kumar
22.	B. Satish	B. Satish
23.	G. Rajesh	G. Rajesh



Take $k = \max_{1 \le i \le n} \|Te_i\|$

$\therefore \|Tx\| \le k(|\xi_1| + |\xi_2| + \cdots + |\xi_n|)$ ——— (1)

since $\{e_1, e_2, \cdots, e_n\}$ is a Linearly independent set, $\exists$

$c > 0 \ni \|\xi_1 e_1 + \xi_2 e_2 + \cdots + \xi_n e_n\| \ge c(|\xi_1| + |\xi_2| + \cdots + |\xi_n|$

$\Rightarrow \|x\| \ge c(|\xi_1| + |\xi_2| + \cdots + |\xi_n|)$

$\Rightarrow \frac{\|x\|}{c} \ge (|\xi_1| + |\xi_2| + \cdots + |\xi_n|)$ ——— (2)

from (1) & (2)

$\|Tx\| \le \frac{k\|x\|}{c} = \gamma\|x\|$ where $\gamma = \frac{k}{c} > 0$

since $x \in X$ being arbitary.

$\|Tx\| \le \gamma\|x\| \ \forall \ x \in X$

$\therefore T$ is bounded.

Hence, Every Linear operator on X is bounded.

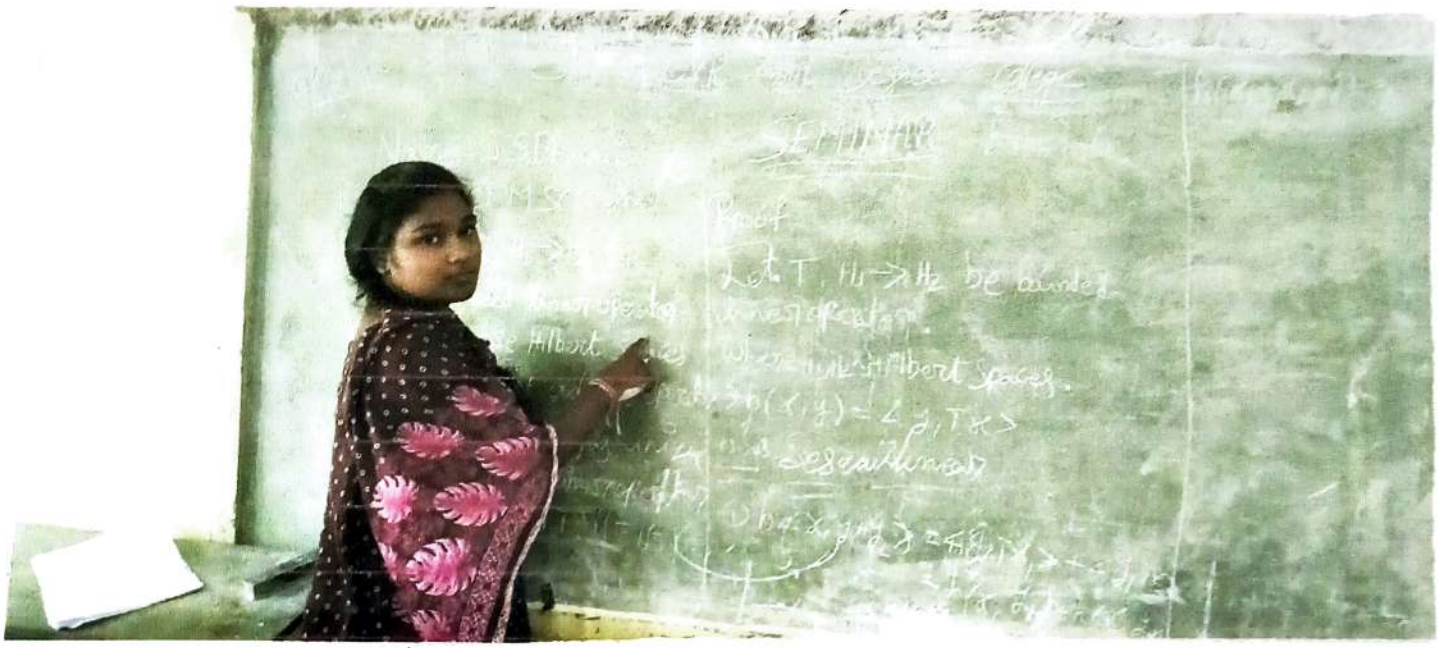
SRR & CVR Govt Degree college (A)

Name : J. Sankara Bhavani

Reg No : 2017160302

class : II BSc (Mathematics)

Subject : Functional Analysis.


Proof
Let T, H1 → H2 be bounded
linear operator.
Hilbert spaces.

Let $T: H_1 \to H_2$ be a bounded linear operator where H_1, H_2 are Hilbert Space Prove that the Hilbert adjoint operator T^* of T exists is unique and is a bounded linear operator with norm $\|T^*\| = \|T\|$.

Proof:-

Let $H_1 \to H_2$ be a bounded linear operator where H_1, H_2 are Hilbert spaces.

Define $h: H_2 \times H_1 \to K$ by $h(y, x) = \langle y, Tx \rangle$

h is sesquilinear form :-

Let $y_1, y_2 \in H_2$, $x_1, x_2, x \in H_1$ & $\alpha, \beta \in K$

1) $h(y_1+y_2, x) = \langle y_1+y_2, Tx \rangle$

$= \langle y_1, Tx \rangle + \langle y_2 Tx \rangle$

$\therefore h(y_1+y_2, x) = h(y_1, x) + h(y_2, x)$

2) $h(y, x_1+x_2) = \langle y, T(x_1+x_2) \rangle$

$= \langle y, Tx_1 \rangle + \langle y, Tx_2 \rangle$

$\therefore h(y, x_1+x_2) = h(y, x_1) + h(y, x_2)$

3) $h(\alpha y, x) = \langle \alpha y, Tx \rangle$

$= \alpha \langle y, Tx \rangle$

$= \alpha h(y, x)$

4. $h(y, \beta x) = \langle y, T\beta x \rangle$

$= \bar{\beta} \langle y, Tx \rangle$

$= \bar{\beta} h(y, x)$

$\therefore$ h is sesquilinear form

h is bounded :-

for any $x \in H_1$, $y \in H_2$

$|h(y, x)| = |\langle y, Tx \rangle|$

$\leq \|y\| \|Tx\|$

$\therefore |h(y,x)| \leq \|T\| \|y\| \|x\|$

$\therefore h$ is bounded

also $\|h\| = \sup \dfrac{|h(y,x)|}{\|y\| \|x\|} \leq \|T\| \quad -①$

$= \sup \dfrac{|\langle y, Tx \rangle|}{\|y\| \cdot \|x\|}$

$= \sup \dfrac{\|Tx\|^2}{\|Tx\| \cdot \|x\|}$

$= \sup \dfrac{\|T\| \cdot \|x\|}{\|x\|}$

$\|h\| \geq \|T\| \quad -②$

from ① & ②

$\|h\| = \|T\| \quad -③$

Since h is a bounded sesquilinear form on $H_2 \times H_1$, by Riesz's representation theorem there is a bounded linear operator $S: H_2 \to H_1 \ni$

$h(y,x) = \langle Sy, x \rangle \ \forall\ y \in H_2, x \in H_1$

and $\|S\| = \|h\| \ni h(y,x) = \langle T^* y, x \rangle \quad -⑤$

and $\|T^*\| = \|h\|$

from ③ $\|T^*\| = \|h\| = \|T\|$

Now $\langle Tx, y \rangle = \overline{\langle y, Tx \rangle} = \overline{h(y,x)}$

$= \langle T^* y, x \rangle$

$= \langle x, T^* y \rangle$

$\therefore \langle Tx, y \rangle = \langle x, T^* y \rangle$

$\therefore T$ is an Hilbert adjoint operator of T.

* SRR AND CVR GOVERNMENT DEGREE COLLEGE *

Name : N. Anusha

Class : M.Sc Mathematics [IInd Year]

Reg No : 2017 4160304

Subject : Functional Analysis

SEMINAR TOPIC IN

* BANACH SPACES *

Submitted to

Sk. Parveen Mam

Submitted by

N. Anusha

Let Y is a Banach Space then prove that $B(X,Y)$ is a Banach Space.

Sol:- **Banach Space**:- A Banach Space is a complete Normed Space [complete in the metric induced by Norm]

Norm:- A Norm $(\|\ \|)$ on a Vector Space X is a real valued function on X $(\|\ \| : X \to \mathbb{R})$ which has the following Properties.

i. $\|x\| \geq 0$ ii. $\|x\| = 0 \iff x = 0$

iii. $\|\alpha x\| = |\alpha| \|x\|$ iv. $\|x+y\| \leq \|x\| + \|y\|$, $\forall x, y \in X$, $\alpha \in k$.

Normed Space:- A Normed Space X is a Vector Space a Norm defined on it.

Complete Normed Space:- A Normed Space in which Every Cauchy Sequence is Convergent is called a Complete Normed Space.



Cauchy Sequence :- let $\{x_n\}$ be a sequence in X is said to be cauchy sequence if for each $\epsilon > 0$ $\exists$ a +ve integer $n_0 \ni d(x_m, x_n) < \epsilon \quad \forall m, n \geq n_0$.

Convergent Sequence :- let $\{x_n\} = \{x_1, x_2 \ldots\}$ be a sequence in X we say that $\{x_n\}$ is convergent if for each $\epsilon > 0$ $\exists$ a point x in X and $\exists$ a +ve integer $n_0 \ni$ $d(x_n, x) < \epsilon \quad \forall n \geq n_0$. i.e, $x_n \to x$.

let X be a normed and Y be a Banach space.

Then we know by the previous $B(X, Y)$ is normed space.

Claim :- $B(X, Y)$ is complete.

let $\{T_n\}$ be a Cauchy sequence in $B(X, Y)$

let $\epsilon > 0$ be given

Then $\exists\ n_0 \ni \|T_n - T_m\| < \epsilon \quad \forall n, m \geq n_0$

Since $(T_n - T_m)$ is bounded, ~~$\|(T_n - T_m)\|$~~

$$\|(T_n - T_m)(x)\| \leq \|T_n - T_m\| \|x\| \quad \forall x \in X \quad \text{---} (1)$$

$$\Rightarrow \|T_n - T_m\| \leq \epsilon \|x\| = \epsilon, \quad \forall n, m \geq n_0 \text{ for any } x \in X.$$

For any fixed x, $\{T_n x\}$ is a cauchy sequence in Y.

Since Y is complete, $\exists\ y \in Y \ni T_n x \to y$ — (2)

clearly, this y depends on x.

Now define $T : X \to Y$ by $Tx = y = \lim_{n \to \infty} T_n x$

T is linear :- let $x_1, x_2 \in X$, α be any scalar.

Then $T(x_1+x_2) = \lim_{n\to\infty} T_n(x_1+x_2)$

$= \lim_{n\to\infty} T_n(x_1) + \lim_{n\to\infty} T_n(x_2)$

$= Tx_1 + Tx_2$

$\therefore T(x_1+x_2) = Tx_1 + Tx_2.$

Also, $T(\alpha x_1) = \lim_{n\to\infty} T_n(\alpha x_1)$

$= \alpha \cdot \lim_{n\to\infty} T_n x_1$

$\therefore T(\alpha x_1) = \alpha \cdot Tx_1$

$\therefore T$ is linear

T is bounded :- Now, $\|(T_n - T)x\| = \|T_n x - Tx\|$

$= \|T_n x - \lim_{m\to\infty} T_m x\|$

$= \lim_{m\to\infty} \|T_n x - T_m x\|$

$\leq \epsilon \|x\|$

$\Rightarrow \|(T_n - T)x\| \leq \epsilon \|x\|$ ——③

$\therefore T_n - T$ is bounded.

Since T_n is bounded, $T_n - (T_n - T)$ is also bounded.

Since $B(X,Y)$ is a vector space.

$\therefore T$ is bounded.

From ③, $\|T_n - T\| < \epsilon$

$\Rightarrow \|T_n - T\| \to 0$ (or) $T_n \to T$

Since $\{T_n\}$ is arbitary Cauchy sequence in $B(X,Y)$

$\therefore B(X,Y)$ is Complete

Hence, $B(X,Y)$ is a Banach Space.

SPR&CVR GOVT. DEGREE COLLEGE (A)

SEMINAR.

NAME: H. Tanuja

Reg. No: 201741160307

subject: Functional Analysis

class: II MSC (Maths)

TOPIC: Bessel's inequality.

Submitted TO

Sk. PARVEEN MAM.

submitted by

H. Tanuja

state and prove Bessels inequality

statement: let e_n be an orthogonal sequence in an inner product space X then for every $x \in X$, $\sum_{n=1}^{\infty} |\langle x, e_n \rangle| \leq \|x\|^2$ the inner product $\langle x, e_k \rangle$ in the above inequality are called the fourier difference coffiecient of x with respect of the orthonormal sequence (e_n).

proof:

X is an innerproduct space &
(e_n) an orthonormal sequence in X

1st we have P.T $\sum_{i=1}^{n} |\langle x, e_i \rangle|^2 \leq \|x\|^2$

let $x \in X$.

choose $y = \sum_{i=1}^{n} \langle x, e_i \rangle e_i \in X$.

let $z = x - y$ we prove that $z \perp y$

$\|y\|^2 = \langle y, y \rangle = \langle \sum_{i=1}^{n} \langle x, e_i \rangle e_i, x - \sum_{i=1}^{n} \langle x, e_i \rangle e_i \rangle \geq 0$.

$= \langle x, x \rangle - \sum_{i=1}^{n} |\langle x, e_i \rangle|^2 - \sum_{i=1}^{n} |\langle x, e_i \rangle|^2$

$+ \sum \langle x, e_i \rangle \overline{\langle x, e_i \rangle} \geq 0.$

$= \|x^2\| - \sum_{i=1}^{n} |\langle x, e_i \rangle|^2 \geq 0$


SRI ECVR GOVT. DEGREE COLLEGE (A)
SEMINAR
Bessel's inequality
NAME : M. Taruja

$\Rightarrow \|x\|^2 \geq \Sigma |\langle x, e_i \rangle|^2$

$\Rightarrow \sum_{i=1}^{n} |\langle x, e_i \rangle|^2 \leq \|x\|^2$ — ①

$\langle x - \sum_{i=1}^{n} \langle x, e_i \rangle e_i \rangle$

$= \langle x, e_i \rangle - \sum_{i=1}^{n} \langle x, e_i \rangle e_i$

$= 0.$

$\Rightarrow z \perp y.$

$\Rightarrow z = x - y \Rightarrow x = y + z.$

Since $y \perp z$, we have $\|x\|^2 = \|y+z\|^2$

$= \|y\|^2 + \|z\|^2$

$0 \leq \|z\|^2 = \|x\|^2 - \|y\|^2$

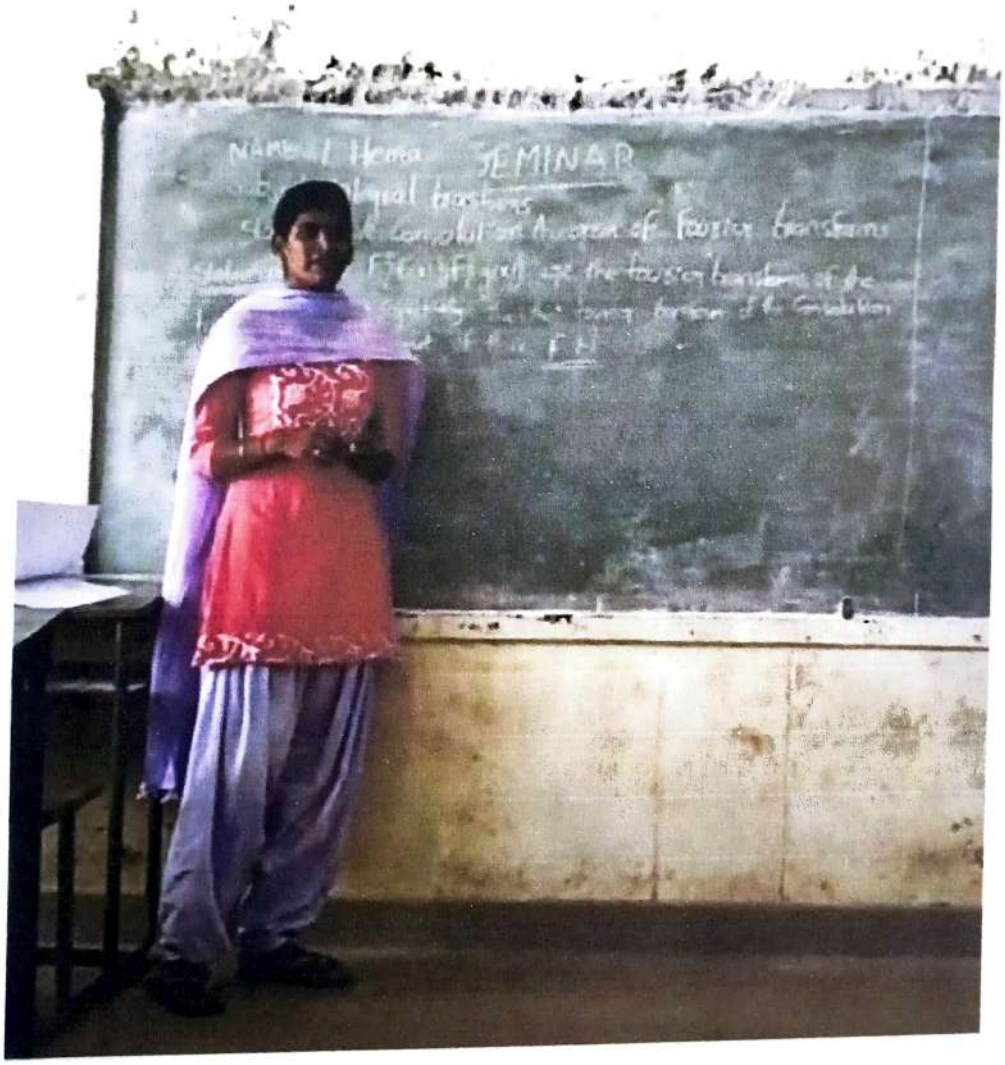
$\Rightarrow \sum_{i=1}^{n} |\langle x, e_i \rangle|^2 \leq \|x\|^2.$

Let $S_n = \sum_{i=1}^{n} |\langle x, e_i \rangle|^2$, $n = 1, 2 \ldots$

From ① $|S_n| = S_n \leq \|x\|^2$ $n = 1, 2 \ldots$ — ②

$\therefore S_n$ is an increasing sequence of real numbers bounded above by $\|x\|^2$

$\therefore (S_n)$ converges and $\lim_{n \to \infty} S_n = \sum_{n=1}^{\infty} |\langle x, e_n \rangle|^2 \leq \|x\|^2.$


SEMINAR

1) State and prove open mapping theorem

Statement: A Bounded linear operator 'T' from a Banach space X onto a Banach space Y is all open mapping then if 'T' is bijective T^{-1} is Continous and thus bounded

Proof: let A be an open set in X

we have to show T(A) is open in Y

let $y \in T(A)$

Then $\exists$ an $x \in A$, $\Rightarrow y = Tx$

Since A is open, $\exists\ r > 0 \Rightarrow B(x,r) \subseteq A$

$\Rightarrow B(x,r) - x \subseteq A - x$.

Take $r = 1/k$

Then $B(0,1/k) \subseteq A - x$

$\Rightarrow \frac{1}{k} B(0,1) \subseteq A - x$

$\Rightarrow T\left(\frac{1}{k} B(0,1)\right) \subseteq T(A - x)$

$\Rightarrow \frac{1}{k} T(B(0,1)) \subseteq T(A) - T(x)$

$= T(x) - y$

$T(B(0,1)) \subseteq k\,(T(A) - y)$

By open unit Ball Lemma.

$\exists\ B(0,\epsilon) \supseteq B(0,\epsilon) \subseteq T(B(0,1))$

$\Rightarrow B(0,\epsilon) \subseteq k\,(T(A)-y)$

$\Rightarrow \frac{1}{k} B(0,\epsilon) \subseteq T(A)-y$

$\Rightarrow B(0,\epsilon/k) \subseteq T(A)-y$

$\Rightarrow B(0,\epsilon/k) \subseteq T(A)$

$\Rightarrow B(y,G) \subseteq T(A)$ where $\boxed{G=\epsilon/k}$

Since, y is arbitry $T(A)$ is open in y

$\therefore T$ is an open map

If T is a bijection then T^{-1} exists

$\Rightarrow T^{-1}$ is Continous.

Also, T^{-1} is a linear map

$\therefore T^{-1}$ is bounded.

SRR & CVR GOVT DEGREE COLLEGE(A)

DEPARTMENT OF MATHEMATICS

SEMINAR

FUNCTIONAL ANALYSIS

SUBMITTED TO SHAIK PARVEEN MADAM

NAME :- K.NANDINI

CLASS :- 2nd M.SC(MATHS)

SUBJECT :- FUNCTIONAL ANALYSIS

R.NO :- 20174160313

State and prove Generalized Hahn Banach theorem



Statement :- Let X be a real (or) complex Vector Space and p a real valued functional on X, which is subadditive, i.e., $\forall x, y \in X$

$$p(x+y) \leq p(x) + p(y) \quad \text{---} (1)$$

and for every scalar α, satisfies

$$p(\alpha x) = |\alpha| p(x) \quad \text{---} (2)$$

Further more, let f be a linear functional which is defined on a subspace Z of X and satisfies

$$|f(x)| \leq p(x) \ \forall \ x \in Z \quad \text{---} (3)$$

Then f has a linear extension $\bar{f}$ from X to X

satisfying $|\bar{f}(x)| \leq p(x) \ \forall \ x \in X$ — (4)

Proof :- First assume that X is a real vector space then Z is also a real vector space.

clearly p is a sublinear function on X

Since $p(\alpha x) = |\alpha| p(x)$

$$p(\alpha x) = \alpha p(x) \qquad (\because \alpha > 0 \Rightarrow |\alpha| = \alpha)$$

Also $f(x) \leq |f(x)| \leq p(x) \quad \forall \ x \in Z$ (from ③)

By hann Banach thm, $\exists$ linear extension $\bar{f}$ on X

$\Rightarrow \bar{f}(x) \leq p(x), \ \forall \ x \in X$ — ⑤

Here $-\bar{f}(x) = \bar{f}(-x)$ ($\because f$ is linear)

$\leq p(-x)$

$= |-1| p(x)$

$\Rightarrow -\bar{f}(x) = p(x)$ — ⑥

from ⑤ and ⑥, $|\bar{f}(x)| \leq p(x)$

$\bar{f}$ is linear:- Let $x, y \in X$ then

$$\bar{f}(x+y) = \bar{f}_1(x+y) - i\bar{f}_1(x+y)i$$

$$= \bar{f}_1(x) + \bar{f}_1(y) - i\left(\bar{f}_1(ix) + \bar{f}_1(iy)\right)$$

$$= \bar{f}_1(x) - i\bar{f}_1(ix) + \bar{f}_1(y) - i\bar{f}_1(iy)$$

$$\bar{f}(x+y) = \bar{f}(x) + \bar{f}(y) \quad \forall \ x, y \in X$$

Let $x \in X$, $\alpha = a+ib$ then $\bar{f}(\alpha x) = \alpha \bar{f}(x) \ \forall \ x \in X, \forall \alpha$

$\therefore f$ is a linear on X.

Next, we have to show that $|\bar{f}(x)| \leq p(x) \ \forall x \in X$

Let $x \in X$

If $\bar{f}(x) = 0$, then $|\bar{f}(x)| \leq p(x)$, since $p(x) \geq 0$

Suppose that $\bar{f}(x) \neq 0$

$$\bar{f}(x) = |\bar{f}(x)| e^{i\theta}.$$

$$\Rightarrow |\bar{f}(x)| = e^{-i\theta} \bar{f}(x)$$

$$= \bar{f}(e^{-i\theta} x) \qquad [\bar{f} \text{ is linear}]$$

$$\leq p(e^{-i\theta} x) \qquad (\because \bar{f}_1(x) \leq p(x))$$

$$= [e^{-i\theta}] p(x) \qquad (\text{from } ②)$$

$$= p(x)$$

$$\Rightarrow |\bar{f}(x)| \leq p(x) \; \forall \; x \in X$$

Hence the theorem is proved.

SRR & CVR GOVERNMENT DEGREE COLLEGE
(AUTONOMOUS) VIJAYAWADA

II M.SC MATHEMATICS

Assignment Paper Submission

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COURSE NAME	:: M.SC. (MATHEMATICS)
SEMESTER	:: IV
BATCH	::
PAPER NAME	:: Functional Analysis
ASSINGMENT NO.	:: Seminar

SUBMITTED TO :

PARVEEN MADAM

SUBMITTED BY :

E. Dhana Lakshmi



1) state & prove picards existence & uniqueness theorem!

statement:- let f be a continuous on a rectangle $R = \{(t,x) / |t-t_0| \le a, |x-x_0| \le b\}$ and thus bounded on R. say $|f(t,x)| \le c \ \forall (t,x) \in R$. Suppose that f satisfies lipschitz condition on R w.r.t its second argument i.e, there is a constant k (lipschitz constant)

$\exists$ for $(t,x), (t,v) \in R$

$|f(x,t) - f(x,v)| \le k |x-v|$

then the initial value problem $x' = f(t,x)$ has a unique solution. this solution exists on an interval $[t_0-\beta, t_0+\beta]$ where $\beta < \min\{a, b/c, 1/k\}$

proof: let f be a continuous on a Rectangle

$R = \{(t,x) / |t-t_0| \le a, |x-x_0| \le b\}$ —— ①

bounded on R, say $|f(t,x)| \le c \ \forall (t,x) \in R$ —— ②

suppose that f satisfies lipschitz condition on R. w.r.t its second argument.

i.e there is a constant k (lipschitz constant)

$\exists$ for $(t,x), (t,v) \in R$

$|f(t,x) - f(t,v)| \le k |x-v|$ —— ③

Take $\beta \le \min\{a, b/c, 1/k\}$ &

$J = [t_0-\beta, t_0+\beta]$ —— ④

Then $C(J)$, be the set of real valued continuous functions on J is a Complete metric space under the metric

$$d(x,y) = \max_{t \in J} |x(t) - y(t)|$$

Take $\bar{C} = \{ x(t) \in C(J) \,/\, |x(t) - x_0| \leq BC \}$

clearly $\bar{C}$ is a subspace of $\bar{C}$

then there is a sequence $\{y_n\}$ in $\bar{C}$

$$\ni y_n \to y$$

Now $|y(t) - y_0| = |\lim_{n\to\infty} y_n(t) - x_0|$

$$= \lim_{n\to\infty} |y_n(t) - x_0| \leq BC$$

$\therefore y \in \bar{C}$

$\therefore \bar{C}$ is closed subspace of $C(J)$

$\bar{C}$ is a Complete

Define $T: \bar{C} \to \bar{C}$ by

$$Tx(t) = x_0 + \int_{t_0}^{t} f(\theta, x(\theta))\, d\theta \quad \text{---} (5)$$

clearly T is Continuous on $\bar{C}$, since f is Continuous

Next, we have to S.T T is a Contraction mapping.

for $x(t), x(\eta) \in \bar{C}$

$$T_x(t) - T_v(t) = \left| x_0 + \int_{t_0}^{t} f(\tau, x(\tau))\,d\tau - x_0 + \int_{t_0}^{t} f(\tau, v(\tau))\,d\tau \right| \quad (3)$$

$$= \left| \int_{t_0}^{t} \left[f(\tau, x(\tau)) + f(\tau, v(\tau)) \right] d\tau \right|$$

$$= \int_{t_0}^{t} \left| f(\tau, x(\tau)) + f(\tau, v(\tau)) \right| d\tau$$

$$\leq k \int_{t_0}^{t} (x(\tau) - v(\tau))\,d\tau \quad [\because \text{from } (3)$$

$$\leq k\beta \left| x(t) - v(t) \right|$$

$$\therefore \left| T_x(t) - T_v(t) \right| \leq k\beta \left| x(t) - v(t) \right| \quad \text{---------- } (6)$$

Now $d(T_x, T_v) = \max_t \left| T_x(t) - T_v(t) \right|$

$$\leq \max_t k\beta \left| x(t) - v(t) \right|$$

$$\leq k\beta \max_t \left| x(t) - v(t) \right|$$

$$\leq k\beta\, d(x, v)$$

$$\therefore d(T_x, T_v) \leq \alpha \cdot d(x, v)$$

where $\alpha = k\beta < k \cdot 1/k = 1$

$[\because \beta < \min\{a, b/k, 1/k\}$

T is a contraction mapping on $\overline{\ell_0}$

So By Banach - fixed point theorem

[let (X, d) be a metric space where $X \neq \emptyset$ Suppose that d is Complete and let $T: X \to X$ be a Contraction on X then T has precisely one fixed point]

T has unique fixed point : x'

i.e $Tx = x$

$$x = Tx = x_0 + \int_{t_0}^{t} f(G, x(G))\, dt$$

Differentiating on both sides

$$x' = 0 + f(G + x(G))$$

$$\Rightarrow x' = f[t, x(t)]$$

$$\Rightarrow x' = f(t, x)$$

23 Show that i) If E_1 & E_2 are measurable then

$m(E_1 \cup E_2) + m(E_1 \cap E_2) = m(E_1) + m(E_2)$

ii) P.T If f is a measurable function and $f = g$ (a.e) then g is measurable.

proof:-



proof: i) E_1, E_2 are measurable sets of real numbers we prove that $m(E_1 \cup E_2) + m(E_1 \cap E_2) = m(E_1) + m(E_2)$

since E_1 is measurable,

$$m^*(E_1 \cup E_2) = m^*((E_1 \cup E_2) \cap E_1) + m^*((E_1 \cup E_2) \cap \tilde{E_1}).$$

Now $(E_1 \cup E_2) \cap E_1 = E_1$ and $(E_1 \cup E_2) \cap \tilde{E_1} = E_2 \cap \tilde{E_1}$

So, $m^*(E_1 \cup E_2) = m^*(E_1) + m^*(E_2 \cap \tilde{E_1})$

Now, $m^*(E_1 \cup E_2) + m^*(E_1 \cap E_2) = m^*(E_1) + m^*(E_2 \cap \tilde{E_1})$

$+ m^*(E_2 \cap E_1)$

$= m^*(E_1) + m^*(E_2)$

$\therefore m^*(E_1 \cup E_2) + m^*(E_1 \cap E_2) = m^*(E_1) + m^*(E_2)$

Since $E_1, E_2, E_1 \cup E_2$, and $E_1 \cap E_2$ are measurable,

$m(E_1 \cup E_2) + m(E_1 \cap E_2) = m(E_1) + m(E_2)$.

(ii) f is measurable function defined on the measurable set D and $f = g$ (a.e)

we prove that g is measurable.

Let $E = \{x \in D \mid f(x) \neq g(x)\}$

Let α be a real number.

$\{x \in D \mid g(x) > \alpha\}$

$= [\{x \in D \mid f(x) > \alpha\} \cup \{x \in E \mid g(x) > \alpha\}] - \{x \in E \mid g(x) \leq \alpha\}$

$\because m(E) = 0$., we get that every element of E is measurable.

So, $\{x \in E \mid g(x) > \alpha\}$ and $\{x \in E \mid g(x) \leq \alpha\}$ are measurabl

$\because$ f is measurable, $\{x \in D \mid f(x) > \alpha\}$ is measurable.

So, $\{x \in D \mid g(x) > \alpha\}$ is measurable and that g is measurable on D.

SRR & CVR Govt Degree college (A)

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class:- II MSc (mathematics)

Subject:- measure and integration.



measurable sets. ie; a seq with $E_{n+1} \subseteq E_n \ \forall n$

Let $m(E_1)$ be finite. Then $m(\bigcap_{n=1}^{\infty} E_n) = \lim_n m(E_n)$

Proof:-

Let $\{E_n\}_{n=1}^{\infty}$ be a infinite decreasing sequence of measurable sets, we also have $m(E_1) < \infty$

So, $E_{n+1} \subseteq E_n$, $\forall\ n = 1, 2, \ldots$

we Prove that

$$m(\bigcap_{n=1}^{\infty} E_n) = \lim_n m(E_n)$$

Let $E = \bigcap_{n=1}^{\infty} F_n$ Let $F_n = E_n - E_{n+1}$ $n = 1, 2, \ldots$

F_n are pairwise disjoint measurable set and

$$E_1 - E = \bigcup_{n=1}^{\infty} F_n$$

Now $m(E_1 - E) = m(\bigcup_{n=1}^{\infty} F_n)$

$$= \sum_{n=1}^{\infty} m(F_n)$$

$$= \sum_{n=1}^{\infty} m(E_n - E_{n+1}) \quad (\because m \text{ is countable})$$

$E_1 = E \cup (E_1 - E)$ and $E \cap (E_1 - E) = \phi$

$m(E_1) = m(E \cup (E_1 - E))$

$= m(E) + m(E_1 - E)$

$m(E_1) - m(E) = m(E_1 - E)$

.lly we get that

$$m(E_n) - m(E_{n+1}) = m(E_n - E_{n+1})$$

$$\therefore m(E_1) - m(E) = \sum_{n=1}^{\infty} (m(E_n) - m(E_{n+1}))$$

$$= \lim_n \sum_{i=1}^{\infty} (m(E_i) - m(E_{i+1}))$$

$$= \lim_n (m(E_1) - m(E_{n+1}))$$

$$= m(E_1) - \lim_n m(E_{n+1})$$

$$\because m(E_1) < \infty, \quad m(E) = \lim_n m(E_n)$$

$$\therefore m\left(\bigcap_{n=1}^{\infty} E_n\right) = \lim_n m(E_n) =$$

* SRR AND CVR GOVERNMENT DEGREE COLLEGE *

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SEMINAR TOPIC IN

* LEBESGUE MEASURE *

Submitted to

Sk. Parveen mam

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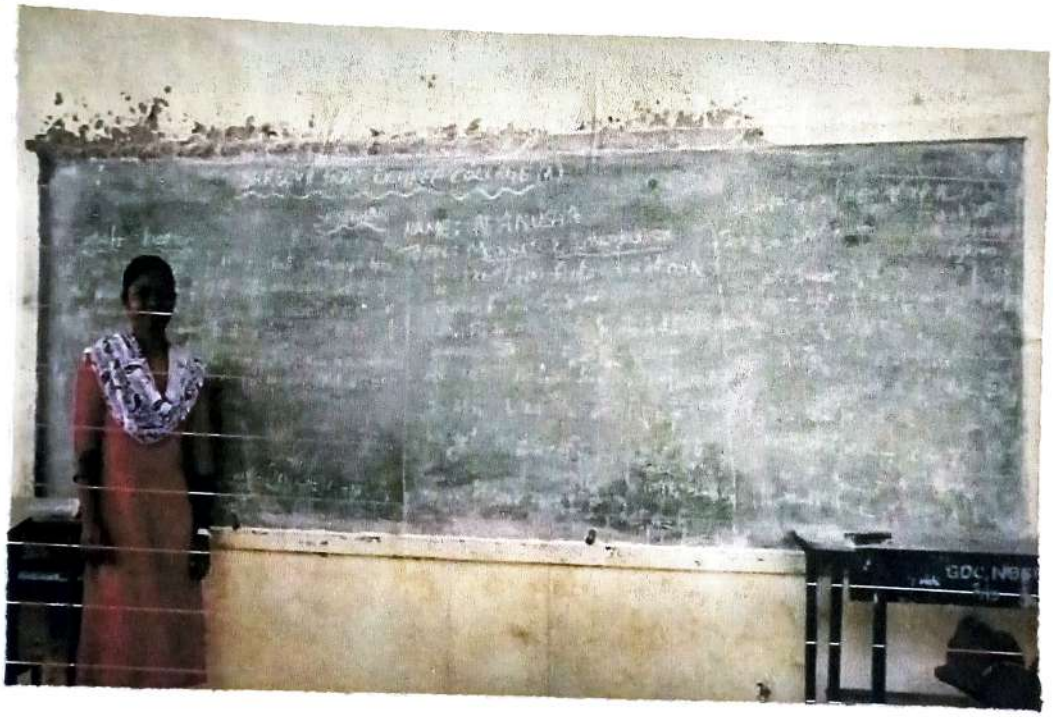
N. Anusha

* EGOROFF THEOREM *

State and Prove Egoroff Theorem.

Statement:- If $\{f_n\}_{n=1}^{\infty}$ is a sequence of measurable functions that converge to a real valued function f almost Everywhere on a measurable set E of finite measure, given $\delta > 0$ there is a subset $A \subseteq E$ with $m(A) < \delta$ $\ni$ $\{f_n\}$ converges to f Uniformly on $E - A$.

Pf: Let $\{f_n\}_{n=1}^{\infty}$ is a sequence of measurable function that converges to a real valued function f almost Everywhere and a measurable set E of finite measure.



By a known proposition i.e,

Statement: Let E be a measurable set of finite and $\{f_n\}$, a sequence of measurable function defined on E. Let f be a real valued function $\ni$ for each $x \in E$ we have $f_n(x) \to f(x)$. Then given $\epsilon > 0$ and $\delta > 0$ there is a measurable set

$A = E$ with $m(A) < \infty$ and an integer $N > 1/\delta$ and $\forall\, n \geq N \quad |f_n(x) - f(x)| < \epsilon$

Proof: $\{f_n\}_{n=1}^{\infty}$ is a sequence of measurable functions defined on the measurable set E of finite measure and f is a measurable real valued function defined on E and $\lim_n f_n(x) = f(x)$, $\forall x \in E$

let $\epsilon > 0$ and $\delta > 0$

let $G_n = \{x \in E \mid |f_n(x) - f(x)| \geq \epsilon\}$, $n = 1, 2 \ldots$

let $F_N = \bigcup_{n=N} G_n$, $N = 1, 2 \ldots$

$F_N = \{x \in E \mid |f_n(x) - f(x)| \geq \epsilon$, for some integer $n \geq N\}$

Since f_n, f are measurable, G_n is measurable for $n = 1, 2 \ldots$

So, F_N is measurable, for each $N = 1, 2 \ldots$

clearly, F_N is a decreasing sequence of measurable sets. i.e., $F_N \supseteq F_{N+1}$, $\forall\, N = 1, 2 \ldots$

let $x \in E$

$\therefore \lim_n f_n(x) = f(x)$, we get a positive integer k

$\ni |f_n(x) - f(x)| < \epsilon$, $\forall\, n \geq k$.

So, $x \notin F_k$ and that $x \notin \bigcap_{N=1}^{\infty} F_N$

$\therefore \bigcap_{N=1}^{\infty} F_N = \phi$

By a known proposition - let $\{E_n\}_{n=1}^{\infty}$ is a infinite decreasing sequence of measurable sets. i.e., A sequence with $E_{n+1} \subseteq E_n$, $\forall\, n$, let $m(E_1)$ be finite then

$m\left[\bigcap_{n=1}^{\infty} E_n\right] = \lim_n m[E_n]$

We get that

$\therefore m(\phi) = m\left[\bigcap_{N=1}^{\infty} F_N\right] = \lim_N m(F_N)$

So, we get a positive integer $k \ni m(F_k) < \delta$

Let $A = F_k$

Also, $|f_n(x) - f(x)| < \epsilon$, $\forall x \notin A$ and $\forall n \geq k$

Let $\{f_n\}_{n=1}^{\infty}$ is a sequence of measurable functions that converges to a real valued functions almost Every where and a measurable set E of finite measure.

Let $\delta > 0$ and let k be a positive integer

[$\because$ By a known Proposition let $A = A_1 \cup F$

now $m(A) = m(A_1) + m(F)$

$= m(A_1)$ $(\because m(F) = 0)$

$< \delta$]

we get a measurable subset A_k of $E \ni m(A_k) < \delta/2^k$ and a the integer n_k with $|f_n(x) - f(x)| < 1/k$, $\forall x \in E - A_k$ and $\forall n \geq n_k$.

Let $A = \bigcup_{k=1}^{\infty} A_k$, now $m(A) = m\left(\bigcup_{k=1}^{\infty} A_k\right)$

$\leq \sum_{k=1}^{\infty} m(A_k)$ $\left(\text{Put } \sum_{k=N}\right)$

$< \sum_{k=1}^{\infty} \delta/2^k = \delta$

Let $\epsilon > 0$, we get a positive integer $N \ni \frac{1}{N} < \epsilon$

now, $|f_n(x) - f(x)| < 1/N < \epsilon$, $\forall x \in E - A_N \supseteq E - A$ & $n \geq n_N$

$\therefore |f_n(x) - f(x)| < \epsilon$, $\forall x \in E - A$ and $\forall n \geq n_N$

Hence $\{f_n\}$ converges Uniformly to f on $E - A$ and $m(A) < \delta$.

Hence the theorem.

SRR & CVR GOVERNMENT DEGREE COLLEGE (AUTONOMOUS)
VIJAYAWADA

II M.SC MATHEMATICS

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COURSE NAME	::	**M.SC. (MATHEMATICS)**
SEMESTER	::	**IV**
BATCH	::	**(2020 – 2022)**
PAPER NAME	::	**MEASURE & INTEGRATION**

SUBMITTED TO : PARVEEN MADAM

SUBMITTED BY : SAMEERA

Simplex Function: A real valued function ϕ is called a simple function. If it is measurable & assumes only a finite No. of values.

Def: Let ϕ be a simple function. Let $a_1, a_2, \ldots a_n$ be the distinct Non-zero values assumed by "ϕ".

Let $E_i = \{x / \phi(x) = a_i\}$, $i = 1, 2, \ldots n$

Now $\phi = \sum_{i=1}^{n} a_i \chi_{E_i}$

This Representation of ϕ is called the Canonical Representation of 'ϕ'.

Theorem:

Let ϕ and ψ be simple functions which vanishes outsides a set of finite measure then prove that

$$\int(a\phi + b\psi) = a\int\phi + b\int\psi \text{ and}$$

If $\phi \leq \psi$ almost Everywhere then $\int\phi \leq \int\psi$

Proof: Let ϕ and ψ are simple functions which vanishes outsides a set of finite measure

Let $a_1, a_2, \ldots a_n$ be the distinct Non-zero values assumed by ϕ and

Let $b_1, b_2, \ldots b_m$ be the distinct Non-zero values assumed by ψ

Now $\phi = \sum_{i=1}^{n} a_i \chi_{B_i}$, $\psi = \sum_{j=1}^{m} b_i \chi_{B_j}$

where $A_i = \{x / \phi(x) = a_i\}$, $\forall\ i = 1, 2, \ldots, n$ &

$B_j = \{x / \psi(x) = b_j\}$, $\forall\ j = 1, 2, \ldots, m$

Now $\int \phi = \sum_{i=1}^{n} a_i m(A_i)$ & $\int \psi = \sum_{j=1}^{m} b_j m(B_j)$

Now $a\phi + b\psi$

$$a\phi + b\psi = \left[\sum_{i=1}^{n} a a_i \chi_{A_i}\right] + \left[\sum_{j=1}^{m} b b_j \chi_{B_j}\right]$$

Let $A_0 = \{x / \phi(x) = 0\}$

$B_0 = \{x / \psi(x) = 0\}$ & $a_0 = b_0 = 0$

Now $R = \bigcup_{i=0}^{n} A_i$ & $R = \bigcup_{j=0}^{m} B_j$

$$a\phi + b\psi = \sum_{i=1}^{n} a a_i \chi_{A_i} + \sum_{j=0}^{m} b b_j \chi_{B_j}$$

$$a\phi + b\psi = \sum_{j=0}^{m} \sum_{i=0}^{n} (a a_i + b b_j) \chi_{A_i \cap B_j}$$

Since A_i's are disjoints, B_j's are disjoint

$\Rightarrow A_i \cap B_j$'s are disjoint

By Lemma $A_i \cap B_j$'s are pairwise disjoint measurable sets

Now consides $\int(a\phi+b\psi) = \sum_{j=0}^{m}\sum_{i=0}^{n}(aa_i+bb_j)m(A_i\cap B_j)$

$$= \sum_{j=0}^{m}\sum_{i=0}^{n} aa_i m(A_i\cap B_j) + \sum_{j=0}^{m}\sum_{i=0}^{n} bb_j m(A_i\cap B_j)$$

$$= \sum_{i=0}^{n} aa_i m(A_i) + \sum_{j=0}^{m} bb_j m(B_j)$$

$$= a\sum_{i=0}^{n} a_i m(A_i) + b\sum_{j=1}^{m} b_j m(B_j)$$

$$\int(a\phi+b\psi) = a\int\phi + b\int\psi$$

Suppose that $\phi \le \psi$ almost Everywhere

So $0 \le \psi-\phi$ almost Everywhere

By the first part, $\int(\psi-\phi) = \int\psi - \int\phi$

From the definition of Integral of simple function

as $0 \le \psi-\phi$ almost Everywhere, $0 \le \int(\psi-\phi)$

so $0 \le \int\psi - \int\phi$ and that $\int\phi \le \int\psi$

$\therefore$ Hence the result.

Bounded convergence Theorem

statement:- Let $\{f_n\}$ be a sequence of measurable functions defined on a set E of finite measure and suppose that there is a real number $M>0$ $\ni$ $|f_n(x)| \le M$, $\forall$ n and $\forall$ x

If $\lim_{n\to\infty} f_n(x) = f(x)$, for each $x \in E$ then $\lim \int_E f_n = \int_E f$

Proof:- $\{f_n\}_{n=1}^{\infty}$ is a sequence of measurable functions defined on the measurable set E of finite measure and $M>0$ and $|f_n(x)| \le M$, $\forall n$ and $\forall x \in E$ and $\lim_n f_n(x) = f(x)$, $\forall x \in E$

now, $\lim_n |f_n(x)| \le M$ that $|f(x)| \le M$, $\forall x \in E$

let $\epsilon > 0$

The result is obvious if $m(E) = 0$

so we suppose that $m(E) > 0$

we get subset A of E $\ni$ $m(A) < \epsilon/4M$ and a positive integer N $\ni$ $|f_n(x) - f(x)| < \epsilon/2m(E)$ $\forall$ $n \ge N$ and $\forall$ $x \in E - A$

$$\left|\int_E f_n - \int_E f\right| \le 2M, \quad \int_A |f_n - f| \le 2M\, m(A) < 2M \frac{\epsilon}{4M} = \frac{\epsilon}{}$$

Since $|f_n - f| < \epsilon/2m(E)$ on $E - A$, for $n \geq N$

$$\int_{E-A} |f_n - f| \leq \epsilon/2m(E) \cdot m(E-A), \text{ for } n \geq N$$

$$\Rightarrow \int_{E-A} |f_n - f| \leq \epsilon/2, \text{ for } n \geq N$$

$$\therefore \left| \int_E f_n - \int_E f \right| < \epsilon/2 + \epsilon/2 = \epsilon, \ \forall\, n \geq N$$

Hence $\lim_n \int_E f_n = \int_E f$

SRR & CVR GOVT. DEGREE COLLEGE (A)

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subject: Measure & Integration.

class: II MSC.

TOPIC: Hilber Space

Submitted TO

SK. PARVEENMAM

submitted by

M. Tanuja

Let f be a non-negative fn which is integrable over a set E then S.T given $\epsilon > 0$, there is a $\delta > 0$ s.t for every set $A \subseteq E$ with $m(A) < \delta$, $\int_A f < \epsilon$

f is a non-negative function defined on the measurable set E & f is also integrable over E

let $\epsilon > 0$

case i:- Suppose that f is bounded

we get $M > 0$ s.t $0 \leq f \leq M$.

let $0 < \delta < \frac{\epsilon}{M}$ ($\Rightarrow m\delta < \epsilon$)

for $A \subseteq E$ with $(m(A)) < \delta$, $\int_A f \leq m(m(A)) < m\delta < \epsilon$.

case ii:- Suppose that f is not bounded for each +ve integer n, define

$$f_n(x) = \begin{cases} f(x) & \text{if } f(x) \leq n \\ n & \text{if } f(x) > n \end{cases}$$

f_n is a non-negative measurable fn s.t $f_n < f_{n+1}, \forall n = 1, 2, \ldots$

clearly, $\lim_n f_n(x) = f(x)$, $\forall x \in E$

Also, $0 \leq f_n \leq n$, $\forall n = 1, \ldots$

let $\{f_n\}_{n=1}^{\infty}$ be an increasing sequence of non-ve measurable fn

& Let $f = \lim_n f_n$ a.e then $\int f = \lim_n \int f_n$.



We get a +ve integer $N \ni \forall n \geq N$

$$\left| \int_E f - \int_E f_n \right| < \frac{\varepsilon}{2}$$

$\therefore f_n \leq f, \forall n \Rightarrow \int_E f_n \leq \int_E f, \quad \forall n = 1, 2 \ldots$

$$\text{So, } 0 \leq \int_E f - \int_E f_N < \frac{\varepsilon}{2}$$

We have $\int_E (f - f_N) = \int_E f - \int_E f_N < \frac{\varepsilon}{2}$

Let $0 < \delta = \frac{\varepsilon}{2N}$

Let $A \subseteq E$ be a measurable set $\ni m(A) < \delta$

$$\int_A f = \int_A (f - f_N) + f_N = \int_A (f - f_N) + \int_A f_N$$

$$\leq \int_E (f - f_N) + \int_A f_N$$

$$< \frac{\varepsilon}{2} + N\delta$$

$$< \frac{\varepsilon}{2} + \frac{\varepsilon}{2} = \varepsilon$$

Hence $\int_A f < \varepsilon$.

SRR & CVR GOVT DEGREE COLLEGE(A)

DEPARTMENT OF MATHEMATICS

SEMINAR

MEASURE AND INTEGRATION

SUBMITTED TO SHAIK PARVEEN MADAM

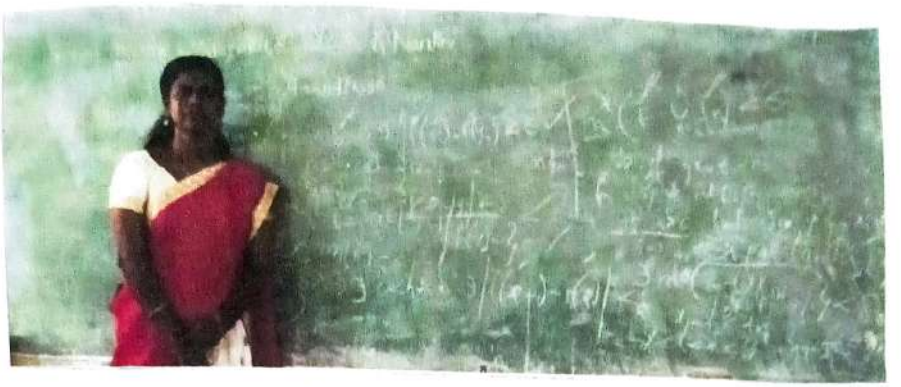
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SUBJECT :- MEASURE AND INTEGRATION

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If f is absolutely continuous on $[a,b]$ and $f'(x)=0$ a.e on $[a,b]$ then show that f is constant on $[a,b]$.



Proof :- If f is absolutely continuous on $[a,b]$ and $f'(x)=0$ a.e on $[a,b]$

We prove that f is constant on $[a,b]$

Let $c \in [a,b]$

We prove that $f(c) = f(a)$

Let $E = \{x \in (a,c) / f'(x) = 0\}$

$\Rightarrow m(E) = c-a$

Let $\eta > 0$, Let $x \in E$ and $\delta > 0$

$\because f'(x)=0$, we get a $0<h<\delta \Rightarrow |f(x+h)-f(x)| < h\eta$

and $[x, x+h] \subseteq (a,c)$

So, all these intervals $[x, x+h]$ cover to in the sense of vitali.

Let $\epsilon > 0$

Since f is absolute continuous, we get a $\delta > 0 \ni$

for any finite coefficient collection $\{(x_i, y_i) : i = 1, 2, \ldots n\}$

of non-overlapping intervals with $\sum_{i=1}^{n} |x_i - y_i| < \delta$,

$$\sum_{i=1}^{n} |f(x_i) - f(y_i)| < \epsilon$$

for this $\delta > 0$, we get a finite collection $[x_i, y_i = x_i + h_i]$ $i = 1, 2, \ldots, n$ of pairwise disjoint intervals contained in (a, c)

$\Rightarrow m^* \left(E - \bigcup_{i=1}^{n} [x_i, y_i] \right) < \delta$

without loss of generality, we may assume that $x_1 < x_2 < \cdots < x_{n-1} < x_n$

Now, $y_0 = a < x_1 < y_1 < x_2 < y_2 < \cdots < x_n < y_n < c = x_{n+1}$

now, $\sum_{i=0}^{n} |x_{i+1} - y_i| < \delta$

By the absolute continuity of f, $\sum_{i=0}^{n} |f(x_{i+1}) - f(y_i)| < \epsilon$

now, $\sum_{i=1}^{n} |f(x_i) - f(y_i)| < \eta \quad \left(\sum_{i=1}^{n} (h_i) \right) \leq \eta (c - a)$

now, $f(c) - f(a) = \sum_{i=0}^{n} (f(x_{i+1}) - f(y_i)) + \sum_{i=1}^{n} (f(y_i) - f(x_i))$

$\Rightarrow |f(c) - f(a)| \leq \sum_{i=0}^{n} |f(x_{i+1}) - f(y_i)| + \sum_{i=1}^{n} |f(y_i) - f(x_i)|$

$< \epsilon + \eta (c - a)$

$\therefore \epsilon > 0, \eta > 0$ is arbitrary, we get that $f(c) = f(a)$

$\therefore f$ is constant on $[a, b]$.

SRR & CVR GOVERNMENT DEGREE COLLEGE
(AUTONOMOUS) VIJAYAWADA

II M.SC MATHEMATICS

Assignment Paper Submission

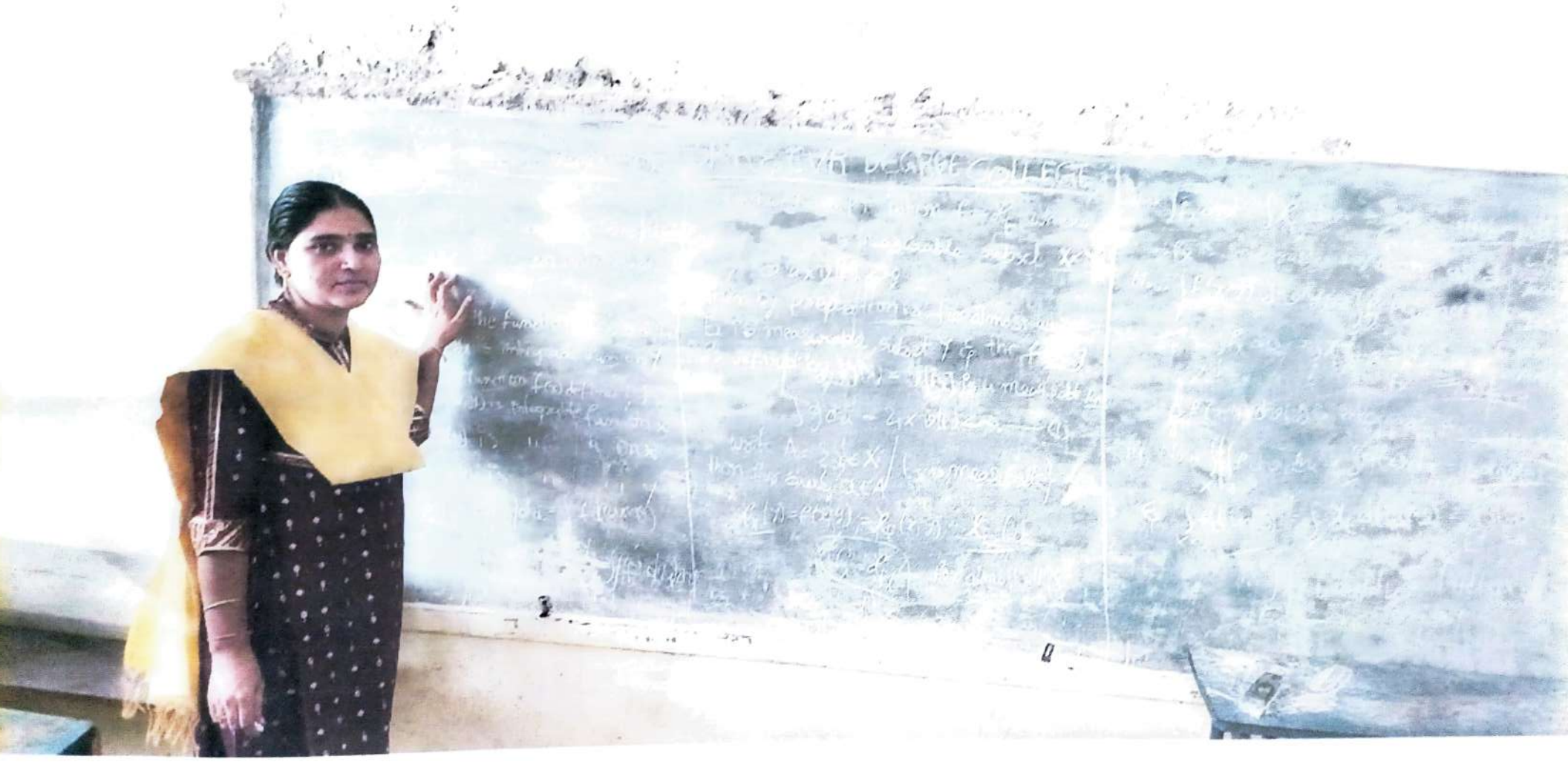
ENROLMENT NO.	:: 2017U160319
NAME OF THE CANDIDATE	:: E. Dhana Lakshmi
ADDRESS	:: Gollapudi
CELL NUMBER	:: 9494455133
COURSE NAME	:: M.SC. (MATHEMATICS)
SEMESTER	:: IV
BATCH	::
PAPER NAME	:: Measure & Integration
ASSINGMENT NO.	:: SEMINAR.

SUBMITTED TO :

PARVEEN MADAM

SUBMITTED BY :

E. Dhana Lakshmi



1) **Fubini theorem:-**

Let (X, G, μ) & (Y, B, ν) be two complete measure spaces and f is an integrable function on $X \times Y$ then

i, for almost all x the function f_x defined by $f_x(y) = f(x,y)$ is an integrable function on Y.

ii, for almost all y the function f^y defined by $f^y(x) = f(x,y)$ is an integrable fun on X.

iii, $\int_Y f(x,y)\, d\nu(y)$ is an integrable fun on X.

iv, $\int_X f(x,y)\, d\mu(x)$ is an integrable fun on Y.

v, $\int_X \left[\int_Y f\, d\nu\right] d\mu = \int_{X\times Y} f\, d(\mu\times\nu) = \int_{Y\times X} \left[\int_X f\, d\mu\right] d\nu$

proof: Because of symmetry b/w x & y its sufficies to S.T i, ii, & yst half of iii,.

Case'a': First we prove this theorem, when

$f = \chi_E$, where E is a measurable subset $X\times Y$.

$\ni\ \mu\times\nu(E) < \infty$

Then by proposition-18 for almost all x the set E_x is a measurable subset of Y & the function g is defined by $g(x) = \nu[E_x]$ is a is a measurable function &.

$$\int g\, d\mu = \mu\times\nu(E) < \infty \quad \text{——} (1)$$

E_x is measurable } ②

Then for every $x \in A$

$f_x(y) = f(x,y) = \chi_E(x,y) = \chi_{E_x}(y)$

$f_x = \chi_{E_x}$ for almost all x.

Now $\int f_x \, d\nu = \int \chi_{E_x} \, d\nu = \int_{E_x} d\nu = \nu[E_x] = g(x) < \infty$ — ①

f_x is integrable for almost all y

Now $\int_y f(x,y) \, d\nu(y) = \int_y f_x(y) \, d\nu(y) = \int_y f_x \, d\nu$

$= \int \chi_{E_x} d\nu = \int_{E_x} d\nu = \nu(E_x) = g(x) < \infty$

$\therefore \int_y f(x,y) \, d\nu(y)$ is integrable function on X

iii, Now $\int_X \left[\int_y f \, d\nu \right] du = \int_X g(x) \, du$ [∵ ②

$= \mu \times \nu(E)$

Also $\int_{X \times Y} f \, d(\mu \times \nu) = \int_{X \times Y} \chi_E \, d(\mu \times \nu) = \int_E d(\mu \times \nu) = \mu \times \nu(E)$.

$\therefore \int_X \left[\int_y f \, d\nu \right] du = \int_{X \times Y} f \, d[\mu \times \nu]$

Case b; suppose f is non-negative simple function which vanishes outside a set of finite measure.

i, Then $f = \sum_{i=1}^{n} a_i \chi_{E_i}$ where $a_i \neq 0$ &

E_i's are measurable.

$\therefore f$ is integrable fun

we have $\int f = \sum_{i=1}^{n} a_i \, \mu \times \nu(E_i) < \infty$

$\Rightarrow \mu \times \nu(E_i) < \infty \quad \forall i$

Then by case (a), $(\chi_{E_i})_x$ is integrable for almost all x

$\therefore f_x = \sum_{i=1}^{n} a_i (\chi_{E_i})_x$ is integrable for almost all x

ii, Now $E_i \subseteq X \times Y$ & $\mu \times \nu(E_i) < \infty$

Then by proposition-18, the function g_i is defined by $g_i(x) = \nu((E_i)_x)$ is measurable and

$$\int g_i \, d\mu = \mu \times \nu[E_i] < \infty$$

$\Rightarrow$ Each g_i is integrable, write

$$g(x) = \int_Y f_x \, d\nu = \int_Y f(x,y) \, d\nu(y)$$

Then $g(x) = \int_Y f_x \, d\nu = \sum_{i=1}^{n} a_i \nu((E_i)_x)$

$$= \sum_{i=1}^{n} a_i (g_i(x))$$

$$\therefore g = \sum_{i=1}^{n} a_i g_i$$

$\therefore g$ is integrable.

$\int_Y f_x \, d\nu$ is integrable fun on X.

iii, $\int_{X \times Y} f \, d(\mu \times \nu) = \sum_{i=1}^{n} a_i \, \mu \times \nu(E_i) = \sum_{i=1}^{n} a_i \int_X g_i \, d\mu$

$$= \int_X \sum_{i=1}^{n} (a_i g_i) \, d\mu = \int_X g \, d\mu = \int_X \left[\int_Y f \, d\nu \right] d\nu$$

Case 'c': Suppose f is a non-negative integrable fun. Then by proposition (7) of unit-III, $\exists$ an increasing sequence $\{\phi_n\}$ of non-negative simple fun.

$$\ni f = \lim_n \phi_n$$

since $0 \le \phi_n \le f$ & f is integrable we have $\int \phi_n < \infty$ (ϕ_n is also integrable) and it vanishes a set of finite measure

so $f_x = \lim_n (\phi_n)_x$ & $\{(\phi_n)_x\}$ an increasing sequence of simple functions

Then by case-(b) Each $(\phi_n)_x$ is integrable for almost all x &

i) $\int_Y (\phi_n)_x \, dv$ is integrable function on X.

iii) $\int_X \left[\int_Y (\phi_n)_x \, dv \right] du = \int_{X \times Y} \phi_n \, d(u \times v)$

since f_x is limit of the increasing sequence $\{(\phi_n)_x\}$. we have by Monotone convergence theorem

$$\int_Y f_x \, dv = \lim_n \int_Y (\phi_n)_x \, dv.$$

so $\{\int_Y (\phi_n)_x) \, dv$ is an increasing seq of non-negative measurable funs

$$\ni \int_Y f_x \, dv = \lim_n \int_Y (\phi_n)_x \, dv$$

Again by Monoton-Convergence theorem.

$\int_X \left[\int_Y f\,d\nu\right] d\mu = \lim_n \int_X \left[\int_Y \phi_n\,d\nu\right] d\mu = \lim_n \left[\int_{X\times Y} \phi_n\,d(\mu\times\nu)\right]$

$= \int_{X\times Y} f\,d(\mu\times\nu).$

Case d: Suppose f is arbitary integrable fun.

Then $f = f^+ - f^-$, where f^+, f^- both are integrable.

where f^+, f^- non-negative integrable funs

Then by 'Case-c' $(f^+)_x$ & $(f^-)_x$ are integrable for almost all x. i.e f_x is an integrable fun for almost all x.

for almost all x.

i.e f_x is an integrable fun for almost all 'x'.

iii, Now $\int_Y f(x,y)\,d\nu(y) = \int_Y f_x\,d\nu$

$= \int_Y (f^+)_x\,d\nu - \int (f^-)_x\,d\nu$ is integrable

iii, Now $\int_X \left[\int_Y f\,d\nu\right] d\mu = \int_X \left[\int_Y f^+\,d\nu - \int_Y f^-\,d\nu\right] d\mu$

$= \int_X \left[\int_Y f^+\,d\nu\right] d\mu - \int_X \left[\int_Y f^-\,d\nu\right] d\mu$

$= \int_{X\times Y} (f^+\,d\nu)\,d\mu - \int_{X\times Y} (f^-\,d\nu)\,d\mu$

$= \int_{X\times Y} f^+\,d(\mu\times\nu) - \int_{X\times Y} f^-\,d(\mu\times\nu) = \int_{X\times Y} f\,d(\mu\times\nu)$

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DEPARTMENT OF BIOCHEMISTRY

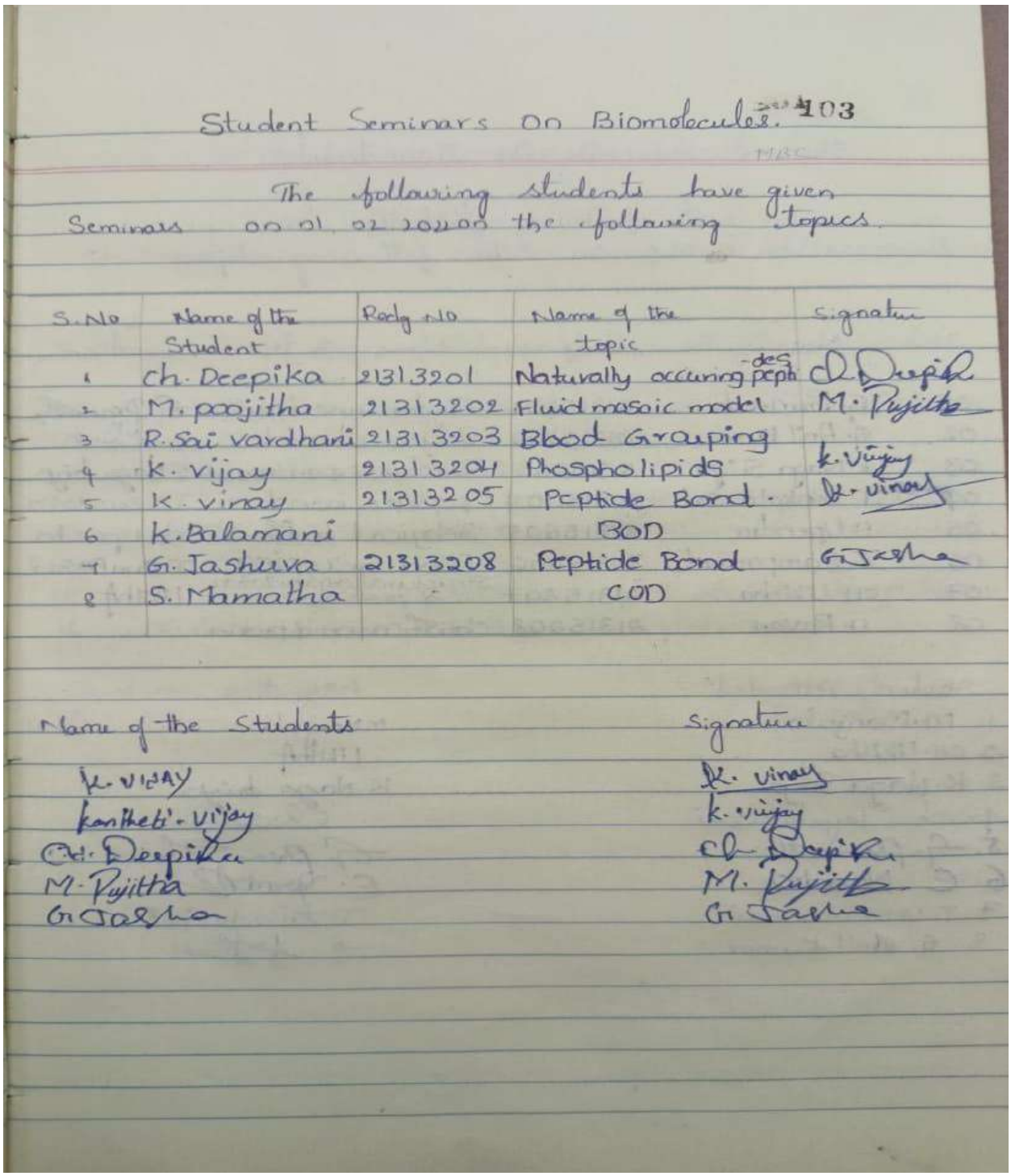
STUDENT SEMINARS

I[st] B.Sc. (MBC) 2021-2023

Semester-I & II

	
Ch.Deepika, presenting seminar on naturally occurring peptides	M.Poojitha presenting seminar on Fluid Mosaic model

The following students of I[st] B.Sc. MBC & MBF have given seminars in paper I on different topics on 1/02/2022 in the department of biochemistry.



Student Seminars On Biomolecules. 103

The following students have given Seminars on 01.02.2022 on the following topics.

S.No	Name of the Student	Reg no	Name of the topic	Signature
1	Ch. Deepika	21313201	Naturally occuring peptides	Ch. Deepika
2	M. poojitha	21313202	Fluid mosaic model	M. Pujitha
3	R. Sai vardhani	21313203	Blood Grouping	
4	K. Vijay	21313204	Phospholipids	K. Vijay
5	K. vinay	21313205	Peptide Bond.	K. vinay
6	K. Balamani		BOD	
7	G. Jashuva	21313208	Peptide Bond	G Jashua
8	S. Mamatha		COD	

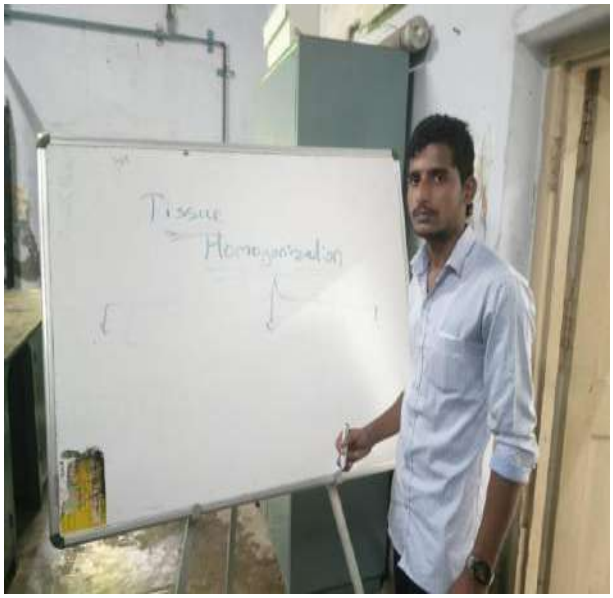
Name of the Students

K. VIJAY
Kantheti. Vijay
Ch. Deepika
M. Pujitha
G Jashua

Signature

K. vinay
K. Vijay
Ch. Deepika
M. Pujitha
G Jashua

SEMESTER-II DATE: 18/8/2022

	
Y.MALLIKARJUN PRESENTING SEMINAR ON ELECTRON MICEOSCOPE	G.RAJESH PRESENTING SEMINAR ON TISSUE HOMOGENISATION TECHNIQUE

108 II SEMESTER
Paper Title – Analytical Techniques

The I B.Sc, MSC students as a part of their Curriculum work presented student seminars on 15/8/2022.

① H Likhita 1st MSF student presented seminar on the types of Culture media at 11:00 am

② G. Anil 1st MSF student presented Seminar on Two electron focussing technique

③ G. Rajesh 1st MSF student presented seminar on Tissue homogenization technique

④ Y. Mallikarjuna 1st MSF student presented

⑤ seminar on electron MICROSCOPE Y. Mallikarjuna

G. praneeth 1st MSF student presented seminar on Centrifugation G. Praneeth

Students attended

① P. Prathyusha
② CH. Likitha
③ Y. Mallikarjuna
④ G. Praneeth
⑤ G. Rajesh
⑥ G. Anil Kumar
⑦ R. Akshitha
⑧ C. Narendra Babu
⑨ K. vinay
⑩ R. Sai Tarakam
⑪ CH. Deepika
⑫ K. Vyjay
⑬ T. Venkata Sai
⑭ G Jashuva

AIX

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SEMINAR -III B.Sc, B.Y.C

A seminar was conducted on few topics by the following on

Topics:
Euchromatin & Heterochromatin
Structure of Cell Wall
Differences between Prokaryotic & Eukaryotic Cell
Structure of Chloroplast.

D. Jyothi
Signature of the lecturer

S.No	Name of the Student	Signature of the student.
1.	M. Naga Jyothi.	M. N. Jyothi.
2.	P. Jaya Lakshmi	P. Jaya Lakshmi
3.	M. Sridhar	M. Sridhar.
4.	K. Pradeep	K. Pradeep
5.	CH. MADHU BABU	CH. Madhu Babu
6.	Y. Venkata Sai	Y. Venkata Sai
7.	CH. Raju	Ch. Raju
8.	A. Saleem	A. Saleem.

SEMINAR - II B.Sc, B.Z.C

A seminar was conducted to III B.Sc, B.Z.C on 20-08-2018 on following topics.

Topics
1. Structure of DNA
2. Types of RNA
3. DNA Replication
4. DNA as a genetic material (Evidences)

D Jyothi
Signature of the lecturer.

S.No	Name of the Student	Signature of the lecturer
1.	Laxmi prasan	Laxmi Prasan.
2.	Divya.	Divya.
3.	M Sridhar.	M. Sridhar.
4.	CH. MADHU BABU.	CH. Madhu babu.
5.	D. Nagajyothi	M N. Jyothi
6.	P. Jaya Laxmi	P. Jyalaxmi

SEMINAR - II B.Sc. B.Z.C

A seminar was conducted to II. B.Sc. B.Z.C on 07-09-2018 on following topics

Topic:
ICBN - Principles & rules
Preparation of Herbarium
Fundamental Concepts of taxonomy

Guruvaiah Lakshmi
Signature of the
Lecturer.

S.No	Name of the Student	Signature of the Student
1.	M. Ksanthi kumari	
2.	T. Anusha	T. Anusha
3.	M. Vasanthi	M. Vasanthi
4.	A. Madhu Nihaarika	A. Madhu Nihaarika.
5.	B. Maanya	B. Maanya.
6.	N. Suchaaritha	N. Suchaaritha
7.	M. Madhulika	M. Madhulika
8.	G. Naga Tejivani	G. Naga Tejivani

SEMINAR - II B.Sc, B.Z.C

A seminar was conducted to II B.Sc, B.Z.C on 17-08-2018 on following topics

Topics:

Bentham & Hooke system of classification
Engler & Prantl system of classification

G.V.Vara Lakshmi
Signature of the lecturer

S.No:	Name of the Student	Signature of the Student
1.	M. Jaya Sree	M. Jaya Sree
2.	N. Sucharitha	N. Sucharitha
3.	M. Madhulika	M. Madhulika
4.	G. Naga Jeiveni	G. Naga Jeiveni
5.	T. Anusha	T. Anusha
6.	M. Vasanthi	M. Vasanthi
7.	J. Sai Krishna	J. Sai Krishna

SEMINAR - III B.Sc, B.Z.C

A seminar was conducted to III B.Sc, B.Z.C on 27-09-2018 on following topics.

Topics:-

1. Ex-situ Conservation
2. In-situ Conservation
3. National Parks.

D. Jyothi
Signature of the lecture

S.NO.	Name of the student	Signature of the student
1.	Y. Venkat Sai	Y. Venkat Sai
2.	M. Sridhar	M. Sridhar.
3.	CH. MADHU BABU.	CH. MadhuBabu.
4.	CH. Raju	CH. Raju.
5.	Poornikya	Poornikya.
6.	A. Selena	A. Celeena.
7.	Swathi	Swathi
	Sudha Rani	Sudha Rani

SEMINAR - II B.Sc, B.Z.C

A quiz was conducted to II B.Sc, B.Z.C III & IV Students on 11-10-2018 on following topics

Topics:
Scientific names of families
Annonaceae
Cucurbitaceae

G.V. Varalakshmi
Signature of the Lecturer

S.NO	Name of the student	Signature
01	N. Vasanthi Rani	
2.	M. Vasanthi	M. Vasanthi
3.	A. Babu Rao	A. Babu Rao
4.	J. Sai Krishna.	J. Sai Krishna.
5.	M. Jayasree.	M. Jayasree.
6.	B. Nilyan Rao	B. Nilyan Rao.
7.	G. Myna.	G. Myna.

SEMINAR - III B.Z.C

A seminar was conducted on III B.Z.C THEEM students on 23-10-2018 on following:

Topics
Plant Breeding Techniques
Introduction, Selection
Hybridisation.

V.N.Y.
Signature of the Lecturer.

S.No.	Name of the Student	Signature of the Student
1.	prasanthi	Prasanthi.
2	Venkata.	Venkata.
3	M. Nagajyothi	M. Nagajyothi
4	M. Sridhar.	M. Sridhar.
5	K. Pradeep.	K. Pradeep.
6	Swathi	Swathi
7	Sudha Rani	Sudha Rani
8.	P. Jaya Lakshmi	P. Jaya Lakshmi

SEMINAR - I B.Sc, B & C

A seminar was conducted for I. B.Sc, B & C on 10-10-2018 on following topics.

Topic
Theories of Origin
Special groups of Micro-organisms.

G. Vara Lakshmi
Signature of the lecturer

S No	Name of the Student	Signature of the Student
1.	A.L.S.L. Vasantha.	A. Vasantha.
2.	B. Haritha	B. Haritha
3.	B. NIHARIKA	B. Niharika.
4.	M. Gayathri	M. Gayathri
5.	K. Harshitha	K. Harshitha
6.	Ch. Chinnajyothi	Ch. Ch. Jyothi
7.	B. Sravanthi	B. Sravanthi
8.	G. Tirumala	G. tirumala
9.	G. Kalyani	G. Kalyani
10.	B. Hepsibha	B. Hepsibha
11.	Y. Pravallika	Y. Pravallika

SEMINAR : I. B.Sc, B.Z.C

A seminar was conducted to I. B.Sc, B.Z.C on 15-10-2018 on following topics

Topic

Plant Viral diseases- TMV, Bhendi Vein clearing, Papaya leaf Curl.

Plant Viruses transmission

G.V. Vara Lakshmi
Signature of the lecturer.

S No	Name of the Student	Signature of the lecturer
1.	A.L.S.L.Vasantha.	A.Vasantha.
2.	B. Havitha	B. Havitha
3.	B. MUTHARIKA	B. Muthariha
4.	M. Gayathri	M. Gayathri
5.	K. Harshitha	K. Harshitha
6.	Ch. Chinnajyothi	Ch. Ch Jyothi
7.	B. Sravanthi	B Sravanthi
8.	G. Tirumala	G. tirumala
9.	G. Kalyani	G. kalyani
10.	B. Hepsibha	B. Hepsitha
11.	Y. Pravallika	Pravalli

SEMINAR - I B.Sc, B.Z.C

A seminar was conducted to I B.Sc, B.Z.C IV on 27-10-2018 on following topics

Topic
Structure of the Bacterial cell
Nutition in Bacteria

G.V.Vara Lakshmi
Signature of the lecturer

S.No	Name of the Student	Signature of the Student
1.	A.L.S.L.Vasantha.	A.Vasantha.
2	B.Haritha	B.Haritha
3.	B. NIHARIKA	B.Nihareika
4	M.Gayathri	M.Gayathri
5	K.Harshitha	K.Harshitha
6	Ch.Chinna Jyothi	Ch.ChinnaJyothi
7	B. Sravanthi	B. Sravanthi
8.	G. Tirumala	G. tirumala
9.	G. Kalyani	G. Kalyani
10.	B. Hepsibha	B.Hepsibha
11	Y. Pavallika	Y.Pavalli

SEMINAR - II B.Sc, B.Z.C

A quiz was conducted to II B.Sc, B.Z.C TTHE EM Students on 29-10-2018 on following topics.

Topic:
Scientific names of families
Rutaceae
Apiaceae
Lamiaceae.

G.V. Vasa Lakshmi
Signatures of the lecturer.

S.No	Name of the Student	Signature of the lecturer.
01.	N. Vanthi kumy	
2.	T. Anusha	T. Anusha
3.	M. Jayasree	M. Jaya Sree
4.	N. Suchasitha	N. Suchasitha
5.	G. Naga Tsiveni	G. Naga Tsiveni
6	M. Madhulika	M. Madhulika.
7.	A. Madhu Nihasika	A. Madhunihasika
8.	B. Maanya	B. Maanya.

SEMINAR - I. B.Sc, B.Z.C

A seminar was conducted to I. B.Sc, B.Z.C TM & EM on 30-10-2018 on following topics

Topic
Sexual reproduction in Ectocarpus
Sexual reproduction in Polysiphonia

D. Jyothi
Signature of the lecturer.

S.NO	Name of the Student	Signature of the Student
1.	A.L.S.L. Vasantha.	A. Vasantha.
2.	B. Haritha	B. Haritha
3.	B. NIHARIKA	B. Niharika
4.	M. Gayathri	M. Gayathri
5.	K. Harshitha	K. Harshitha
6.	B. Sravanthi	B. Sravanthi
7.	B Ch. chinnaJyothi	Ch Ch Jyothi
8.	G. Tirumala	G. tirumala
9.	Ch. Kalyan	Ch. kalyan
10.	B. Hepsibha	B. Hepsibha
11.	Y. Pravallika	Y. Pravallika

SEMINAR - II, B.S.C, B.Z.C

A seminar was conducted to II B.Sc, B.Z.C TM & EM on 28/1/19 on following topics

Topic:

Osmosis, diffusion and imbibition

Plant Water Relations.

G.V. Vasavalakshmi

Signature of the lecturer.

S.No	Name of the Student	Signature of the Student
1	M. Vasanthi	M. Vasanthi
2.	J. Sai krishna	J. Saikrishna
3.	A. Babu Rao	A. Baburao
4.	M Jayasree	M. Jayasree
5.	B. Kalyan Rao	B. Kalyan Rao
6.	G Myna	G. Myna
7.	T. Anusha	T. anusha

SEMINAR - II B.Sc (B.Z.C)

A quiz was conducted to II B.Sc, B.Z.C TM & EM Students on 2/2/19. on following topics

Topics:-

Mineral Nutrition → Macronutrients & Micronutrients

Role and their deficiency symptoms.

D. Jyothi
Signature of the lecturer.

S.No.	Name of the Student	Signature.
1.	M. Jayasree	M. jayasree
2.	M. Vasanthi	M. Vasanthi
3.	T. Anusha	T. anusha
4.	M. madhulika	M. madhulika
5.	J. Saikrishna	J. saikrishna

SEMINAR - I st B.Sc (B.Z.C)

A Seminar was conducted to I st B.Z.C TM & EM Students on 5/2/19 on following topics.

Topic :-

General characters of Bryophytes.
L.C of Marchantia.

V.N.Lalitha
Signature of the lecturer.

S.No.	Name of the Student	Signature.
1.	A L.SL vasantha	A. vasantha.
	M. Ganesh	M. Ganesh.
	B. Haritha	B. Haritha.
	S. Nithasik	B Nithasika.
	D pradeep	D Pradeep
	Y. Suvendra	Surendra.
	B. Hepsibha.	B. Hepsibha.

Student Seminars - III. B.Sc, B.Z.C

A seminar was conducted to III. B.Sc. B.Z.C Students on 20/8/19 on following topics.

Topic

Mushroom Culture - technique
Recipes of mushrooms.

Guru Vandana
Signature of the Lecturer

S.No	Name of the Student	Signature of the lecturer
01	M. Naga Jyothi	M. Naga Jyothi
02	Sailaja	Sailaja
03	Suthasini	Suthasini
04	Ruthu	Ruthu.
05	Pravathi	Pravathi
06	vahan	vahan
07	mani Reddy	mani Reddy.
08	Gopi Chand	gopi chand
09	Ramesh	Ramesh.
10	Praveena.	Praveena
11.	A. Jyothi	A. Jyothi
12	A. Prasanthi	A. Prasanthi

Student Seminar - III B.Z.C

A seminar was conducted to III B.Z.C students on 20/2/19 on following topics.

Topics:-

Sterilization - technique.

Instruments - used for sterilisation.

D. Jyothi
Signature of the lecturer.

S.No.	Name of the Student	Signature of the Student
01.	Maesh Reddy	Maesh Reddy.
	Ramesh	Ramesh
	Praveena.	Praveena.
	Mohan.	Mohan.
	M. Nagajyothi	M. NJyothi
	Ruthu	Ruthu.
	Gopichand	Gopichand.

SEMINAR - III B.Z.C

A seminar was conducted for III B.Sc, B.Z.C, cluster - Instrumentation & Methodology on 26/3/19 on following

Topics:
Types of centrifuges,
Types of rotors,
Freeze drying

D. Jyothi
Signature of the lecturer.

S.No.	Name of the Student	Signature of the Student
01	d. Sujatha.	d. Sujatha.
02.	M. NagaJyothi	M. N. Jyothi
03.	T. Sushasani	T. Sushasani.
04	Rothu	Rothu.
05	Saliya.	Saliya.
06	T. Mohan	mohan.
07	Gopi chand	Gopi Chand.
08.	pravathi	pravathi

SEMINAR - II · B·Z·C

A seminar was conducted to II · B.Sc, B.Z.C EM students on 27/2/19 on following topics

Topic:

Light reaction of Photosynthesis
C_3 cycle - Photo Oxidative respiratory cycle.

G.V. Vara Lakshmi
Signature of the ~~Student~~ Lecturer.

S.No.	Name of the Student	Signature of the lecturer.
01	M. Kranthi Kumar	M. Kranthi Kumar
02	M Jaya Sree	M. Jaya Sree.
03	N. Sucharitha	N. Sucharitha
04	M Bullibabu	Bullibabu
05	R. Thasini Rani	ThasiRani
06	G. Naga Triveni	Naga Triveni

SEMINAR - IBSc B.Z.C

A Seminar was conducted to I BSc BZC E.M & T.M students on following topics.

Topics: Stelar Evolution.
Marchantia Reproduction.
Evolution of Sporophyte
Sec. growth of Boerhaavia.

Signature of Lecturer

Name of the Student	Signature of Student
1. Ch. Navya Jyothi	Ch.
2. Ch. Ramya Sri	Ch. Ramya
3. B. Bhargavi	B. Bhargavi
4. K. Hema	Hema
5 P. Jaya Lakshmi	
6. A. Chaitanya Bharathi	
7. U. Anil Kumar	
8. Ch. Adhi Lakshmi	Ch. Adhi

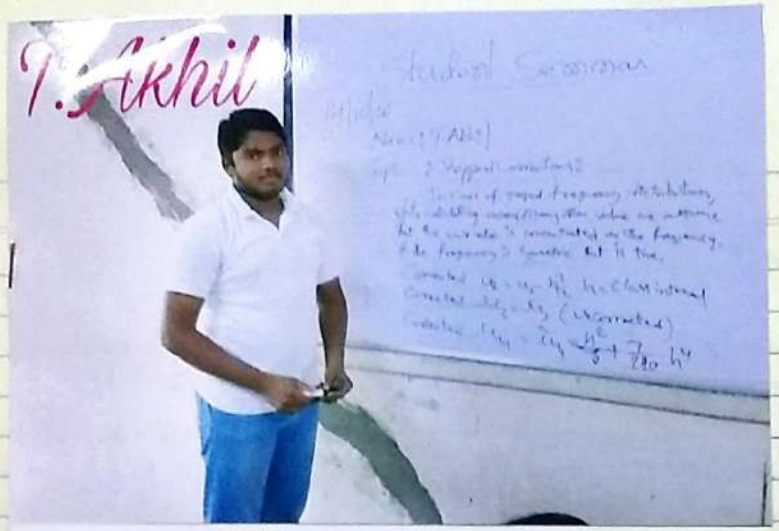
SEMINAR — II B.Sc BZC

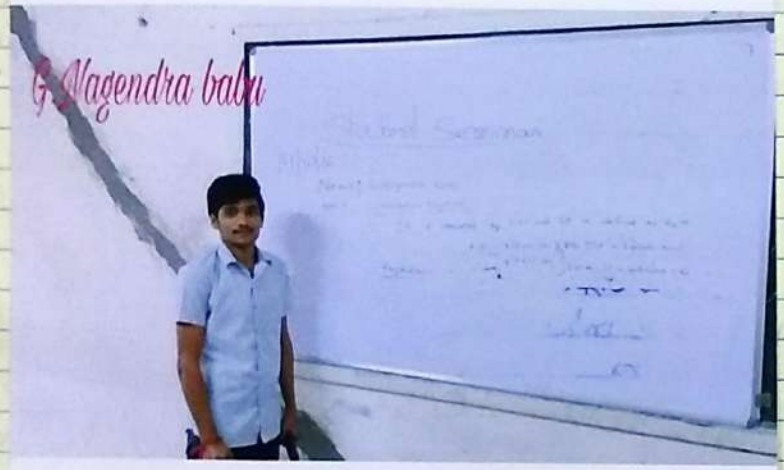
A Seminar was conducted to II B.Sc BZC C.M & TM Students on the following topics.

Topics: Glycolysis
Krebs cycle
C_3 cycle
Gibberlins

Signature of Lecturer

Name of the Student	Signature of Student
B. Dayana Sundari	Dayana Sundari. B
B. Vital Rao	B. Vital Rao
D. Anil	D. Anil
M. Manohar	M. Manohar



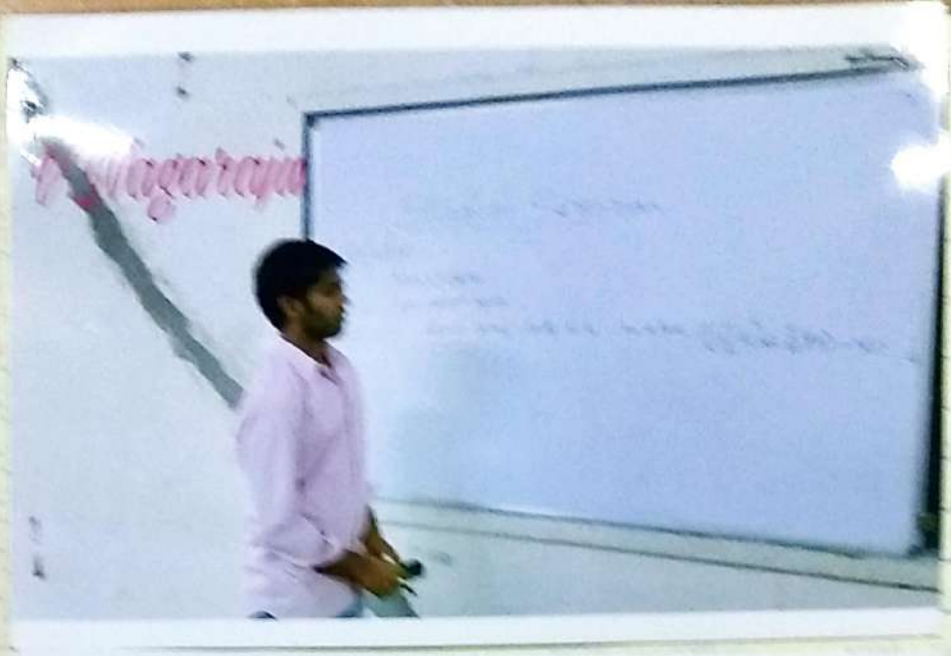


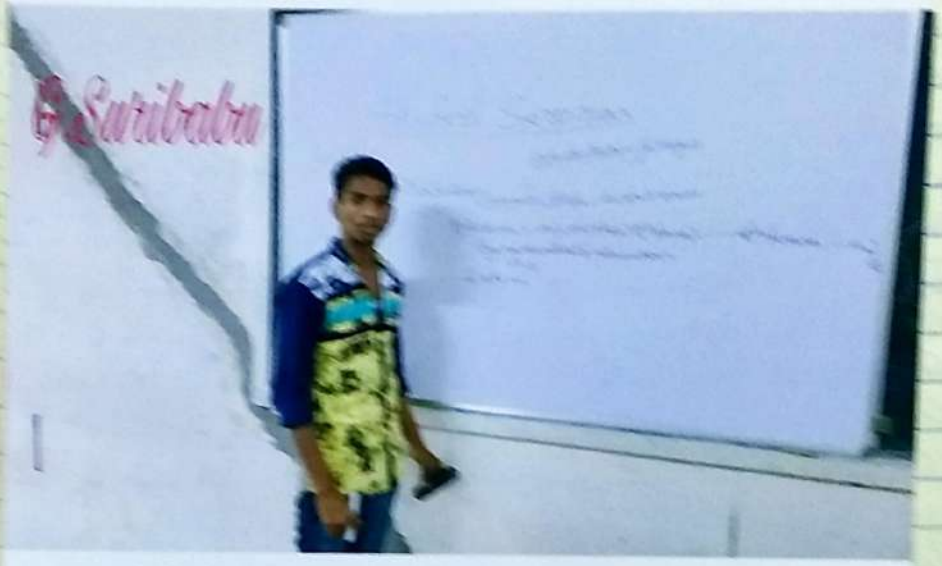


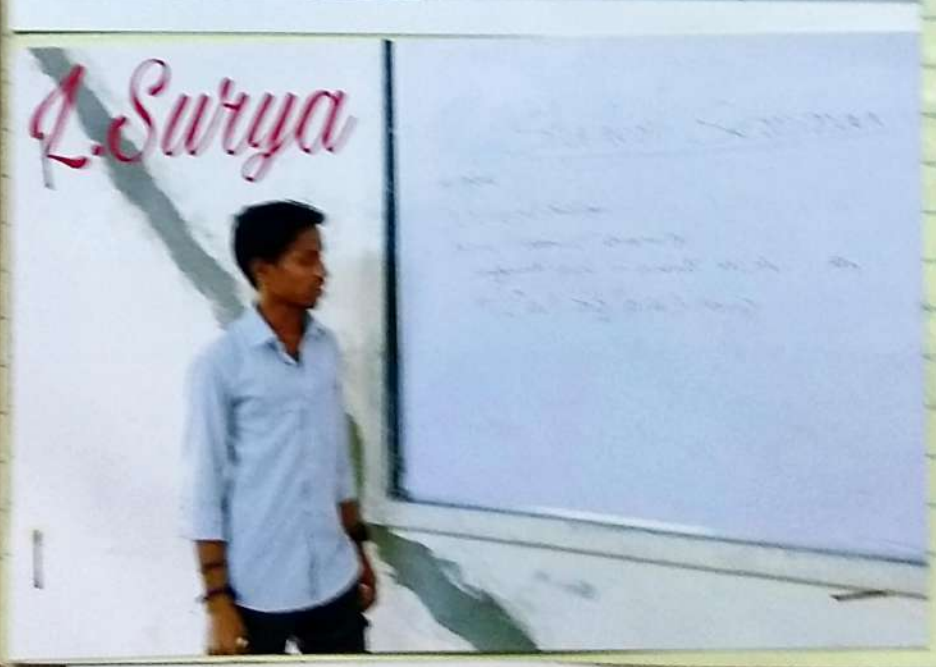
14-10-2016

Signatures of the Students participates in the Seminar 55

1	K Durga	Durga K
2.	M. Aruna	Aruna
3.	P. swathi	T. swathi
4.	Ch. Bhavani	Ch. Bhavani
5.	E. Twinkye Monika	E. Twinkye Monika
6.	P. Swetha	P. Swetha
7.	M. Madhavi latha	M. Madhavi latha
8.	S. Rama devi	S. Rama devi
9.	ch. Devi	ch. Devi
10	G. Venkata sai Pavani	G. Venkata sai Pavani
11.	Y. Navya	Y. Navya
18.	Y. Hasina	Y. Hasina
13.	S. Bhavani	S. Bhavani.
14.	G. Jyothi	G. Jyothi.
15.	ch. Siva parvathi	ch. Siva parvathi
16.	T. yasodadurga	T. yasodadurga
17.	G. Nagendra Babu	G. Nagendra Babu
18.	G. Surendra	G. Surendra
19.	A. Mohan	A. Mohan
20.	O. Wycliffe	O. Wycliffe
21	T. Venkatesh	T. Venkatesh
22.	B. Srinu	B. Srinu
23	A. Ramakrishna	A. Ramakrishna
24.	A. khaja hussain	A. khaja hussain
25.	k. Sai kumar	k. Sai kumar
26	N. V. Srinivas	Srini
27	P. Prakash	P. Prakash
28	Ch. Saisravan kumar	Ch. Saisravan


Nagaraju


G. Suribabu


L. Surya

All India Vedic Mathematics work Shop

Saljanna Nayanapuram, Vijayawada





29.7.-

1.	K. Padmavathi	II BSc (MSCS)	K. Padmavathi
2.	E. Twinkle Mowlika	II BSc (MSCS)	E. T. Mowlika
3.	M. Madhavi latha	II - B.Sc (MSCS)	M. Madhavi latha
4.	G. Venkata sai Pavani	II BSC(MSCS)	G. Venkata sai Pavani
5.	G. Jyothi	II BSc (MSCS)	G. Jyothi
6	Ch. Siva parvathi	II BSC (MSCS)	Ch. Siva parvathi
7.	T. Swathi	II BSC (MSCS)	T. Swathi
8.	Ch. Bhavani	II BSC[MSCS]	Ch. Bhavani
9.	Ch. Vijaya	II B.Sc (MSCS)	Ch. Vijaya
10.	S. Ramadevi	II BSC (MSCS)	S. Ramadevi

Principal



S.R.R.&C.V.R GOVT.DEG.&P.G(autonomous) COLLEEGE:VIJAYAWADA

DEPARTMENT OF STATISTICS

STUDENTS VISIT TO

WORKSHOP AT KBN COLLEGE::VIJYAWADA ON 5-8-2017

EMINENT Dr.R.VISHNU VARDAN ASST.PROFESSOR OF STATISTICS FROM PONDICHERRY UNIVERSITY,SCHOOL OF MATHEMATICS AND STATISTICS, PONDICERRY DELIVERED LECTUER IN SPPS AND IT'S USAGE BUSINESS INTELLIGENCE, COMPARISON WITH OTHER PACKAGES SUCH AS EXCEL AND ROLE IN BIG DATA IS ALSO DISCUSSED.

FACULTY PARTCIPATED:K.BHANU PRASAD

STUDENTS PARTCIPATED:

1.) T Srinivasulu
2.) M. Krishna Surya
3.) Ch. siva parvathi
4.) G. Jyothi
5.) K Padmavathi
6.) S. Ramadevi
7.) E.T. Havilah
8.) G. venkatasaiPavani
9.) Ch. Bhavani
10) T. Sravathi
11.) M. Madhavi latha.
12.) Ch. Vijaya
13.)
14.)
15.)

LECTURER

PRINCIPAL

SANKHYA - 18

1-02-2018

Students of MBSc (MSc's) attended a workshop program organized by Andhra Loyola college, Vijayawada on 1st and 2nd of February, it consisting of quiz, SI writting, PPT, JAM. The following students of our college attended and presented PPT and participated and other activities.

1. S. Kesava Rao	S. Kesava Rao
2. T. Srinivasulu	T. Srinivasulu
3. SK. Afrin	SK. Afrin
4. Renuka	R. Renuka
5. R. Sailaja	R. Sailaja



Principal

K. Bhaskar

27-2-2018

GROUP DISCUSSION

TOPIC :- Lack of Money In ATMS.

Group I

1)	S. Kesava Rao	S. Kesava Rao
2)	G. Rajesh	G. Rajesh
3)	CH. Durga Rao	G. Durga Rao
4)	B. Satish	B. Satish
5)	K. Prasanth	K. Prasanth

Group II

1)	N. pavani	N. pavani
2)	D. Divya	D. Divya.
3)	E. Ramya	E. Ramya.
4)	R. Sailaja	R. Sailaja
5)	SK. Afrin	SK. Afrin
6)	P. Durga Bhavani	P. Durga Bhavani
7)	B. Bhagyavathi	B. Bagyavathi





K Bhanupreeth

Principal

I BSC (MSc's) - Student Seminars









SEMINAR

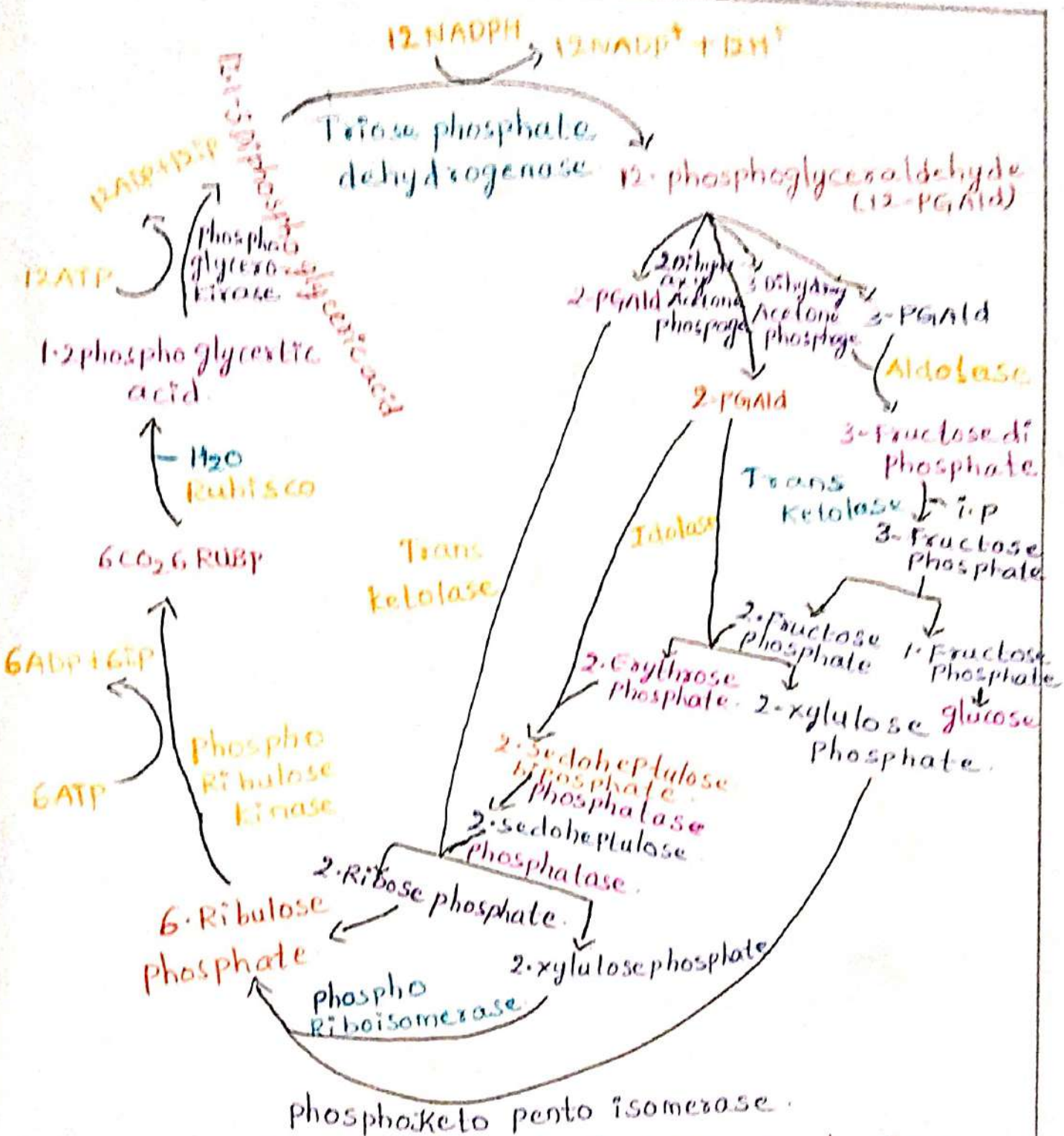
10/10

SP
20/6/17

Mende. Gayathri
IInd BS.C BZC [E.M]
20311213

Topic:- C_3 plants.

Submitted to..
Dr. ch Srinivas Reddy sir



Calvin cycle (or) C3 cycle (or) RPP cycle (or)

Reductive pentose phosphate pathway

Calvin using radioisotope C^{14} on chlorella discovered C_3 cycle. This cycle is also known Calvin cycle, For this work calvin was awarded Noble prize, C_3 cycle is found plants like Rice, wheat, ground nut and pulses. The reactions involved in calvin cycle can be divided into 3 phases They are.

1. Carboxylation phase. 2. Reduction phase.
3. Regeneration phase.

1. Carboxylation phase:-

In this phase CO_2 is accepted from the atomosphere by primary CO_2 acceptor ribulose 1,5 biphosphate (RUBP), which is a 5 carbon compound to form 3 carbon phosphoglyceric acid (3PGA) in the presence of water. This reaction is catalysed by RuBP carboxylase) oxygenase or RUBISCO enzyme. The first stable compound of this pathway phosphoglyceric Acid (PGA) is a 3 carbon compound, hence the pathway is called C_3 pathway. The plants which undergo the pathway are called C_3 plants this pathway is also known as Carbon fixation pathway.

RuBP carboxylase is present in large amount in chloroplasts. This enzyme is the most abundant protein in plant Kingdom and amounts for 20-50% of soluble proteins in leaves.

$6\,RuBP + 6CO_2 \xrightarrow{RUBISCO}$ 12 phosphoglyceric acid

Reduction phase:-

PGA reacts with ATP and NADPH and gets reduced. phosphoglyceric acid (PGA) utilises ATP and forms 1,3- diphosphoglyceric acid, in the presence of phosphoglycerokinase enzyme

1,3 diphosphoglyceric acid utilises NADPH in the presence of enzyme Triose phosphate dehydrogenase and forms phosphoglyceraldehyde. For the formation of 12 phosphoglyceraldehyde - ~~Four~~ molecules 12 ATP and 12 NADPH molecules are utilised - 12 PGAld molecules in the presence of triose phosphate-isomerase splits into 2- dihydroxy acetone phos-phate, 3- dihydroxy acetone phosphate, 7 phospho-glyceraldehyde - 3- dihydroxy acetone phosphate, Combines with 3 PGAld in the presence of enzyme aldolase forms 3- fructose diphosphate. 1/6th of this Converted to glucose. The remaining 5/6th of triose phosphate is used for the regene-ration of RuBP.

12 phosphoglyceric acid $\xrightarrow[12ATP \rightarrow 12ADP + 12iP]{\text{phosphoglyceratekinase}}$ 12,1,3 diphosphoglyceric acid

12,1,3 diphosphoglyceric acid $\xrightarrow[12NADPH \rightarrow 12NADP^+ + 12H^+]{\text{Triose phosphate dehydrogenase}}$ 12 phosphoglyceric acid

3. RuBP Regeneration phase:-

The phospho glyceraldehyde molecules undergoes a series of reactions and at the Ribulosebisphosph-ate is regenerated.

* 3-fructose phosphate is formed by loosing one inorganic phosphate in the presence of enzyme phosphata from 3-fructose disphosphate.
* From 3fructose phosphate, 2 fructose and 1-fruc-tose phosphate are formed catalysed by the enzyme phosphoisomerase.
* Fructose phosphate is converted to glucose molecule.

1. 2 Fructose phosphate molecules, combine with 2 molecules of PGAld and forms 2 Erythrose phosphate molecules and 2 xylulose phosphate molecules. This reaction is catalysed by transketolase enzyme.
2. 2 Exythrose phosphate molecules combine with 2 Dihydroxyacetone molecules and forms Sedoheptulose biphosphate in the presence of enzyme aldolase.
3. Sedoheptulose biphosphate undergoes dephospho-rylation and forms sedoheptulose, phosphate in the presence of enzyme phosphatase.
4. The sedoheptulose combines with PGAld molec-ules and forms 2-xylulose phosphate molecules and two ribose phosphate molecules. This reaction is catalysed by the enzyme transketolase.

5. Two molecules of xylulose formed from 1st reaction and 2 molecules of xylulose from 4th reaction are convered into Ribulose phosphate. This reaction is catalysed by phosphoketope--ntose epimerase enzyme.

6. 2 molecules of Ribose phosphate are converted to Ribulose phosphate molecules in the presence of enzyme phosphoribose isomerase.

The 6-Ribulose phosphate molecules formed utilise 6 ATP molecules and form 6 RuBP molecules. This reaction is catalysed by phosphoribulose kinase enzyme.

3-Dihydoxy acetone + 3PGAld $\xrightarrow{\text{Aldolase}}$ 3-fructose-diphosphase

3-fructosephosphate $\xrightarrow{\text{phosphatase}}$ 2-fructosephosph--ate + 3i.p

3-fructose phosphate $\xrightarrow{\text{phospo isomerase}}$ 2-fructose phosphate + 1-fructose phosphate

2-fructose phosphate + 2PGAld $\xrightarrow{\text{Transketolase}}$ 2-Erythrose phosphate + 2-xylulose phosphate

2-Erythrose phosphate + 2DHAP $\xrightarrow{\text{Aldolase}}$ 2-sedoheptu--lose - biphosphate

2-Sedoheptulose biphosphate $\xrightarrow{\text{Phosphatase}}$ 2-sedo heptulose phosphate

2-sedo heptulose phosphate + 2DHAP —Aldolase→ 2-Ribose phosphate + 2xylulos phosphate

2-xylulose phosphate + 2-xylulose phosphate —Phospho ketopentose Isomerase→ 6-Ributose phosphate

~~2-xylulose~~ phosphate + ~~2-xylulose~~ pho

6-Ribulose phosphate —Phospho Ribulosekinase→ 6RuBP
(6ATP → 6ADP + i·P)

Significance :-

For formation of one glucose molecule $6CO_2$ molecules are required. For one CO_2 molecule to undergo reduction 3ATP, 2NADPH are required. One CO_2 molecule when participates once in calvin cycle 1/6 glucose is formed. so for formation of 1 glucose molecule 6 CO_2 molecules are required and 18 ATPs and 12 NADPH are required

$$6RuBP + 6CO_2 + 12NADPH + 18ATP \longrightarrow C_6H_{12}O_6 + 6RuBP + 12NADP^+ [12H^+ + 18ADP + 18 i·P$$

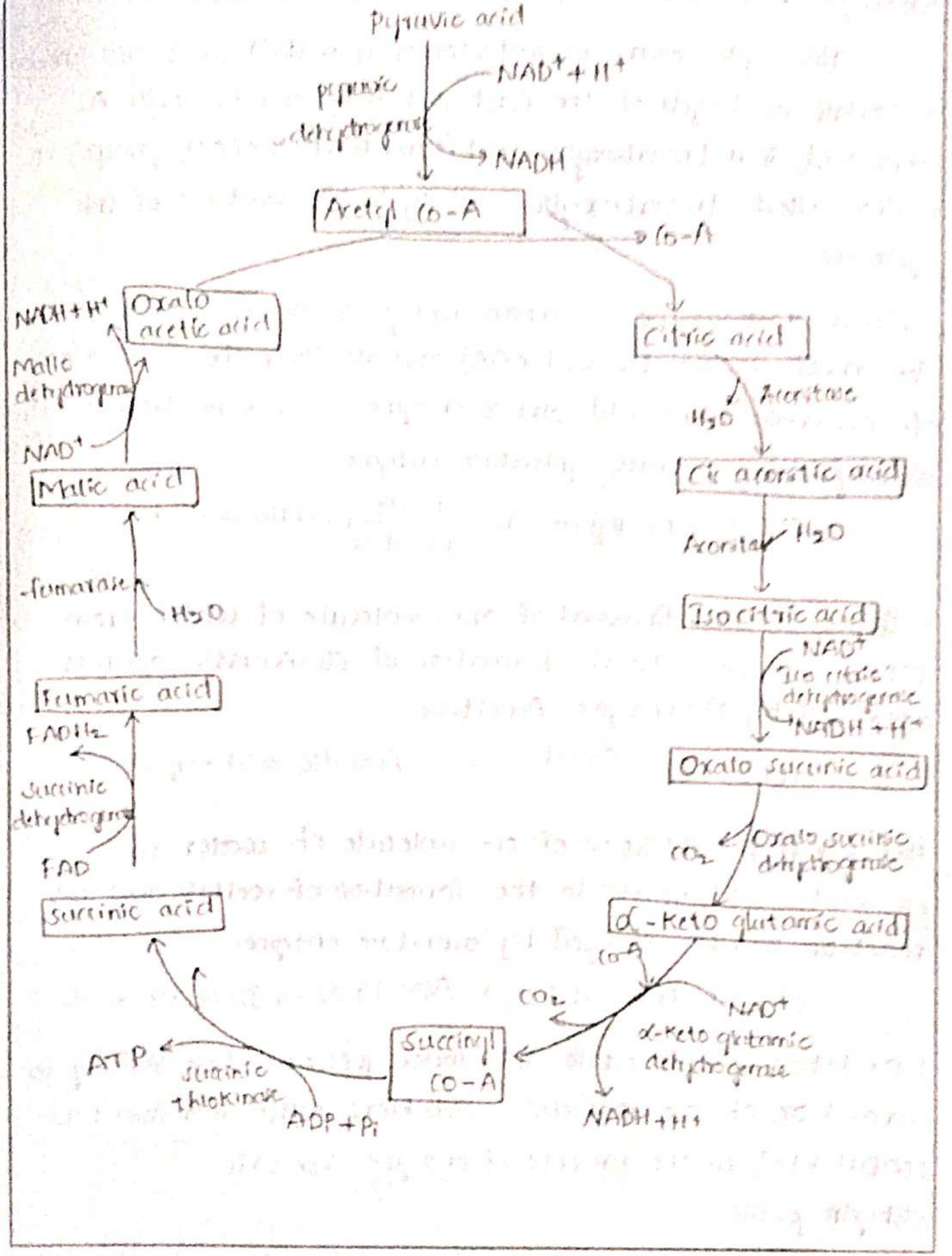
Seminar

NAME:- B.RECHEL EVANGELIN
GROUP:- II - BSC-BZC-(E.M)
SUBJECT:- BOTANY
ROLL NO:-20311203
TOPIC :- KREB's CYCLE
COLLEGE:- SRR & CVR Govt. Deg. College, VIT(A).

10/10
26/7/22

SUBMITTED TO:-
Dr. SRINIVAS
REDDY SIR,
BOTANY Dept.

KREBS CYCLE (or) CITRIC ACID CYCLE (or) TRICARBOXYLIC ACID CYCLE



Krebs cycle was postulated by Hanskrebs which describes the oxidation of pyruvate of CO_2 and is known as krebscycle in his honour. In 1953 Krebs was awarded Nobel Prize.

This cycle occurs in mitochondrial matrix. It is also known as citric acid cycle as the first substance is citric acid. As citric acid is a tricarboxylic acid (consists of 3-COOH groups), it is also called tricarboxylic acid cycle. The reactions of this cycle are.

1. Condensation:- The 2-Carbon acetyl Co-A condenses with 4-carbon oxaloacetic acid (OAA) and results in the formation of 6-carbon citric acid and co-enzyme-A. This reaction is catalysed by "citrate synthatase" enzyme.

$$OAA + \text{Acetyl co-A} \xrightarrow[\text{synthatase}]{\text{citrate}} \text{citric acid} + \text{Co-A}$$

2. Dehydration:- Removal of one-molecule of water from citric acid leads to the formation of Cis-Aconitic acid. It is catalysed by the enzyme Aconitase.

$$\text{Citric Acid} \xrightarrow{\text{Aconitase}} \text{Cis-Aconitic acid} + H_2O.$$

3. Hydration:- Addition of one molecule of water to cisaconitic acid results in the formation of isocitric acid. This reaction is also catalysed by aconitase enzyme.

$$\text{Cis-aconitic acid} + H_2O \xrightarrow{\text{Aconitase}} \text{Isocitric acid}.$$

4. Oxidation-I:- Isocitric acid under goes oxidation leading to formation of oxalosuccinic acid. Here NAD^+ is reduced to $NADH + H^+$. In the presence of enzyme isocitric dehydrogenase.

Isocitric acid + NAD^+ $\xrightarrow{\text{Isocitric dehydrogenase}}$ Oxalosuccinic acid + $NADH + H^+$

5- Decarboxylation:- The 6-carbon oxalosuccinic acid releases one molecule of CO_2 and form 5 carbon α-ketoglutaric acid in the presence of 'oxalo succinic decarboxylase' enzyme.

Oxalosuccinic acid $\xrightarrow{\text{Oxalosuccinic decarboxylase}}$ α-ketoglutaric acid + CO_2

6- Oxidate decarboxylation (Oxidation II & decarboxylation):- α-Ketoglutaric acid undergoes oxidation (dehydrogenation), decarboxylation and condensation with one molecule of Co-A, leading to formation of succinyl co-enzyme A-, which is a 4-carbon substance. In this NAD^+ acts as the hydrogen acceptor. This reaction is catalyzed by the enzyme α-ketoglutaric dehydrogenase.

α-Ketoglutamic acid + NAD^+ + Co-A $\xrightarrow{\text{α-ketoglutamic dehydrogenase}}$ succinyl Co-A + $NADH + H^+ + CO_2$.

7- Cleavage:- Succinyl Co-A splits into succinic acid and Co-A by the enzyme 'succinic acid thiokinase'. The energy released in this reaction is utilized to form ATP from ADP and inorganic phosphate. Here ATP formation is linked directly to conversion of substrate, so this reaction is known as substrate level phosphorylation. In animals in Krebs cycle GTP is produced instead of ATP.

Succinic acid + FAD $\xrightarrow{\text{succinic dehydrogenase}}$ Fumaric acid + $FADH_2$

8- Hydration:- Addition of one water molecule to fumaric acid leads to formation of malic acid in the prience of enzyme fumarase.

Fumaric acid + H_2O $\xrightarrow{\text{fumarase}}$ Malic acid

10-Oxidation IV :- Malic acid in the presence of malic dehydrogenase enzyme releases two hydrogen atoms and gives the to oxaloacetic acid. In this step NAD^+ acts as hydrogen acceptor and is converted into $NADH + H^+$.

Malic acid + NAD^+ $\xrightarrow[\text{dehydrogenase}]{\text{Mallic}}$ OAA + $NADH + H^+$

Significance:-

For one molecule of pyruvic acid + NADH, 1 $FADH_2$, 1ATP are formed during glycolysis. In glycolysis 2 pyruvic acid molecules are formed. So 8 NADH, 2 ATPs and 2 $FADH_2$ are formed. Krebs cycle is a metabolic pathway playing an important role both in catabolism and anabolism, Because this pathway involves both catabolism and Anabolism. The term Amphibolic (dual purpose) pathway is used to signify Krebs cycle.

Seminar

NAME : T.HEMA SRI

SUBJECT : BOTANY

CLASS : BSC BZC [E.M]

ROLLNO : 20311225

COLLEGE : SRR & CVR GVDC [W.I.P]

Sumbitted to

Ch. Srinivasa Reddy

Presented to

Lipid Metabolism

Lipid metablism is of 2types. They are :

1. Anabolism (synthesis of facts)
2. Catabolism [Break down of facts]

1. Anabolism (synthesis of facts):- It can be dissussed in three phases.

a. Synthesis of factty acids
b. Synthesis of glycerol
c. Condensation of fatty acids and glycerol into facts.

a) Synthesis of fatty acids:- The site of fatty acid synthesis is cytosol. The synthesis of fatty acids of general, involves the repeated addittion of 2 carbon fragments Palmitic acid, stearitic and butyric acids are some of the common natural fatty caids.

The biosynthesis reactions of fatty acid can be illustrated as follows.

(i) Transacylation:- One molecule of acetyl-CoA or malonyl-CoA, reacts with ACP (Acyl carrier protein) to form either acetyl-CoA ACP in presence of transacylase.

ii) Condensation: One molecule of acetyl-ACP and one molecule of Malonyl-ACP condense in the presence of β-ketoacetyl-ACP sythase, irreversibly to form acetoacetyl-ACP Out of four carbons of acetoacetyl-ACP, two originate from acetyl-COA and

and two from malonyl CoA. The third carbon of ... nyl-CoA is released as CO_2 during the decarboxy... reaction.

iii) Reduction: β-ketoacetyl-ACP formed and one molecule Malonyl is reduced to D-β-hydroxyl butyrol-ACP in presence of NADPH and β-Ketacyl-ACP reducectase enzyme.

iv) Dehydration: D-β-hydroxy butyl-ACP is dehydrated to α-β transcynol-ACP in presence of β-hyroxy ACP-dehydrase enzyme.

v) Reduction-II: Reduction of crotonyl-ACP leads to the formation of butyryl-ACP in presence of β-hyroxy ACP-dehydrase enzyme.

vi) Chain elongation: In this way reppeated 7 cycle of condensation with a molecule of malonyl-CoA, followed by reduction, dehydration and reduction, a 16-carbon palmitoyl-ACP is produced. Hydrolysis of palmitoyl-ACP by thioesterase leads to release of plamitic acid ACP-SH.

b) Synthesis of Glycerol: Glycerol is a trihydric alchol. The synthesis of glycederol requires dihydroxy acetone phosphate (DHAP) which is a key intermediate of glycosis of respiration. Glycerol is produced from DHAP by two reactions.

Reaction-I: In this DHAP is reduced to glycerophosphate this reaction is catalysed to glycerophosphate dehydrogenase. $NADH + H^+$ is the reductant.

Reaction II: Glycero phosphate formed in pervious step undergoes dephosphorylation in the presence of phosphatase. In this reaction gylcerol is the end product

c. Condesation of fatty acids and glycerol: The fatty acids and gylcerol are linked together by an ester bond to form fatty acids. Three fatty acid molecules combine with one molecule of glycerol to form lipid. This is a condesation reaction. In which glycerol and fatty acid combined by ester bond process. All the three molecules of fatty acids may be the same or different.

2. Catabolism (Break down of facts): Facts in the presence of hydrolases breakdown in to fatty acids and glycerol. This is known as saponification. Fatty acid and glycerol are oxidized separately. Fatty acid oxidation may occur in four different ways.

a, β-oxidiation
b, α-oxidiation
c, ω-oxidiation
d, Peroxidation

(a) β-Oxidiation: Long chain fatty acid are first activated to acetyl Co-A which are 2-carbon compound fragments. They undergo oxidation at the β-carbon atom. This is known as "β-oxidation". Break down occurs at β-carbon the fatty acids spilt into Acetyl

CoA and a fatty acid having 2 carbon atom. β-oxidation can be divided into 5 stages. They

1) Activation of fatty acid
2) Dehydrogenation - I
3) Hydration
4) Dehydrogenation - II
5) Cleavage

In animal tissue all the enzymes of β-oxidation are located in mitochondria But in plants cells the enzymes are present in mitochondria and cytosol. But the basic mechanism and reaction remain same in all tissues. All the fatty acids undergo down by β-oxidation.

a) Activation of fatty acid:- Long chain fatty acid is activated to active fatty acid or Acyl COA in the cytosol by Acyl COA synthetase in the presence of ATP, COA.

$$\text{Fatty acid} + \text{Coenzyme A} + \text{ATP} \xrightarrow[\text{Sythetase}]{\text{Acyl COA}} \text{Acyl COA (active)} + \text{ADP} + \text{H}_3\text{P}$$

This reaction takes place in the cytoplasm. Carnitise carries transports Acyl COA in to mitochondrial matrix.

b) Dehydrogen action-I:- Acyl COA is then converted in to α-β unstaturated Acyl COA. This is catalysed Acyl COA dehydrogenase enzyme and FAD+.

$$\text{Acyl COA} + \text{FAD} + \xrightarrow[\text{dehydrogenase}]{\text{Acyl COA}} \underset{\text{Acyl COA}}{\alpha\text{-}\beta \text{ unsaturated}} + \text{FADH}_2$$

c) Hydration: Water is added to saturate the double bond and form β-hydroxyl acyl coenzyme A. This reaction is catalysed by Acyl coa hydrogenase enzyme.

α-Bon saturated Acyl COA $+ H_2O$ $\xrightarrow{\text{Acyl CoA}}$ β-hydroxy Acyl CoA

d) Dehydrogenation II: β-hydroxyacyl COA is dehydrogenated on the β-carbon forming β-keto acyl COA. This reaction requires NAD+ and β-keto acyl dehydrogenase enzyme.

β-hydroxy acyl COA $\xrightarrow{\text{Dehydrogenase}}$ β-keto Acyl COA

NAD+ → NADH+H+

e) Cleavage: β-ketoacyl COA splits at β-position by Thiolase with the addition of one molecule of COA. this reaction produces acetyl COA (C_2 units) and an acyl COA containing 2 carbon less than the original acyl COA molecules which undergoes further oxidation by β-oxidation.

This resulting Acetyl COA enters Kerbs cycle and forms CO_2 and H_2O. The fatty acyl COA re enters the β-oxidation cycle and it releases another Acetyl COA. The cycle repeated till the fatty acid is competely split up into acetyl COA.

Fatty acids with an odd number of carbon atoms are oxidised by β-oxidation until propionyl CoA is formed, which converted to succinyl CoA and intermediate of the Kerbs cycle.

Palmitoyl CoA + 7 CoA + 7 FAD^+ + 7 H_2O → 8 Acetyl CoA + 7 H_2 + 7 $NADH^+ + H^+$

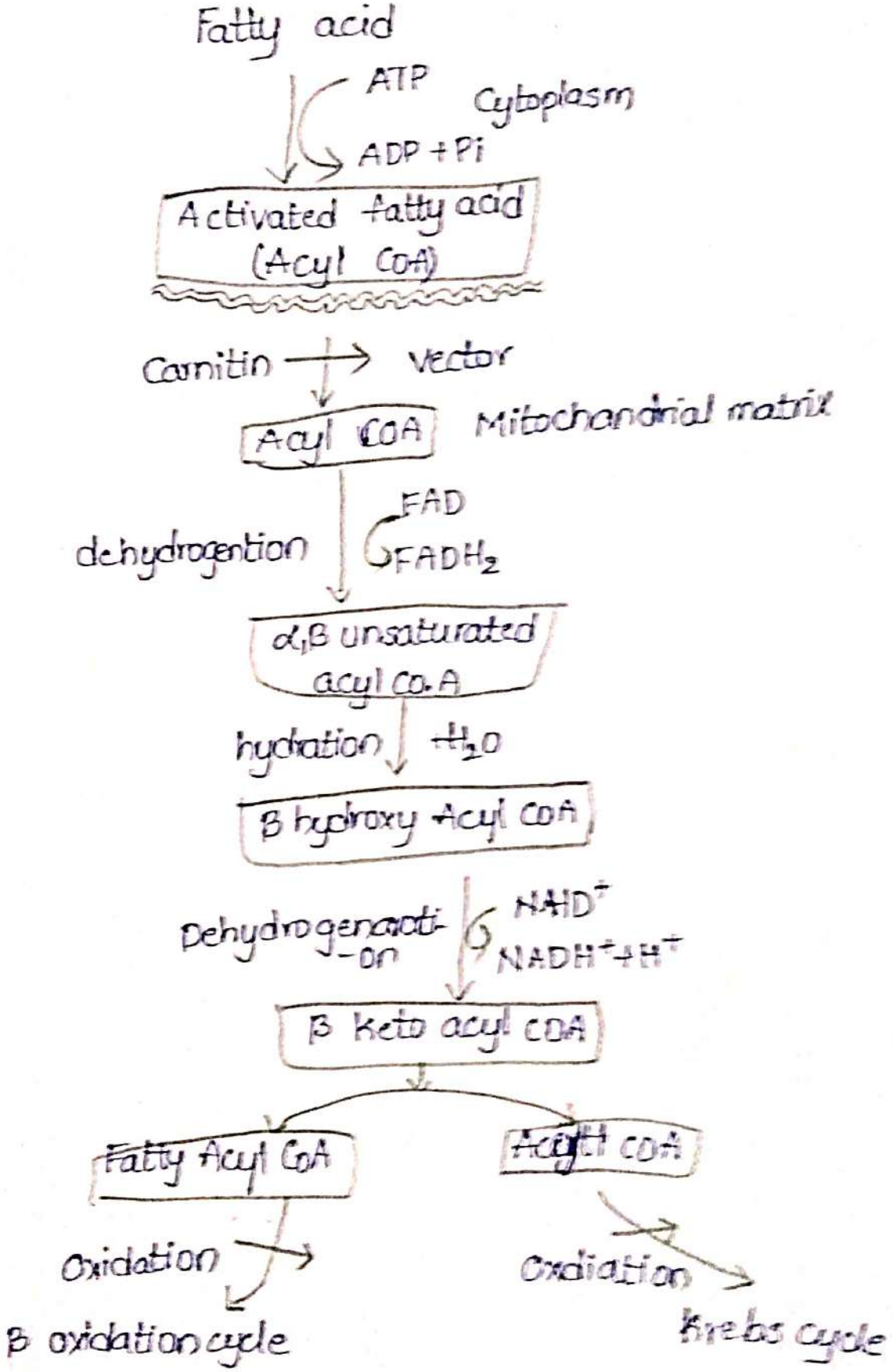
In seven turns of the cycle, one molecule of Palmitoyl CoA is converted in to eight molecules of acetyl CoA.

One $FADH_2$ yields 2 moles of ATP and one NADH produces 3 ATPs. Each molecules of acetyl CoA produced in β-oxidation enters Kerbs cycle and is oxidised to CO_2 and H_2O. This oxidation forms 12 ATP molecules.

The first cycle of β-oxidation forms a total of 17 molecules but out of which 2 ATP molecules are used in the initial reaction of 1st cycle so net gain is 15 ATP molecule in first cycle and 17 ATP molecules in the subsequent 6 cycles.

ATP - Account

	ATPs
a) First cycle $FADH_2$ + NADH	= 5
b) 6 cycles	6 X 5 = 30
c) Acetyl CoA (8 mole) 12 ATP per mole	8 X 12 = 96
Total ATPs	= 131
Used ATP in first cycle	= -2
Net gain of ATP	= 129



β-Oxidation on - Biochemical pathway-Flowchart

Botany Seminar

Name :- Baji Baba vali. Shaik

Group :- IInd BSc BZC (E.M)

Subject :- Botany

College :- SRR & CVR Govt Degree College(A), Vij.

No :- 20311223

Submitted to:

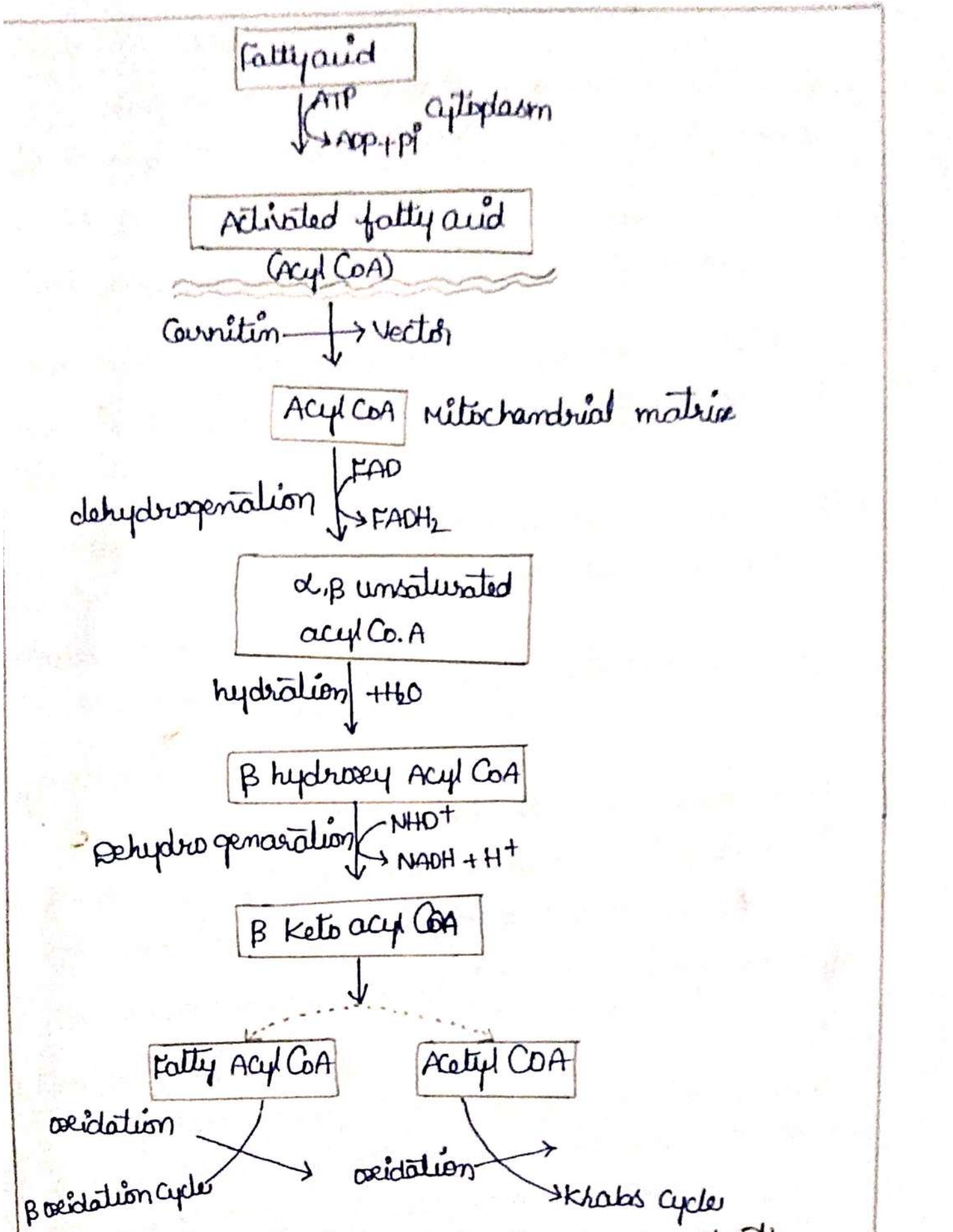
Ch. Srinivasa Reddy Sir,

β - oxidation :-

Long chain fatty acids are first activated to Acetyl Co-A which are 2 Carbon Compound fragments. They undergo oxidation at the β-Carbon atom. This is known as "β-oxidation". Break down occurs at β-Carbon the fatty acids split into Acetyl CoA and a fatty acid having 2 Carbon atom less. β-oxidation can be divided in to 5 stages. They are

1. Activation of fatty acid.
2. Dehydrogenation - I
3. Hydration
4. Dehydrogenation - II
5. Cleavage.

In animal tissue all the enzymes of β-oxidation are located in mitochondria But in plant cells the enzymes are present in mitochondria and Cytosol. But the basic mechanism and reactions remain same in all tissues. All the fatty acids undergo breakdown by β-oxidation.



β-Oxidation on - Biochemical pathway - Flow Chart

a. Activation fatty acid :-

Long chain fatty acid is activated to active fatty acid or Acyl CoA in the cytosol by Acyl CoA Synthetase in the presence of ATP, CoA.

$$\text{Fatty acid} + \text{Coenzyme A} + \text{ATP} \xrightarrow[\text{Synthetase}]{\text{Acyl CoA}} \underset{\text{(active)}}{\text{Acyl CoA}} + \text{ADP} + \text{i.p}$$

This reaction takes place in the cytoplasm. Carnitine carries transport Acyl CoA in to mitochandrial matrix.

b, Dehydrogenation - I :-

Acyl CoA is then Converted in to α-β unsaturated Acyl CoA. This is catalysed Acyl CoA dehydrogenase enzyme and FAD^+

$$\text{Acyl CoA} + FAD^+ \xrightarrow[\text{dehydrogenase}]{\text{Acyl CoA}} \underset{\text{Acyl CoA}}{\alpha,\beta \text{ unsaturated}} + FADH_2$$

c, Hydration :-

Water is added to saturate the double bond and form β-hydroxyl acyl Coenzyme A. This reaction is catalysed by Acylcoa hydrogenase enzyme.

$$\alpha\text{-Bun saturated Acyl CoA} + H_2O \xrightarrow[\text{dehydrogenase}]{\text{Acyl CoA}} \beta\text{-hydroxy Acyl CoA}$$

d, Dehydrogenation - II :-

β-hydroxyacyl CoA is dehydrogenated on the β-Carbon forming β Keto acyl CoA. This reaction requires NAD^+ and β-Keto acyl dehydrogenase enzyme

$$\text{β-hydroxy acyl CoA} \xrightarrow{\text{Dehydrogenase}} \text{β-Keto Acyl CoA}$$

(NAD^+ → $NADH + H^+$)

B. Cleavage :-

β-ketoacyl CoA splits at β-position by thiolase with the addition of one molecule of CoA. This reaction produces acetyl CoA (C_2 units) and an acyl CoA containing 2 carbon less than the original acyl CoA molecules, which undergoes further oxidation by β-oxidation.

Fatty acids with an odd number of carbon atoms are oxidised by β-oxidation until propionyl CoA (3 carbon) is formed, which is converted to Succinyl CoA and intermediate of the krebs cycle.

palmitoyl CoA + 7CoA + 7FAD$^+$ + 7NAD$^+$ + 7H_2O → 8Acetyl CoA + 7$FADH_2$ + 7$NADH^+$ + H^+

In seven turns of the cycles, one molecule of palmitoyl CoA is converted in to eight molecules of acetyl CoA.

One $FADH_2$ yields 2 moles of ATP and one NADH produces 3ATPS. Each molecule of acetyl CoA produced in β-oxidation enters krebs Cycle and is oxidised to Co_2 and H_2O. This oxidation forms 12 ATP molecules.

The first cycle of β- oxidation forms a total of 17 molecules out of which 8 ATP molecules are used in the initial reaction of 1st cycle so net gain is 15 ATP molecule in first cycle and 17 ATP molecules in the subsequent 6 cycle.

ATP - Account	ATPs
a. First cycle	
$FADH_2$ + NADH	5
b. 6 Cycles	6×5 = 30
c. Cetyl CoA (8 mole)	8×12 = 96
12 ATP permole	
Total ATPs =	131
Used ATP in first cycle	= -2
Net gain of ATP	= 129

AIX

'5

SEMINAR -III B.Sc, B.Y.C

A seminar was conducted on few topics by the following on

Topics:
Euchromatin & Heterochromatin
Structure of Cell Wall
Differences between Prokaryotic & Eukaryotic Cell
Structure of Chloroplast.

D. Jyothi
Signature of the lecturer

S.No	Name of the Student	Signature of the student.
1.	M. Naga Jyothi.	M. N. Jyothi
2.	P. Jaya lakshmi	P. Jayalakshmi
3.	M. Sridhar	M. Sridhar.
4.	K. Pradeep	K. Pradeep
5.	CH. MADHU BABU	CH. Madhu Babu
6.	Y. Venkata Sai	Y. Venkata Sai
7.	CH. Raju	Ch. Raju
8.	A. Saleem	A. Saleem.

SEMINAR - II B.Sc, B.Z.C

A seminar was conducted to III B.Sc, B.Z.C on 20-08-2018 on following topics.

Topics
1. Structure of DNA
2. Types of RNA
3. DNA Replication
4. DNA as a genetic material (Evidences)

D Jyothi
Signature of the lecturer.

S.No	Name of the Student	Signature of the lecturer
1.	Laxmi prasan	Laxmi Prasan.
2.	Divya.	Divya.
3.	M Sridhar.	M. Sridhar.
4.	CH. MADHU BABU.	CH. Madhu babu.
5.	D. Nagajyothi	M N. Jyothi
6.	P. Jaya Laxmi	P. Jyalaxmi

SEMINAR - II B.Sc. B.Z.C

A seminar was conducted to II. B.Sc. B.Z.C on 07-09-2018 on following topics

Topic:
ICBN - Principles & rules
Preparation of Herbarium
Fundamental Concepts of taxonomy

Guruvaiah Lakshmi
Signature of the
Lecturer.

S.No	Name of the Student	Signature of the Student
1.	M. Ksanthi kumari	
2.	T. Anusha	T. Anusha
3.	M. Vasanthi	M. Vasanthi
4.	A. Madhu Nihaarika	A. Madhu Nihaarika.
5.	B. Maanya	B. Maanya.
6.	N. Suchaaritha	N. Suchaaritha
7.	M. Madhulika	M. Madhulika
8.	G. Naga Tejivani	G. Naga Tejivani

SEMINAR - II B.Sc, B.Z.C

A seminar was conducted to II B.Sc, B.Z.C on 17-08-2018 on following topics

Topics:

Bentham & Hooke system of classification
Engler & Prantl system of classification

G.V.Vara Lakshmi
Signature of the lecturer

S.No:	Name of the Student	Signature of the Student
1.	M. Jaya Sree	M. Jaya Sree
2.	N. Sucharitha	N. Sucharitha
3.	M. Madhulika	M. Madhulika
4.	G. Naga Jeiveni	G. Naga Jeiveni
5.	T. Anusha	T. Anusha
6.	M. Vasanthi	M. Vasanthi
7.	J. Sai Krishna	J. Sai Krishna

SEMINAR - III B.Sc, B.Z.C

A seminar was conducted to III B.Sc, B.Z.C on 27-09-2018 on following topics.

Topics:-

1. Ex-situ Conservation
2. In-situ Conservation
3. National Parks.

D. Jyothi
Signature of the lecture

S.NO.	Name of the student	Signature of the student
1.	Y. Venkat Sai	Y. Venkat Sai
2.	M. Sridhar	M. Sridhar.
3.	CH. MADHU BABU.	CH. MadhuBabu.
4.	CH. Raju	CH. Raju.
5.	Poornikya	Poornikya.
6.	A. Selena	A. Celeena.
7.	Swathi	Swathi
	Sudha Rani	Sudha Rani

SEMINAR - II B.Sc, B.Z.C

A quiz was conducted to II B.Sc, B.Z.C III & IV Students on 11-10-2018 on following topics

Topics:
Scientific names of families
Annonaceae
Cucurbitaceae

G.V. Varalakshmi
Signature of the Lecturer

S.NO	Name of the student	Signature
01	N. Vasanthi Rani	
2.	M. Vasanthi	M. Vasanthi
3.	A. Babu Rao	A. Babu Rao
4.	J. Sai Krishna.	J. Sai Krishna.
5.	M. Jayasree.	M. Jayasree.
6.	B. Nilyan Rao	B. Nilyan Rao.
7.	G. Myna.	G. Myna.

SEMINAR - III B.Z.C

A seminar was conducted on III B.Z.C THEEM students on 23-10-2018 on following:

Topics
Plant Breeding Techniques
Introduction, Selection
Hybridisation.

V.N.Y.
Signature of the Lecturer.

S.No.	Name of the Student	Signature of the Student
1.	prasanthi	Prasanthi.
2	Venkata.	Venkata.
3	M. Nagajyothi	M. Nagajyothi
4	M. Sridhar.	M. Sridhar.
5	K. Pradeep.	K. Pradeep.
6	Swathi	Swathi
7	Sudha Rani	Sudha Rani
8.	P. Jaya Lakshmi	P. Jaya Lakshmi

SEMINAR - I B.Sc, B & C

A seminar was conducted for I. B.Sc, B & C on 10-10-2018 on following topics.

Topic
Theories of Origin
Special groups of Micro-organisms.

G. Vara Lakshmi
Signature of the lecturer

S No	Name of the Student	Signature of the Student
1.	A.L.S.L. Vasantha.	A. Vasantha.
2.	B. Haritha	B. Haritha
3.	B. NIHARIKA	B. Niharika.
4.	M. Gayathri	M. Gayathri
5.	K. Harshitha	K. Harshitha
6.	Ch. Chinnajyothi	Ch. Ch. Jyothi
7.	B. Sravanthi	B. Sravanthi
8.	G. Tirumala	G. tirumala
9.	G. Kalyani	G. Kalyani
10.	B. Hepsibha	B. Hepsibha
11.	Y. Pravallika	Y. Pravallika

SEMINAR : I. B.Sc, B.Z.C

A seminar was conducted to I. B.Sc, B.Z.C on 15-10-2018 on following topics

Topic

Plant Viral diseases- TMV, Bhendi Vein clearing, Papaya leaf Curl.

Plant Viruses transmission

G.V. Vara Lakshmi
Signature of the lecturer.

S No	Name of the Student	Signature of the lecturer
1.	A.L.S.L.Vasantha.	A.Vasantha.
2.	B. Havitha	B. Havitha
3.	B. MUTHARIKA	B. Muthariha
4.	M. Gayathri	M. Gayathri
5.	K. Harshitha	K. Harshitha
6.	Ch. Chinnajyothi	Ch. Ch Jyothi
7.	B. Sravanthi	B Sravanthi
8.	G. Tirumala	G. tirumala
9.	G. Kalyani	G. kalyani
10.	B. Hepsibha	B. Hepsitha
11.	Y. Pravallika	Pravalli

SEMINAR - I B.Sc, B.Z.C

A seminar was conducted to I B.Sc, B.Z.C IV on 27-10-2018 on following topics

Topic
Structure of the Bacterial cell
Nutition in Bacteria

G.V.Vara Lakshmi
Signature of the lecturer

S.No	Name of the Student	Signature of the Student
1.	A.L.S.L.Vasantha.	A.Vasantha.
2	B.Haritha	B.Haritha
3.	B. NIHARIKA	B.Nihareika
4	M.Gayathri	M.Gayathri
5	K.Harshitha	K.Harshitha
6	Ch.Chinna Jyothi	Ch.ChinnaJyothi
7	B. Sravanthi	B. Sravanthi
8.	G. Tirumala	G. tirumala
9.	G. Kalyani	G. Kalyani
10.	B. Hepsibha	B.Hepsibha
11	Y. Pavallika	Y.Pavalli

SEMINAR - II B.Sc, B.Z.C

A quiz was conducted to II B.Sc, B.Z.C TTHE EM Students on 29-10-2018 on following topics.

Topic:
Scientific names of families
Rutaceae
Apiaceae
Lamiaceae.

G.V. Vasa Lakshmi
Signatures of the lecturer.

S.No	Name of the Student	Signature of the lecturer.
01.	N. Vanthi kumy	
2.	T. Anusha	T. Anusha
3.	M. Jayasree	M. Jaya Sree
4.	N. Suchasitha	N. Suchasitha
5.	G. Naga Tsiveni	G. Naga Tsiveni
6	M. Madhulika	M. Madhulika.
7.	A. Madhu Nihasika	A. Madhunihasika
8.	B. Maanya	B. Maanya.

SEMINAR - I. B.Sc, B.Z.C

A seminar was conducted to I. B.Sc, B.Z.C TM & EM on 30-10-2018 on following topics

Topic
Sexual reproduction in Ectocarpus
Sexual reproduction in Polysiphonia

D. Jyothi
Signature of the lecturer.

S.NO	Name of the Student	Signature of the Student
1.	A.L.S.L. Vasantha.	A. Vasantha.
2.	B. Haritha	B. Haritha
3.	B. NIHARIKA	B. Niharika
4.	M. Gayathri	M. Gayathri
5.	K. Harshitha	K. Harshitha
6.	B. Sravanthi	B. Sravanthi
7.	B Ch. chinnaJyothi	Ch Ch Jyothi
8.	G. Tirumala	G. tirumala
9.	Ch. Kalyan	Ch. kalyan
10.	B. Hepsibha	B. Hepsibha
11.	Y. Pravallika	Y. Pravallika

SEMINAR - II, B.S.C, B.Z.C

A seminar was conducted to II B.Sc, B.Z.C TM & EM on 28/1/19 on following topics

Topic:

Osmosis, diffusion and imbibition

Plant Water Relations.

G.V. Vasavalakshmi

Signature of the lecturer.

S.No	Name of the Student	Signature of the Student
1	M. Vasanthi	M. Vasanthi
2.	J. Sai krishna	J. Saikrishna
3.	A. Babu Rao	A. Baburao
4.	M Jayasree	M. Jayasree
5.	B. Kalyan Rao	B. Kalyan Rao
6.	G Myna	G. Myna
7.	T. Anusha	T. anusha

SEMINAR - II B.Sc (B.Z.C)

A quiz was conducted to II B.Sc, B.Z.C TM & EM Students on 2/2/19. on following topics

Topics:-

Mineral Nutrition → Macronutrients & Micronutrients

Role and their deficiency symptoms.

D. Jyothi
Signature of the lecturer.

S.No.	Name of the Student	Signature.
1.	M. Jayasree	M. jayasree
2.	M. Vasanthi	M. Vasanthi
3.	T. Anusha	T. anusha
4.	M. madhulika	M. madhulika
5.	J. Saikrishna	J. saikrishna

SEMINAR - I st B.Sc (B.Z.C)

A Seminar was conducted to I st B.Z.C TM & EM Students on 5/2/19 on following topics.

Topic :-

General characters of Bryophytes.
L.C of Marchantia.

V.N.Lalitha
Signature of the lecturer.

S.No.	Name of the Student	Signature.
1.	A L.SL vasantha	A. vasantha.
	M. Ganesh	M. Ganesh.
	B. Haritha	B. Haritha.
	S. Nithasik	B Nithasika.
	D pradeep	D Pradeep
	Y. Suvendra	Surendra.
	B. Hepsibha.	B. Hepsibha.

Student Seminars - III. B.Sc, B.Z.C

A seminar was conducted to III. B.Sc. B.Z.C Students on 20/8/19 on following topics.

Topic

Mushroom Culture - technique
Recipes of mushrooms.

Guru Vandana
Signature of the Lecturer

S.No	Name of the Student	Signature of the lecturer
01	M. Naga Jyothi	M. Naga Jyothi
02	Sailaja	Sailaja
03	Suthasini	Suthasini
04	Ruthu	Ruthu.
05	Pravathi	Pravathi
06	vahan	vahan
07	mani Reddy	mani Reddy.
08	Gopi Chand	gopi chand
09	Ramesh	Ramesh.
10	Praveena.	Praveena
11.	A. Jyothi	A. Jyothi
12	A. Prasanthi	A. Prasanthi

Student Seminar - III B.Z.C

A seminar was conducted to III B.Z.C students on 20/2/19 on following topics.

Topics:-

Sterilization - technique.

Instruments - used for sterilisation.

D. Jyothi
Signature of the lecturer.

S.No.	Name of the Student	Signature of the Student
01.	Maesh Reddy	Maesh Reddy.
	Ramesh	Ramesh
	Praveena.	Praveena.
	Mohan.	Mohan.
	M. Nagajyothi	M. NJyothi
	Ruthu	Ruthu.
	Gopichand	Gopichand.

SEMINAR - III B.Z.C

A seminar was conducted for III B.Sc, B.Z.C, cluster - Instrumentation & Methodology on 26/3/19 on following

Topics:
Types of centrifuges,
Types of rotors,
Freeze drying

D. Jyothi
Signature of the lecturer.

S.No.	Name of the Student	Signature of the Student
01	d. Sujatha.	d. Sujatha.
02.	M. NagaJyothi	M. N. Jyothi
03.	T. Sushasani	T. Sushasani.
04	Rothu	Rothu.
05	Saliya.	Saliya.
06	T. Mohan	mohan.
07	Gopi chand	Gopi Chand.
08.	pravathi	pravathi

SEMINAR - II · B·Z·C

A seminar was conducted to II · B.Sc, B.Z.C EM students on 27/2/19 on following topics

Topic:

Light reaction of Photosynthesis
C_3 cycle - Photo Oxidative respiratory cycle.

G.V. Vara Lakshmi
Signature of the ~~Student~~ Lecturer.

S.No.	Name of the Student	Signature of the lecturer.
01	M. Kranthi Kumar	M. Kranthi Kumar
02	M Jaya Sree	M. Jaya Sree.
03	N. Sucharitha	N. Sucharitha
04	M Bullibabu	Bullibabu
05	R. Thasini Rani	ThasiRani
06	G. Naga Triveni	Naga Triveni

SEMINAR - IBSc B.Z.C

A Seminar was conducted to I BSc BZC E.M & T.M students on following topics.

Topics: Stelar Evolution.
Marchantia Reproduction.
Evolution of Sporophyte
Sec. growth of Boerhaavia.

Signature of Lecturer

Name of the Student	Signature of Student
1. Ch. Navya Jyothi	Ch.
2. Ch. Ramya Sri	Ch. Ramya
3. B. Bhargavi	B. Bhargavi
4. K. Hema	Hema
5 P. Jaya Lakshmi	
6. A. Chaitanya Bharathi	
7. U. Anil Kumar	
8. Ch. Adhi Lakshmi	Ch. Adhi

SEMINAR — II B.Sc BZC

A Seminar was conducted to II B.Sc BZC C.M & TM Students on the following topics.

Topics: Glycolysis
Krebs cycle
C_3 cycle
Gibberlins

Signature of Lecturer

Name of the Student	Signature of Student
B. Dayana Sundari	Dayana Sundari. B
B. Vital Rao	B. Vital Rao
D. Anil	D. Anil
M. Manohar	M. Manohar

Horticulture

SEMINAR

5/5

Valued by

Dave

Done by:-

Kamireddy. Mounika

I BSc BHC

Explain the usage of bulbs, corms, tubers and rhizomes to raise a nursery.

Bulbs

A bulb is a complicated stoucture, which consist of a short thickened stem bearing roots on the underside and thick fleshy leaves on the upper side. Bulbs are produced by monocotyledons in which these are modified for storage of food and water and reproduction. Bulb consist of bulb scales. In the centre of the bulb, there is either vegetative meristem. or an unexpanded flowering shoot. Meristem develops in the axial of these scales to produce miniature bulbs known as bulblets. Bulbs are of two types tunicate and non-tunicate.

Tunicate bulbs

The examples of tunicate bulbs are onion, garlic, daffodil and tulip. These bulbs have outer bulb scales that are dry and membranous. This covering or tunic, provides projection from drying. and mechanical injury to the bulb. The fleshy scales are in continuos, concentric layers or lamina to provide solid structure to the bulb.

Non-tunicate bulbs

Non-tunicated bulbs are represented by lilly. The bulbs are propagated through offsets, bulb cuttings, scaling, scoring, stem cuttings, leaf cuttings, leaf buds and bulbils. Individual bulbs are separated from the mother bulb and placed 5-6 cm deep vertically, these develops 3-5 bulblets after 4-5 weeks of plantings.

Epigeous type plant (ETP), hypoepigeous type plant (HETP), hypogeous type plant (HTP) rosette structure with foliage scales.

Scooping and scoring are used for the propagation of Hyacinth and scilla.

Corms

A corm is a short, solid, much swollen underground stem, enclosed by dry scales like leaves, with one or several buds near the top. a tuft of leaves the upper side and ring of thick fibrous roots around the base.

At the apex of corm is terminal shoot, which usually develops into a flowering shoot or leaves. Gladiolus, crocus and water Chestnut are

are examples of some typical cormous plants. Cormous plants can be propagated through new corms, cormels or corm segments. Usually, a mother corm produces 2-3 new corms. and 15-20 cormlets, the miniature corms. A corm flower within a year of planting, whereas it takes 2-3 growing season. The segments are planted vertically 5cm deep in soil.

Tubers

A tuber is a swollen, modified underground stem, which primarily function as the storage organ of the plant. The potato, caladium, yam, jerusalem, arthichoke are examples of tubers. The tuber has nodes, internodes, lateral and terminal buds. The eyes of a tuber are spirally arranged consisting of one or more small buds. The each division or seed tuber should have one eye or bud. The weight of seed tuber should be between 28-56g to provide sufficient food. The seed tuber should be kept at 20°c with 90 percent relative humidity for 2-3 days prior to planting for rapid healing.

These seeds tubers may be treated with fungicides to prevent Rhizoctonia rot and scab. Dormacy should be overcome by dipping the tubers in thiourea, ethnol or KNO_3.

Rhizome

A rhizome is modified and specialized Stem structure in which the main axis of the plant grow horizontally at or just below the soil surface. The stem is segmented having nodes and internodes. A leaf like sheath is attached to each node, which onexpansion becomes the foliage. The banana is typical example of rhizome. other rhizomatous plants are ginger, bamboo, iris, sugarcane and many grasses. The mother rhizome is cut into sections each having atleast one lateral bud / eye. These sections are planted in a suitable medium. Adventitious roots and new shoots will develop from the nodes and ultimately into plants, such as bamboos, the aerial shoot or culm is used as cutting. The cuttings or sections containing 3-4 nodes are planted vertically in the soil. The new branches arise from the nodes, producing an individual plants.

Horticulture

Seminar

K. Kiran

5

Valued by

* Sexual propagation advantages and disadvantages.

Sexual propagation :-

Propagation or multiplications of plants by seeds is known as sexual "propagation". seeds are formed as a result of successful fertilisation and combination of parental gametes. It is an old and easy method and it widely used for the propagation of crops like ornamental annuals, vegetables, medicinal and fruit plants such as papaya.

Advantages :-

* plants propagated by seeds live longer are vigorous and move resistant to biotic and abiotic stress.
* It is an easy, simple and convenient method of plant propagation.

* It is the only means of creating genetic diversity of plants.
* New varieties and cultivars of ornamental and vegetable can be developed only by this method.
* Seeds can be transported easily and stored for a longer time using this method.

Disadvantages:-

* Sexual propagated plants show variations and are not genetically true to type to the mother plant.
* plants grow vigorously and cause dissolution in intercultural practises like harvesting and spraying.
* Advantages offered by root stock and scion as in asexual propagation, cannot be exploited through sexual method.
* Crop species, which do not produce seeds like pine apple, banana, strawberry, fig, jasmine, hibiscus bougainillea, etc cannot multiply by this method.

Horticulture

Seminar



Hema Latha. P
I BHC

Explain the role of Apomictics in the propagation of apple, mangosteen and citrus.

It is defined as the Asexual formation of a seed from the materal tissues of the ovule avoiding the processess of the Meiosis and fertilisation, leading to the embryo development.

* Smith & Winkler introduced the term Apomictics..
* Which means, substitution of the sexual reproduction by an asexual multiplication without nucleus and cell fusion.
* It has been observed in 400 flowering plants, 40 families, It is present in both dicotyledons & Monocotyledons and absent in gymnosperms
* Apomictics is associated with the mechanism that limits the self fertilisation.
* Apomictics is seen in genera, which exhibit Self incompatability, Dioecious

or heterostyly

Ex: Antennaria, Coprosma, Pova and Ranunculus, Rubus.

* Apomictis is seen in the plants, where the growing season is short.
* Gametophytic apomictics is seen in herbs & trees

Ex: Poaceae, Asteraceae

* Apomictics has 3 developmental components.

1. Generation of cell, capable of forming an embryo without prior meiosis.
2. Spontaneous fertilization independent, development of embryo – parthenogenesis

Ex: Watermelon.

3. Capacity to produce Endosperm, with (or) without fertilisation.

* Apomixis of 2 types.

1. Sporophytic Apomixis / Adventitious embryony, embryos arises spontaneously from ovule cell.

2. Gametophytic Apomixis, operates through the mediation of an unreduced embryosac

* Endosperm development in these plants, is either spontaneous (or) fertilisation induced.

Parthenogenesis :—

Embryo developed from egg cell.

Apogamy apomixis :—

Embryo developed from synergids & antipodals

Diplospory :—

Embryo develops from Megaspore mother cell.

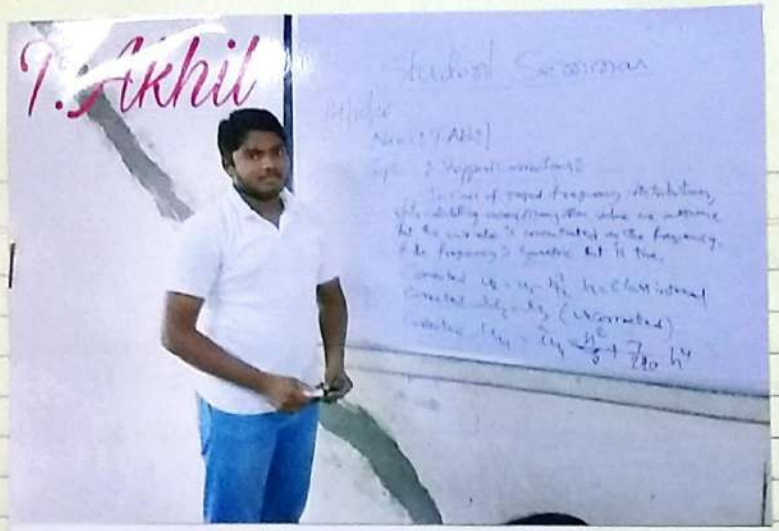
Ex: Taraxacum, Antenaria, Ixeris

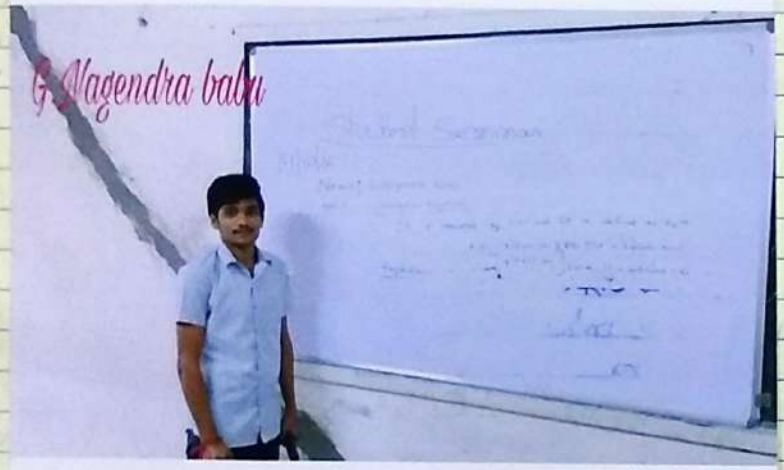
Apospory :—

Embryo develop from the nuclear cells.

Adventive Embryony :—

Embryo develop from adventitious parts.



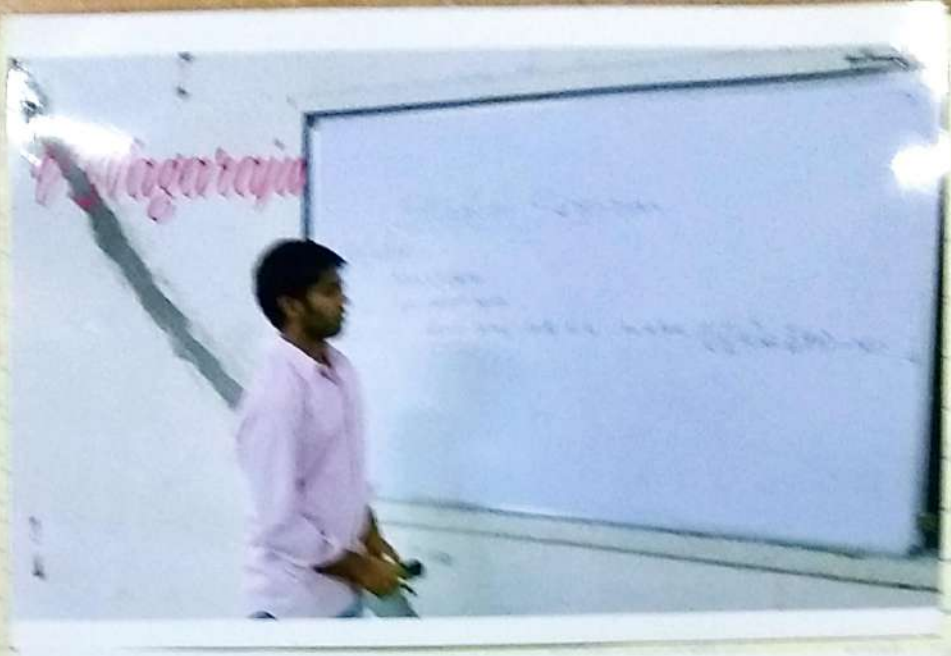


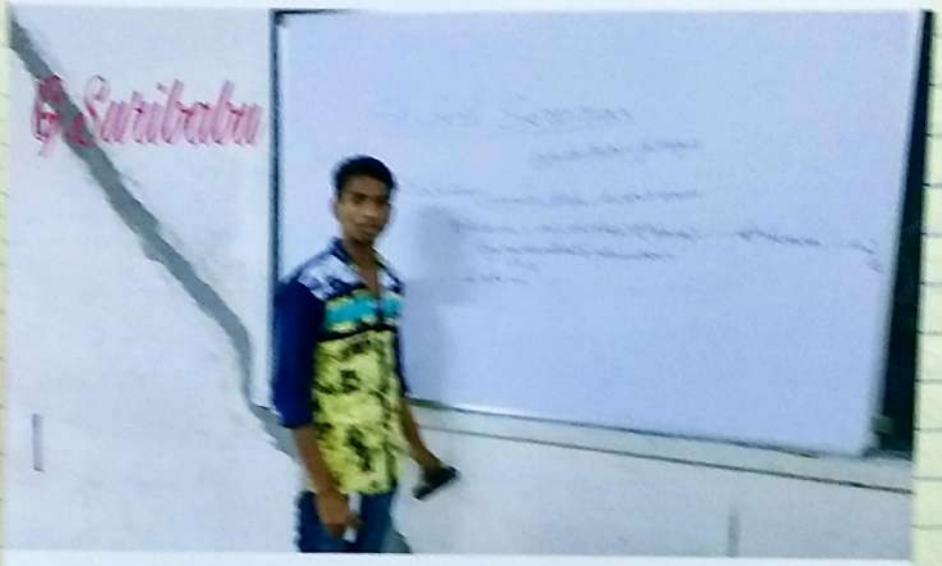


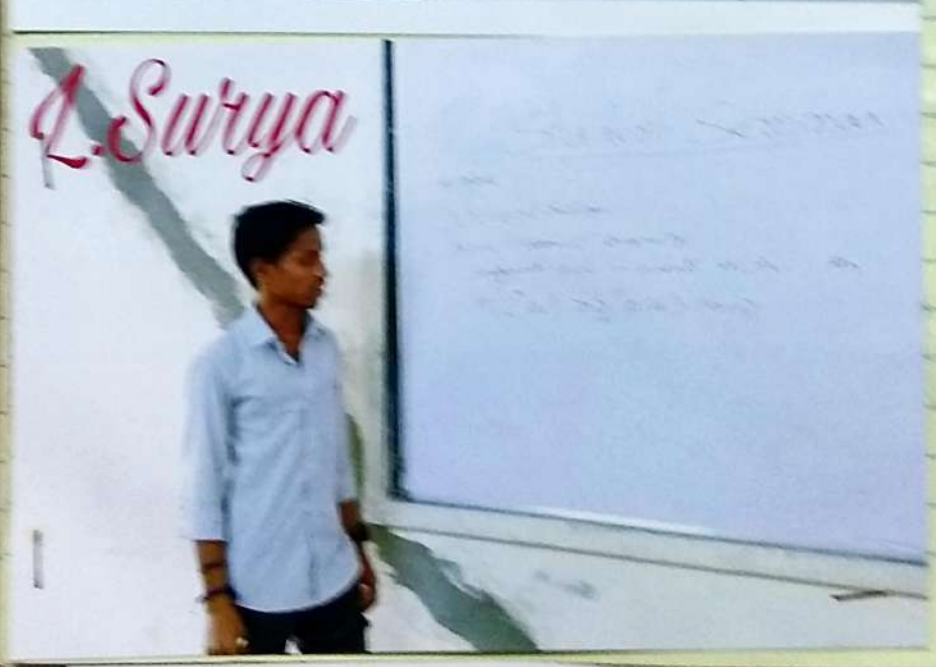
14-10-2016

Signatures of the Students participates in the Seminar 55

1	K Durga	Durga K
2.	M. Aruna	Aruna
3.	P. swathi	T. swathi
4.	Ch. Bhavani	Ch. Bhavani
5.	E. Twinkye Monika	E. Twinkye Monika
6.	P. Swetha	P. Swetha
7.	M. Madhavi latha	M. Madhavi latha
8.	S. Rama devi	S. Rama devi
9.	ch. Devi	ch. Devi
10	G. Venkata sai Pavani	G. Venkata sai Pavani
11.	Y. Navya	Y. Navya
18.	Y. Hasina	Y. Hasina
13.	S. Bhavani	S. Bhavani.
14.	G. Jyothi	G. Jyothi.
15.	ch. Siva parvathi	ch. Siva parvathi
16.	T. yasodadurga	T. yasodadurga
17.	G. Nagendra Babu	G. Nagendra Babu
18.	G. Surendra	G. Surendra
19.	A. Mohan	A. Mohan
20.	O. Wycliffe	O. Wycliffe
21	T. Venkatesh	T. Venkatesh
22.	B. Srinu	B. Srinu
23	A. Ramakrishna	A. Ramakrishna
24.	A. khaja hussain	A. khaja hussain
25.	k. Sai kumar	k. Sai kumar
26	N. V. Srinivas	Srini
27	P. Prakash	P. Prakash
28	Ch. Saisravan kumar	Ch. Saisravan


Nagaraju


G. Suribabu


L. Surya

All India Vedic Mathematics work Shop

Saljanna Nayanapuram, Vijayawada





29.7.-

1.	K. Padmavathi	II BSc (MSCS)	K. Padmavathi
2.	E. Twinkle Mowlika	II BSc (MSCS)	E. T. Mowlika
3.	M. Madhavi latha	II - B.Sc (MSCS)	M. Madhavi latha
4.	G. Venkata sai Pavani	II BSC(MSCS)	G. Venkata sai Pavani
5.	G. Jyothi	II BSc (MSCS)	G. Jyothi
6	Ch. Siva parvathi	II BSC (MSCS)	Ch. Siva parvathi
7.	T. Swathi	II BSC (MSCS)	T. Swathi
8.	Ch. Bhavani	II BSC[MSCS]	Ch. Bhavani
9.	Ch. Vijaya	II B.Sc (MSCS)	Ch. Vijaya
10.	S. Ramadevi	II BSC (MSCS)	S. Ramadevi

Principal



S.R.R.&C.V.R GOVT.DEG.&P.G(autonomous) COLLEEGE:VIJAYAWADA

DEPARTMENT OF STATISTICS

STUDENTS VISIT TO

WORKSHOP AT KBN COLLEGE::VIJYAWADA ON 5-8-2017

EMINENT Dr.R.VISHNU VARDAN ASST.PROFESSOR OF STATISTICS FROM PONDICHERRY UNIVERSITY,SCHOOL OF MATHEMATICS AND STATISTICS, PONDICERRY DELIVERED LECTUER IN SPPS AND IT'S USAGE BUSINESS INTELLIGENCE, COMPARISON WITH OTHER PACKAGES SUCH AS EXCEL AND ROLE IN BIG DATA IS ALSO DISCUSSED.

FACULTY PARTCIPATED:K.BHANU PRASAD

STUDENTS PARTCIPATED:

1.) T Srinivasulu
2.) M. Krishna Surya
3.) Ch. siva parvathi
4.) G. Jyothi
5.) K Padmavathi
6.) S. Ramadevi
7.) E.T. Havilah
8.) G. venkatasaiPavani
9.) Ch. Bhavani
10) T. Sravathi
11.) M. Madhavi latha.
12.) Ch. Vijaya
13.)
14.)
15.)

LECTURER

PRINCIPAL

SANKHYA - 18

1-02-2018

Students of MBSc (MSc's) attended a workshop program organized by Andhra Loyola college, Vijayawada on 1st and 2nd of February, it consisting of quiz, SI writting, PPT, JAM. The following students of our college attended and presented PPT and participated and other activities.

1. S. Kesava Rao	S. Kesava Rao
2. T. Srinivasulu	T. Srinivasulu
3. SK. Afrin	SK. Afrin
4. Renuka	R. Renuka
5. R. Sailaja	R. Sailaja



Principal

K. Bhavani

27-2-2018

GROUP DISCUSSION

TOPIC :- Lack of Money In ATMS.

Group I

1)	S. Kesava Rao	S. Kesava Rao
2)	G. Rajesh	G. Rajesh
3)	CH. Durga Rao	G. Durga Rao
4)	B. Satish	B. Satish
5)	K. Prasanth	K. Prasanth

Group II

1)	N. pavani	N. pavani
2)	D. Divya	D. Divya.
3)	E. Ramya	E. Ramya.
4)	R. Sailaja	R. Sailaja
5)	SK. Afrin	SK. Afrin
6)	P. Durga Bhavani	P. Durga Bhavani
7)	B. Bhagyavathi	B. Bagyavathi





K Bhanupreeth

Principal

I BSC (MSc's) - Student Seminars







