

SRR & CVR GOVT. DEGREE COLLEGE (A) VIJAYAWADA
DEPARTMENT OF MICROBIOLOGY



MOU Activity: Internship - II

Jaya Teja, Center For Research & Diagnosis, Suryaraopeta, Vijayawada

II B.Sc MBFT

Academic Yea: 2022-2023



Internship Mentor: Dr D Jyothi

List of Students of II BSc MBFT for Internship-II

1	20315201	Abdual Roshini
2	20315202	B. Sruthi
6	20315206	D. Naga Jyothi
7	20315207	J. K. Keerthana N A K
8	20315208	K. Naga Vishanvi
10	20315213	M. Akshika
11	20315214	N. Meghana
13	20315217	P. Hema Datta
14	20315218	R. Gopi Krishna
16	20315221	U. Harshitha

Title of the Activity:

Hands on Expertise in Diagnostic Laboratory Equipment” at Jaya Teja, Center For Research & Diagnosis, Suryaraopeta, Vijayawada.

- ABG Machine/Blood gas analyzer
- Biochemistry Analyzer
- Centrifuge
- Hamatology analyser
- Urine analyzer
- Incubator
- Elisa Reader/Microplate reader
- Hot Air Oven

DIAGNOSTIC LAB EQUIPMENT

Blood gas analyzer: Blood gas analysis which is also known as arterial blood gas analysis is a test in which the amounts of oxygen and carbon dioxide as well as the acidity (pH) of the blood are measured. It may also measure electrolytes and metabolites.



It is used to check acid-base balance for individuals having heart or kidney failure, severe sleep problem, uncontrolled diabetes or a drug overdose. This test is done in cases of lungs problem or severe breathing as COPD , asthma etc.

Biochemistry Analyzer

An automated Biochemical analyser is a medical diagnostic lab equipment which is designed to measure different chemicals and other characteristics in a number of biological samples with minimal human assistance. The blood and other fluid which are measured are used for diagnosis of disease. The automation of this test has reduced the time of analysis from days to hours.

Centrifuge

A laboratory Centrifuge is a motor driven equipment which spins liquid samples at high speed. A centrifuge is used for the separation of fluids, gas or liquid, based on density. Separation is achieved by spinning a vessel containing material at high speed; the centrifugal force pushes heavier materials to the outside of the vessel.

Hematology Analyser / Cell counter

A cell-counter and bio-chemistry analyser are the most basic diagnostic lab equipment required – as blood cell count and blood profile are most commonly written tests.

Urine analyzer

It is used to performing automatic urine testing. Urine analyser analyses bilirubin, protein, glucose and red blood cells. There are many models which contain urine strip readers, a type of reflectance photometer that can process several hundred strips per hour.

It helps to find the illness if any in the early stages which includes kidney disease, liver disease, diabetes etc. Urine test is also done to confirm the pregnancy

Incubator

It is an equipment in a laboratory which is used to grow and maintain microbiological cultures or cell cultures. The incubator maintains optimal temperature, humidity and other conditions such as the carbon dioxide (CO₂) and content of oxygen in the atmosphere inside.

The simplest incubators are the boxes which are insulated with a heater which is adjustable which temperature goes up to 140 to 150 °F. Laboratory incubators give controlled, contamination-free environment for safe and reliable work with cell and tissue cultures by

specific conditions such as temperature, humidity, and CO₂. Laboratory incubators are used for storage and growth of bacterial cultures.

Elisa Reader/Microplate reader

Also known as microplate readers or microplate photometers, it is used to detect biological, chemical or physical events of samples in microtiter plates. ELISA stands for enzyme linked immunosorbent assay. It is an antibody test or a test for immune response to things attacking the body such as virus, bacteria and allergens. The test is done in an ELISA plate, also known as a 96-well plate or microplate. The ELISA reader reads the plate.

Hot air oven

Hot air ovens are electrical equipment which sterilize using dry heat. Generally, they can be operated from 50 to 300 °C, to control the temperature using a thermostat. Hot air oven have double walled insulation that keeps the heat in and conserves energy, the inner layer being a poor conductor and outer layer being metallic. There is also an air filled space in between to aid insulation. It has an air circulating fan which uniformly distribute the heat. These are fitted with the adjustable wire mesh plated trays and it has switch for on and off and indicators as well for temperature and holding time.

Outcome of 2 months Internship

- Students were at ease explaining the concepts and procedures at the workplace.
- Interns have shared that the internship taught them value of time, punctuality and the importance of education
- Skills picked up at the workplace:
 - Decision making
 - Problem solving
 - Social interaction
 - Communication skills
 - Being alert and responsible

Students are supportive of internships that can help them get jobs.





Students are at workplace

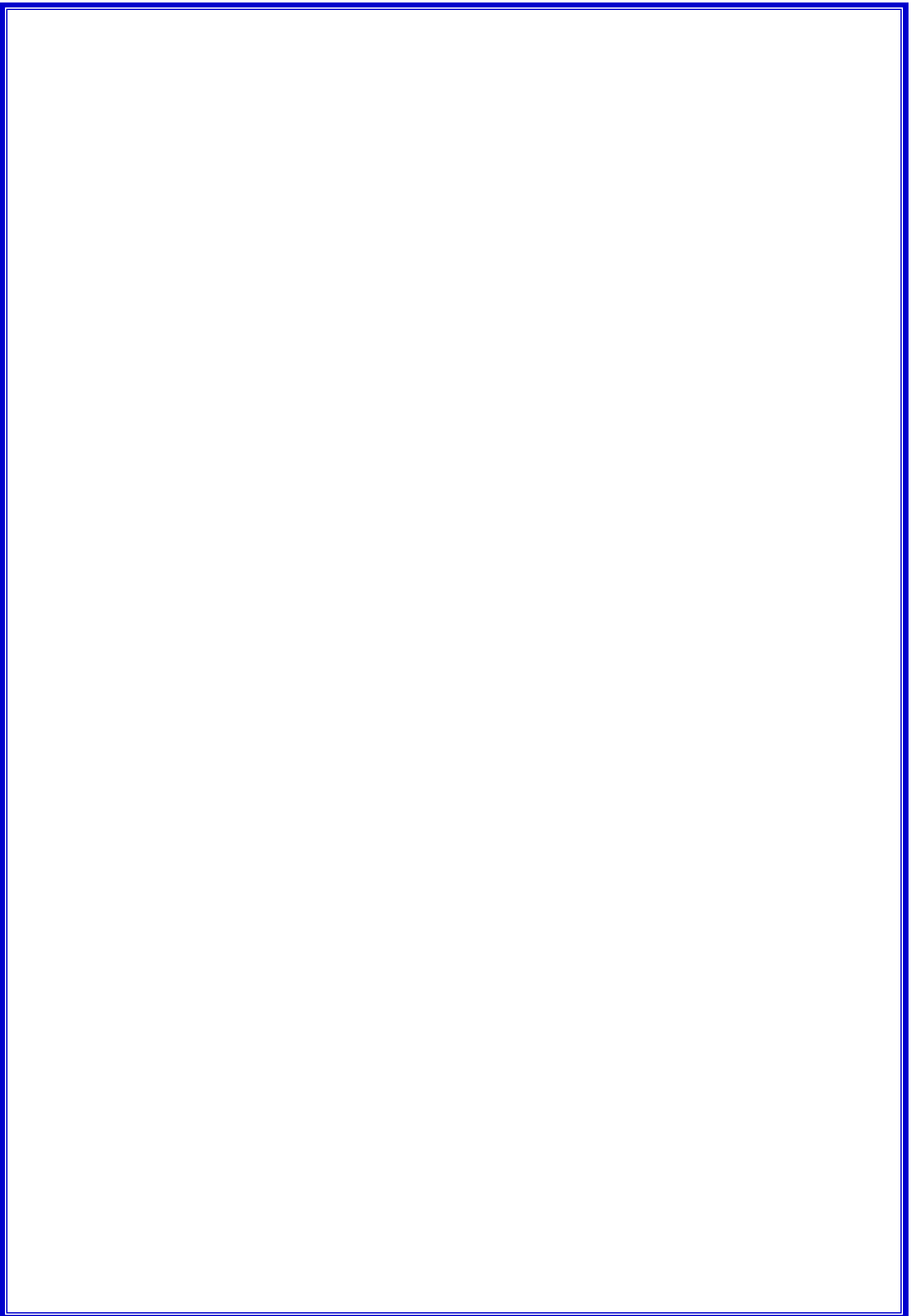
ACKNOWLEDGEMENTS

We express our deep sense of gratitude to Dr. K. Bhagya Lakshmi, Principal SRR & CVR Govt. Degree College (A), Vijayawada for her constant support and encouragement.

Jaya Teja, Center For Research & Diagnosis, Suryaraopeta, Vijayawada

D. Jyothi


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SRR & CVR GOVT. DEGREE COLLEGE
(Autonomous)
Machavaram, VIJAYAWADA-520 001



01-08-2022

Memorandum of Understanding

Between

The Department of Microbiology

SRR & CVR Govt. Degree College (A), Vijayawada

And

Jaya Teja, Center For Research & Diagnosis, Suryaraopeta, Vijayawada

This Memorandum of Understanding is by and between **SRR & CVR Govt. Degree College (A), Vijayawada** and **Jaya Teja Center for Research & Diagnosis, Suryarao Peta, Vijayawada-520002** with effect from **01-08-2022** for a period of **Three Years**.

The Department of Microbiology, SRR & CVR GDC (A), Vijayawada charged with the responsibility of giving quality education to undergraduate students with a program of Microbiology combination with Biochemistry and Chemistry/ Food technology.

Jaya Teja Center for Research & Diagnosis, Suryarao Peta, Vijayawada provides exposure to experimental research methods and equipment handling in diagnosis of various clinical samples.

Our institution considers that the collaboration between academia and the Laboratory is essential in enhancing the relevance of graduate education in Microbiology. The acquainted necessary skills make him/her capable to become employed / entrepreneur more specially; our institution intended to form a nucleus for promoting excellent quality man power in the fields of hands-on laboratory training.

The areas of cooperation can be extended through mutual consent with the following objectives.

- A) Learn to use scientific apparatus.
- B) Hands-on training for students at Laboratory.
- C) To familiarize the students with methods used to study the clinical parameters and interpretation of results.
- C) Develop experimental and analysis skills.
- D) Develop reporting skills (Writing and Oral).

E) Develop observation skills and scientific attitude.

F) Develop skills to avoid hazards and skills to deal with chemicals.

G) To jointly publish research papers in reputed national and international journals

Our students will understand laboratory discipline, safety and regulations thoroughly and utilize the opportunity to explore and learn.

Nothing in this MOU shall be deemed a commitment or obligation of funds from
Jaya Teja Center for Research & Diagnosis, Suryarao Peta, Vijayawada,
and SRR & CVR Govt. Degree College (A), Vijayawada.

For

SRR & CVR Govt. Degree College (A)
Vijayawada

M. Lakshmi
1-8-2022
Dr. K. Bhagya Lakshmi

Principal

Vijayawada, Andhra Pradesh -520004.

PRINCIPAL
SRR & CVR Govt. Degree College
VIJAYAWADA.

For

Jaya Teja Center for Research &
Diagnosis, Vijayawada

M. Sheela
1-8-2022
Dr. Mohana Sheela

Founder & Director, JTCRD

Vijayawada, Andhra Pradesh -520002.

Jaya Teja Center for Research
& Diagnosis, Vijayawada

S. Indrajit
Dileep Kumar Guggula
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Jaya Teja
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