

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



Quiz-I

II BSc (MBC & MBFT) 2022-2023

Semester-III

Dated: 25-11-2022



Topic: Microbial Genetics and Molecular Biology

SRR & CVR GOVT. DEGREE COLLEGE (A) Vijayawada

Department of Microbiology

Activity Register 2022-2023

Date	25-11-2022
Conducted through (DRC/JKC/ELF/NCC/NSS/ Departments etc.)	Department of Microbiology
Nature of Activity (Seminar/Workshop/Extn. Lecture etc.,)	Quiz On Microbial Genetics and Molecular Biology
Title of the Activity	Quiz For II BSc (MBC & MBFT)
Name of the Department/Committee	Department of Microbiology
No. of students participated	31
Brief Report on the activity	A quiz was conducted among the II BSc Microbiology Students in room no 203. The Class was divided in to two groups. Total Questions:25 Group A:08 and Group B: 09 Quiz Master: 03 Winners are Group B
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 BSc (MBC & MBFT) Quiz conducted on Microbial Genetics and Molecular Biology Dated: 25-11-2022



S.NO	Name of the Student			
	Group A	Signature	Group B	Signature
1	G. Revanth Kumar		Y. Malikarjun	
2	G. Anil Kumar		Bharathi	
3	K. Vijay		Ch. Jaya lakshmi	
4	K Naga Sriya		P. Akshitha	
5	K. Prathyusha		Ch. Deepika	
6	T. Vineetha Sri		M Pujitha	
7	K. Vinay		T. Gopi	
8	G. Praneeth		T. Dilleshh	
9	E Narendra Babu		D Pavan Kumar	
10	G. Rajesh		R. Sai Vardhani	
11	J. Ram Prasad		K. Nandini	
12	A. Upendra		G. Taraka Anjaneyulu	
13	U. Pavan		Manju	
14	J. Naveen		Nayak	
15	Ch. Likitha		K. Geetha	
16			Sh. Sajidha	

Department of Microbiology

Quiz in Microbial Genetics and Molecular Biology

II BSc MBC /MBF Academic Year: 2022-2023 Date: 25-11-2022 Time 12:50PM

1. Both strands of DNA serve as templates concurrently in

- A. replication
- B. excision repair
- C. mismatch repair
- D. none of these

Answer: Option A

2. Proofreading activity to maintain the fidelity of DNA synthesis

- A. occurs after the synthesis has been completed
- B. is a function of the 3'-5' exonuclease activity of the DNA polymerases
- C. requires the presence of an enzyme separate from the DNA polymerases
- D. occurs in prokaryotes but not eukaryotes

Answer: Option B

3. Which of the following repairs nicked DNA by forming a phosphodiester bond between adjacent nucleotides?

- A. Helicase
- B. DNA gyrase
- C. Topoisomerases
- D. DNA ligase

Answer: Option D

4. The enzyme that catalyzes the synthesis of DNA is called

- A. DNA polymerase
- B. DNA gyrase
- C. DNA ligase
- D. helicase

Answer: Option A

5. Which of the following possesses both 5'-3' and 3'-5' exonuclease activity?

- A. Kornberg enzyme
- B. DNA polymerase III
- C. Taq DNA polymerase

- A. Kornberg enzyme
- B. DNA polymerase III
- C. Taq DNA polymerase
- D. None of these

Answer: Option A

6. Which of the following statements on replication in *E.coli* is correct?

- A. It occurs in a unidirectional manner
- B. It occurs in bidirectional manner
- C. Always uses T7 DNA polymerase when infected by T7 phage
- D. Occurs only when λ phase has infected *E. coli*

Answer: Option B

The replication of chromosomes by eukaryotes occurs in a relatively short period of time because

- A. the eukaryotes have more amount of DNA for replication
- B. the eukaryotic replication machinery is 1000 times faster than the prokaryotes
- C. each chromosome contains multiple replicons
- D. eukaryotic DNA is always single stranded

Answer: Option C

In *E.coli*, which enzyme synthesizes the RNA primer for Okazaki fragments?

- A. DnaA
- B. DnaC
- C. DnaG
- D. all of these

Answer: Option C

During which of the following process a new copy of a DNA molecule is precisely synthesized?

- A. Transformation
- B. Transcription
- C. Translation
- D. Replication

Answer: Option D

DNA gyrase is inhibited by

- A. tetracycline
- B. nalidixic acid
- C. both (a) and (b)
- D. cephalosporin

Answer: Option B

11. Which of the following lacks 3'-5' exonuclease activity?

- A. Short fragment of DNA polymerase I
- B. Taq DNA polymerase
- C. T4 DNA ligase
- D. All of the above

Answer: Option D

The synthesis of DNA by DNA polymerase occurs in the

- A. 3' to 5' direction
- B. 5' to 5' direction
- C. 5' to 3' direction
- D. 3' to 3' direction

16. In the extracellular medium, DNA-degrading enzymes would likely be to prevent transfer of DNA by

- A. conjugal transfer by a self-transmissible plasmid
- B. generalized phage transduction
- C. natural transformation
- D. none of the above

Answer: Option C

What is the term used for a segment of DNA with one or more genes in the centre and the two ends carrying inverted repeat sequences of nucleotides?

- A. Plasmid
- B. Transposon
- C. Insertion sequence
- D. None of these

Answer: Option B

18. The plasmids can be eliminated from a cell by the process known as

- A. curing
- B. breaking
- C. fixing
- D. expulsion

Answer: Option A

19. Which of the following statement describes plasmids?

- A. Another name for a protoplast
- B. A complex membrane structure that covers the chromosome of bacteria
- C. Small, circular DNA molecules that can exist independently of chromosomes commonly found in bacteria
- D. None of the above

Answer: Option C

20. Who discovered transposons (jumping genes)?

- [A.](#) Abelson
- [B.](#) Harvey
- [C.](#) McClintock
- [D.](#) Griffith

Answer: Option C

21. The transposase gene encodes an enzyme that facilitate

- [A.](#) viral replication within a genome
- [B.](#) general recombination
- [C.](#) site-specific integration of transposable elements
- [D.](#) none of the above

Which of the following statement(s) is/are true in regards to $F^+ \times F^-$ mating events?

- [A.](#) DNA is transferred from F^- to F^+ cells
- [B.](#) DNA is transferred from F^+ to F^- cells
- [C.](#) No DNA is transferred because F^- cells are unable to perform conjugation
- [D.](#) No DNA is transferred because F^+ cells are unable to perform conjugation

Answer: Option B

23. Which of the following transport bacterial DNA to other bacteria via bacteriophages?

- [A.](#) Conjugation
- [B.](#) Transduction
- [C.](#) Transformation
- [D.](#) Translation

Answer: Option B

24. The term used for acquisition of naked DNA from its environment and its incorporation in their genome by a bacterium is

- [A.](#) transformation
- [B.](#) lysogenic conversion
- [C.](#) conjugation
- [D.](#) transduction

Answer: Option A

25. Which of the following structures contains genes for enzymes and antibiotic resistance?

- 1. Plasmid
- 2. Pilus
- 3. Capsule
- 4. Plasma Membrane