

Roll No: _____

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M.Sc. Biochemistry Semester II Examination, May 2024

Paper Title: Microbiology & Virology
Paper Code: MBC 209

Time: 1½ h

Max Marks: 30

Note: This paper has 3 Sections, A, B, and C. Attempt all three sections. Section A: Answer all the questions; Section B: Answer any two; Section C: Answer all the questions, each question in this section has an internal choice.

Abbreviations Used: CLO- Course Learning Outcome, PLO- Program Learning Outcome, BTL- Bloom Taxonomy Level: BT level 1- Remember; BT level 2-Understand; BT level 3-Apply; BT level 4- Analyse; BT level 5-Evaluate, BT level 6-Create.

SECTION A

Attempt All Questions
 (5x1=5 Marks)

Q No. 1 (a)	OBJECTIVE QUESTIONS	BTL	CLO	PLO
i.	What are the criteria used to define microorganisms?	2	1	2
ii.	In what ways a viroid differs from a virusoid?	2	4	3
iii.	Compare and contrast between: Phenetic and Phylogenetic classification	4	1	3
iv.	What do you understand by the Viral interference?	3	2	1
v.	What does safranin do in Gram staining?	2	4	3

SECTION B

Attempt any THREE questions
 (3x5=15 Marks)

Q No. 2	SHORT ANSWER QUESTIONS	BTL	CLO	PLO
a)	What are the stages in a bacterial growth curve? What is the generation time and how it is determined. What is the generation time of <i>Escherichia coli</i> ?	2	3	3
b)	What are the mechanisms for the control of microbial growth?	2	3	2

c)	Use a labelled diagram to depict the lytic cycle and lysogeny. Give an example of a lytic virus.	1	4	3
d)	What is COVID-19 and SARS-Cov2? Expand the abbreviations and write a short note on the virus and the challenges in the management of the disease.	3	2	4
e)	What is AMR and what causes it? Does it occur only in bacteria, or other microorganisms as well? What are the superbugs? Which bacteria are most likely to be resistant to penicillin G?	4	2	3

SECTION C

Answer ANY ONE of the following questions
(1x10=10 Marks)

Q. No	LONG ANSWER QUESTIONS	BTL	CLO	PLO
3				
a)	Give a detailed account of the virus culture and the methods for identification and isolation of viruses citing a suitable example of your choice.	2	3	4
b)	List some common viral infections and the mechanisms of suggested therapies to treat viral infections.	2	1	2

END OF THE QUESTION PAPER