

**Instructions:1) All Questions in Section I and Section II are compulsory and carry equal marks**

**2) Illustrate your answers with neat diagrams wherever necessary**

**Section - I**

Q1. (A)	List important differences between Gram positive and Gram- negative bacterial cell wall. Draw a well labelled diagram of both the cell walls.	(6)
(B)	Write a note on: Mesosomes.	(4)
<b>OR</b>		
Q1. (A)	What is Chemotaxis. Explain with a diagram structure of bacterial flagella. Name any two types of flagella arrangements with examples.	(7)
(B)	List six salient features Viruses.	(3)
Q2. (A)	Define: Acid, Basic, Neutral and Amphoteric stains with examples. What are Leucocompounds.	(6)
(B)	Write a brief note on Mordants and its classification.	(4)
<b>OR</b>		
Q2. (A)	Describe all the different types of special media.	(6)
(B)	Write a note on: Diauxic growth curve. What factors lead to stationary phase during growth of bacteria	(4)
Q3. (A)	Discuss the experiment of Hershey and Chase and give its importance.	(5)
(B)	What is Tm. Give its significance? List the factors affecting Tm.	(5)
<b>OR</b>		
Q3. (A)	Compare A, B and Z forms of DNA	(5)
(B)	Write a brief note on super coiling and its biological significance.	(5)
Q4. (A)	Discuss the experiment of Meselson and Stahl and its conclusions.	(5)
(B)	Write a brief note on Rolling circle mechanism of replication.	(5)
<b>OR</b>		
Q4. (A)	What is the role of the following in DNA replication: 1. DNA Pol I 2. Primer 3. Helicase 4. SSb 5. DNA ligase	(5)
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(B)	Explain: HNO <sub>2</sub> and Acridine orange as chemical mutagenic agents.	(5)
	<b>Section - II</b>	
<b>Q5.</b>	<b>Attempt any TEN out of the following:</b>	<b>(10)</b>
1.	Give one example each of Spiral bacteria and Cocci arranged in chains.	
2.	Name the two substances that are present in bacterial Endospores but not in vegetative cells.	
3.	Give any two functions of Metachromatic granules.	
4.	What is the Auxochrome and Chromophore group of a stain. Give example.	
5.	In Acid fast staining, name the primary stain, intensifier, decolorizer and secondary stain.	
6.	Define facultative Anaerobe. Give one example.	
7.	Define hyperchromicity & hypochromicity.	
8.	State two postulates of Chargaff	
9.	Define mutations. Give two examples of physical mutagens.	
10.	Who discovered transposable elements or jumping genes.	
11.	Name the main enzyme responsible for DNA replication in bacteria.	
12.	What is photoreactivation repair of DNA	

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