

B.Sc. (CBCS Pattern) Sem-I  
**USBCT-C02 - Biochemistry Paper-II : General Microbiology and Virology**

P. Pages : 2

Time : Three Hours



**GUG/W/22/11541**

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw diagrams wherever necessary.

**1.** Describe in detail the cell wall structure of Gram + bacteria. **10**

**OR**

- a) Draw a well labelled diagram of bacterial cell. **2½**
- b) Give general account of bacterial ribosome. **2½**
- c) Write a note on bacterial plasmid. **2½**
- d) Draw and describe the structure of bacterial flagellum. **2½**

**2.** Describe in detail the lytic cycle of viruses. **10**

**OR**

- a) Describe in detail the principle and procedure of Gram staining. **2½**
- b) Describe the general characteristic of viruses. **2½**
- c) Write a note on lysogeny. **2½**
- d) Draw a well labelled diagram of T4 bacteriophage. **2½**

**3.** Describe a typical bacterial growth curve. **10**

**OR**

Write notes on the following.

- a) Turbidostat **2½**
- b) Chemostat **2½**
- c) Synchronous culture **2½**
- d) Classification of microorganisms on the basis of gaseous requirement. **2½**

**4.** Describe in detail the use of temperature in microbial control. **10**

**OR**

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|--|----|
| a) Describe the role of heavy metals in microbial control. | 2½ |
| b) "Antibiotics affect cell wall synthesis" Explain        | 2½ |
| c) Write a note on sulphonamides.                          | 2½ |
| d) Describe the role of radiations as antimicrobial agent. | 2½ |

**5.** Solve **any ten** of the following.

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| a) Name one endospore forming bacteria.  | 1 |
| b) What is a capsule?  | 1 |
| c) What is the role of fimbriae?   | 1 |
| d) Name one acid fast bacterium  | 1 |
| e) What is dye?  | 1 |
| f) Define auxochrome   | 1 |
| g) Define generation time  | 1 |
| h) What is pure culture?   | 1 |
| i) Bacterial cells which require small amount of oxygen for growth are called ..... (Fill in the blanks) | 1 |
| j) What are phototrophs?   | 1 |
| k) Define phenol coefficient.  | 1 |
| l) Define disinfectant.  | 1 |

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