

B.Sc.- I (With Credits)-Regular-Semester 2012 Sem I
002-Biochemistry : Paper-II (General Microbiology and Virology)

P. Pages : 2

Time : Three Hours



GUG/W/16/3297

Max. Marks : 50

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

1. Explain electron Microscopy with respect to principle, ray diagram and applications. **10**

OR

Explain the principle and technique of Gram staining and endospore staining. **10**

2. Describe in detail the structure of cell wall of Gram +ve and Gram -ve bacteria. **10**

OR

Explain in detail factors influencing antimicrobial activity. **10**

3. a) Briefly describe the controversy over spontaneous generation. **2½**

b) Write a note on shapes of viruses with suitable diagrams. **2½**

c) Draw a well labelled diagram of typical bacterial cell. **2½**

d) Explain moist heat sterilization with one example. **2½**

OR

e) Discuss the contribution of Louis Pasteur in the development of microbiology. **2½**

f) Write a note on theories of staining. **2½**

g) Describe the use of dry heat in microbial control. **2½**

h) Write a note on bacterial plasmid. **2½**

4. a) Explain the working of oil immersion lense. **2½**

b) Draw a well labelled diagram of T₄ bacteriophage. **2½**

c) Describe the Whittaker system for classification of Microorganisms. **2½**

d) Describe the role of heavy metals in microbial control **2½**

OR

- e) Write a note on germ theory of diseases. 2½
- f) Briefly describe the general characteristics of viruses. 2½
- g) Classify bacteria on the basis of their shapes. 2½
- h) Describe the mechanism of action of antibiotics. 2½

5. Answer **any ten** questions of the following.

- a) Define numerical aperture. 1
- b) What is meant by immunization? 1
- c) Who isolated pure culture for the first time? 1
- d) Name any two stains used for endospore staining. 1
- e) What is Mordant? 1
- f) Define Auxochrome. 1
- g) Name any two Gram negative bacteria. 1
- h) What is the function of pilli? 1
- i) Name heat resistant Substance present in endospore. 1
- j) What are sulfonamides? 1
- k) Define phenol coefficient. 1
- l) What is incineration? 1
