

Bachelor of Science (F.Y.B.Sc.) First Semester (Old)  
**002 - Biochemistry Paper- II (General Microbiology and Virology)**

P. Pages : 2

Time : Three Hours



**GUG/W/18/1199**

Max. Marks : 50

- Notes : 1. All questions are compulsory.  
2. Draw well labelled diagrams.

1. Give a detailed account of controversy over spontaneous generation theory. **10**

**OR**

What is differential staining? Describe in detail principle and technique of Gram staining. **10**

2. Discuss the cell wall structures of Gram positive and Gram negative bacteria. **10**

**OR**

Describe the various chemical methods for microbial control. **10**

3. Write short notes on the followings: **2½x4**

- a) Importance of oil immersion objective.
- b) Chromophore and Auxochrome
- c) Bacterial morphology.
- d) Phenol coefficient.

**OR**

- e) Discuss the germ theory of diseases. **2½x4**
- f) Give the procedure of endospore staining.
- g) Differentiate between prokaryotes and eukaryotes.
- h) Write a note on sulphonamides.

4. a) Explain in brief the pure culture concept. **2½x4**

- b) Write in brief on lysogeny of  $\lambda$  phage.
- c) Draw the structure of flagella.
- d) Explain the role of antibiotics as chemotherapeutic agents.

**OR**

e) Draw the ray diagram of compound light microscope.

2½x4

f) What are the general characteristics of viruses?

g) Write a note on structure and functions of capsule.

h) Write a note on sterilization.

5. Attempt **any ten** of the following:

10

a) Give any one application of scanning electron microscopy.

b) What is chromogen?

c) Write the stains used for acid-fast staining?

d) Who gave the theory of fermentation?

e) What is resolving power?

f) Give any one example of bacteriophage showing lytic cycle.

g) What is slime layer?

h) What are colicins?

i) Give one point of differentiation between plasmid and episome.

j) What is microbiostasis?

k) What are incinerations?

l) Define disinfectant.

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