

B.Sc. F.Y. (Old) Sem-I
002 - Biochemistry Paper-II (General Microbiology and Virology)

P. Pages : 2

Time : Three Hours



GUG/W/19/1199

Max. Marks : 50

-
- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw a well labelled diagram wherever necessary.

1. Give the experiments performed by following scientists for the development of microbiology. **10**
- a) Francesco Redi
- b) Schulze & Schwann
- c) Schroder & Von Dusch

OR

Describe the principle and technique of:

- i) Gram staining. **5**
- ii) Acid- fast staining. **5**
2. Describe in detail the cell wall structure of Gram +ve and Gram -ve cells. **10**

OR

Explain the different chemical methods for microbial control. **10**

3. a) What is resolving power? Write the importance of oil immersion objective. **2½x4**
- b) Define stain. Add a note on chromophore and auxochrome.
- c) Write a note on bacterial morphology.
- d) What is phenol coefficient?

OR

- e) Give a ray diagram of compound light microscope. **2½x4**
- f) Explain in short the technique and principle of endospore staining.
- g) Differentiate between prokaryotes and eukaryotes.
- h) Describe the mechanism of cell injury with respect to denaturation of proteins.

4. a) Discuss the germ theory of diseases. 2½x4
b) Write a short note on lysogeny of λ (lambda) phage.
c) Explain the formation of endospore.
d) Give the importance of sulphonamides as chemotherapeutic agent.

OR

- e) How temperature is useful in microbial control? 2½x4
f) Write a note on R-plasmid.
g) What are the general characteristics of viruses?
h) Write a short note on TEM.
5. Attempt **any ten** of the following. 10
- a) Give the contribution of Paul Ehrlich in the development of immunology.
b) Define numerical aperture.
c) Write any two applications of fluorescent microscopy.
d) Define chromogen.
e) What is the difference between lytic cycle and lysogeny?
f) What is simple staining?
g) What are episomes?
h) With respect to endospore, what is the full form of DPA?
i) What are colicins?
j) Define microbiostatic.
k) What do you understand by disinfection?
l) Write any two examples of antibiotics affecting DNA polymerization.
