

B.Sc.S.Y. (With Credits)-Regular-Semester 2012 Sem I  
**BIO-02 - Biotechnology : Paper-II (General Microbiology)**

P. Pages : 2

GUG/W/16/3299

Time : Three Hours



Max. Marks : 50

1. Explain principle and application of fluorescent microscope. 10

**OR**

Describe the mechanism of sporulation in Bacteria. 10

2. Explain Gram staining with mechanism. and differentiate between Gram+ve and Gram-ve bacteria. 10

**OR**

Give details on Growth curve and its phases. 10

3. a) Write a Note on contribution of Robert Koch in field of microbiology. 2½

b) Describe fluid mosaic model 2½

c) Draw icosahedral symmetry of virus. 2½

d) Write composition of Nutrient media and its Role 2½

**OR**

e) Give Louis Pasteur contribution in field of microbiology. 2½

f) Draw well labelled diagram of typical bacterial cell. 2½

g) What are the general characteristics of virus. 2½

h) What is the difference between batch and continuous culture. 2½

4. a) Explain scanning Electron Microscope. 2½

b) Distinguish between bacterial and archeal cell membrane. 2½

c) Write a note on lysogeny. 2½

d) Explain turbidostat. 2½

**OR**

a) Explain Transmission Electron microscope. 2½

b) Draw well labeled diagram of endospore. 2½

c) Describe process of flagella staining. 2½

d) What is pure culture? Explain any one method of isolation of pure culture. 2½

**5. Attempt any ten.**

a) Who is father of modern microbiology. 1

b) What is refractive index. of immersion oil. 1

c) Define Resolving power. 1

d) Name any two Gram-ve Bacteria. 1

e) Define plasmid. 1

f) What are Ribosomes? 1

g) Define stains 1

h) Name stains used in endospore staining. 1

i) Give any two example of fungi. 1

j) What are the basic nutritional requirement of bacteria. 1

k) What is synthetic media? 1

l) What are acidophiles? 1

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