

1058

B.Sc. (Hons.) Biotechnology

2<sup>nd</sup> Semester

BIOT-Sem-II-VI-T: General Microbiology

Time allowed: 3 Hours

Max. Marks: 67

**NOTE:** Attempt five questions in all including Q. No.-IX (Unit-III) which is compulsory and select two questions each from Unit I-II.

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**UNIT-I**

- I. (a) Describe bright field microscope and its use.  
 (b) Describe the contribution of Louis Pasteur in the field of microbiology. (8+5.4)
- II. (a) Who discovered antibiotic and how? Name atleast five antibiotics used to treat various diseases.  
 (b) Describe the contribution of J. Lister and state Koch's postulates. (5+8.4)
- III. (a) Describe general characters of fungi.  
 (b) Differentiate between bacteria and virus. (8+5.4)
- IV. (a) Describe sporogenesis. Name bacteria undergoing sporulation.  
 (b) Draw a well labeled diagram of bacteria and describe the cell wall of G-ive bacteria. (7+6.4)

**UNIT-II**

- V. (a) Classify microorganism as per their nutritional requirements.  
 (b) Describe growth of bacteria occurring in batch culture. Differentiate between monoauxic and diauxic growth. (6+7.4)
- VI. (a) What is a synchronous growth and describe its significance in microbiology.  
 (b) Describe the importance of chemostat and its working. (6.4+7)
- VII. (a) Is there any difference between the normal micro-flora of human and animal? Discuss. Describe the normal microflora of human skin.  
 (b) Describe various cells playing important role in host defense against various pathogens. (5.4+8)

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- VIII. (a) Name various physical and chemical barriers playing important role in host defend and describe any one of it.
- (b) Describe various ways by which diseases may be transferred from one host to other. (7.4+6)

**UNIT-III**

IX. Compulsory question: -

- (a) Define:  
Infection, Disease, Sepsis, Bacteriemia
- (b) Enlist five most emerging infectious diseases.
- (c) Why endospores are resistant than vegetative cell?
- (d) Differentiate between G+ive and G-ive bacteria.
- (e) Define and name the scientist who introduced the term "Tyndalization".
- (f) Name various chemicals used as the disinfectants. Why 70% alcohol is more effective antimicrobial agent than 100% alcohol.
- (g) Define: symbiosis and antibiosis (1+2.4+1+3+2+3+1)

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