

This question paper contains 4 printed pages]

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S. No. of Question Paper : 6642

Unique Paper Code : 32531102

HC

Name of the Paper : Bacteriology

Name of the Course : B.Sc. (Hons.) Microbiology

Semester : I

Duration : 3 Hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

Attempt any five questions.

All questions carry equal marks.

1. (a) Give an example of the following (any 8) :  $1 \times 8 = 8$
- (i) Sterol like component in cell membrane
  - (ii) Largest bacterium
  - (iii) Bacterium having membrane bound nucleoid
  - (iv) Bacterium having endoflagella
  - (v) Enzyme acting on bacterial cell wall
  - (vi) Barophilic bacterium
  - (vii) Enrichment medium
  - (viii) Symbiotic nitrogen fixing bacterium
  - (ix) Bioinsecticide bacterium.

P.T.O.

- (b) Why oil immersion lens is used in light microscopy ? 3
- (c) Make a well labeled diagram of Gram negative cell wall. 4
2. (a) Define the following terms (any 8) : 1×8=8  
 Generation time, VBNC, Lyophilization, Halophile, Magnification, Slime layer, Porins, Phototaxis, L-forms
- (b) Give the salient features of actinobacteria/actinomycetes and describe any 2 genera in detail. 4
- (c) What are the general characteristics of gamma proteobacteria ? 3
3. (a) Write short notes on the following (any 3) : 4×3=12
- (i) Bacterial growth curve
- (ii) Endospore formation
- (iii) Cultivation of anaerobic bacteria
- (iv) Molecular techniques used in bacterial classification.
- (b) What is Teichoic acid ? Give its significance. 3

4. (a) Differentiate between the following (any 3) : 4×3=12
- (i) Complex and Synthetic Media
- (ii) Eubacterial and archaebacterial cell membrane
- (iii) Polyphosphate and poly-β-hydroxy butyrate
- (iv) Sterilization and pasteurization.
- (b) Write briefly about methanogens. 3
5. (a) Give the causative organisms of the following diseases (any 6) : 1×6=6.
- (i) Syphilis
- (ii) Tetanus
- (iii) Tuberculosis
- (iv) Typhoid
- (v) Crown gall disease
- (vi) Anthrax
- (vii) Gonorrhoea.

- (b) Describe the patterns of flagellar distribution in bacteria. 4
- (c) What are disinfectants ? Give mode of action of any 2 disinfectants. 5
6. (a) Discuss nutritional classification of bacteria. 5
- (b) What is pseudomurein ? 3
- (c) What are the functions of fimbriae and sex pili ? 3
- (d) Briefly describe different types of plasmids. 4