

M.Sc. Examination, 2017
Semester-II
Biotechnology
Course – VI
(Microbiology)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer question no. **1** and **any three** from the rest.

1. Write short notes on **any five** of the following: 2×5=10
 - a) Koch's postulates
 - b) Adaptations of thermophiles for protecting their DNA
 - c) Properties of exotoxins
 - d) Vancomycin as an antibiotic
 - e) LD 50 and ID 50
 - f) Intoxication and infection
 - g) Toxoid and its use
 - h) Leghaemoglobin
 2. Diagrammatically present the growth curve of bacteria in a batch culture and explain each phase. Describe a turbidostat. 6+4=10
 3.
 - a) Mention the properties of protozoa.
 - b) Give an account of the properties of actinomycetes for which it can be called as bacteria.
 - c) Give an account of the adaptations of halophiles to live in their zone of tolerance.4+3+3=10
 4.
 - a) Describe the mechanism of sterilization using UV and gamma-rays.
 - b) Give an account of the salient features of slime moulds
 - c) Describe different methods of pasteurization of milk.3+4+3=10
 5.
 - a) Discuss the natural regulations of nitrogen fixation in microorganisms.
 - b) Mention three methods of preservation of fungal isolates for future use.
 - c) Discuss the different ways through which a bacterial pathogen enters human body.3+3+4=10
 6.
 - a) Give an account of the economic importances of algae.
 - b) Mention different ways through which bacteria become drug resistant.
 - c) How does Cephalosporin kill bacteria?4+4+2=10
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