

2055

Bachelor of Science (FYUP) Second Semester
Bio-Technology

Paper: Fundamentals of Biotechnology - II

Time allowed: 3 Hours

Max. Marks: 68

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

X-X-X

I. Attempt the following :

- a) What are primary metabolites?
- b) What are Eubacteria?
- c) Define endospore.
- d) What is an epimer?
- e) What is pH?
- f) What are storage lipids?

(6x2)

UNIT - I

- II. a) Discuss the contributions of A. Leewenhock towards microbiology.
b) Discuss Koch's postulates to establish relationship between microbe and disease. (8,6)
- III. a) Describe the basics of phase contrast microscope.
b) Discuss different criteria for microbial identification. (6,8)

UNIT - II

- IV. a) Discuss methods to isolate pure microbial culture.
b) Discuss the constituents of complex microbial culture medium. (2x7)
- V. a) Discuss the significance of antibiotics secreted as secondary microbial metabolites.
b) Discuss the structure and function of bacterial endospores. (2x7)

UNIT - III

- VI. a) Discuss physicochemical characteristics of water.
b) Discuss structure and function of starch. (2x7)
- VII. a) Discuss the structural components of peptidoglycan.
b) Discuss the structural features of DNA. (2x7)

UNIT - IV

- VIII. a) Discuss the classification of proteins based on their biological functions.
b) Discuss the types of molecular interactions in secondary protein structure. (2x7)
- IX. Discuss the classification and biological function of phosphoglycerides. (14)

X-X-X