

2056
Bachelor of Science (FYUP) Second Semester
Biotechnology
Paper: Fundamentals of Biotechnology - II (Old)

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. Draw well defined diagram wherever required.

x-x-x

I. Answer the following:-

- a) Write down contribution of R Koach.
- b) Draw structure of bacterial cell wall.
- c) Name any two secondary metabolites producing microorganisms.
- d) Differentiate between DNA & RNA.
- e) Classify amino acids.
- f) Write down the function of phosphoglycerides. (6x2)

UNIT - I

- II. (a) Mention contribution of any two scientists in the fields of microbiology.
(b) Briefly describe fluorescent microscopy. (2x7)
- III. (a) Explain techniques of microbial identification.
(b) Briefly describe bright field microscopy. (2x7)

UNIT - II

- IV. (a) Define pure culture. Describe different techniques of isolation of pure culture.
(b) Compare and contrast primary and secondary metabolites and their commercial use. (2x7)
- V. (a) Explain preservation techniques of preservation of microorganisms?
(b) Describe bacterial endospores staining technique. (2x7)

UNIT - III

- VI. (a) Explain physicochemical properties of water.
(b) Explain structure of polysaccharides and glycolipids. (2x7)
- VII. (a) Discuss different types of sugars with suitable examples.
(b) What is nucleic acid? Draw and explain structure of DNA? (2x7)

UNIT - IV

- VIII. (a) Define enzymes and explain different biological functions of enzyme with examples.
(b) Classify proteins on the basis of their structure. (2x7)
- IX. (a) Explain different types of lipids with suitable examples.
(b) Discuss the role of acylglycerols and sphingolipids. (2x7)

x-x-x