

(3 Hours)

Total marks: 80

- N.B.: (1) Question No 1 is compulsory
(2) Attempt any three questions out of remaining five questions
(3) Assume suitable data if necessary and indicate it clearly.
(4) Figures to the right indicate full marks.

- Q1. Write short notes on any four. 20
a) Modern biotechnology
b) RNA structure and its function.
c) Bioinformatics
d) Surface Immobilization
e) Cell fusion technology
- Q2. a) Give the classification of microorganism. Differentiate between prokaryotes and eukaryotes in terms of their internal structure and functions. 10
b) i) Give the difference between micronutrients and macronutrients 5
ii) Why biotechnology is an interdisciplinary pursuit? 5
- Q3. a) With suitable diagram explain stages in production of liquid enzyme preparation. 10
b) What is enzyme immobilization? Describe briefly the various methods of enzyme immobilization. 10
- Q4. a) Explain the Industrial Application of Enzymes 10
b) What is the impact of pharmaceuticals and biopharmaceuticals product on human life? 10
- Q5. Explain any two from the following:- 20
i. Dialysis and Reverse osmosis
ii. Chromatography
iii. Crystallization and drying
- Q6. Explain application of Biotechnology in the following 20
i. Food and Beverages
ii. Agriculture
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