

CBCS SCHEME

18BT651



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Sixth Semester B.E. Degree Examination, June/July 2024 Biology for Engineers

Max. Marks: 100

Time: 3 hrs.

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. State five suitable examples that explain Bioengineering concepts. (10 Marks)
b. With a neat labeled diagram, explain the cell organelle that synthesizes proteins. (10 Marks)

OR

- 2 a. State and explain any 5 factors that affect the growth of cells. (10 Marks)
b. Stem cells are used in therapies. Justify. (10 Marks)

Module-2

- 3 a. With suitable examples, explain the Biomolecules. (10 Marks)
b. Explain the Central dogma of biology. (10 Marks)

OR

- 4 a. Give a brief description about vitamins and its types. (10 Marks)
b. Explain the different conformations of Proteins. (10 Marks)

Module-3

- 5 a. Enzyme action with the substrate and molecules is explained by 2 important hypotheses. (10 Marks)
b. State the applications of cellulose in textile and paper industries. (10 Marks)

OR

- 6 a. Enumerate the classification of Enzymes with suitable examples. (10 Marks)
b. Describe the applications of amylase in baking industry and proteases in leather industry. (10 Marks)

Module-4

- 7 a. Detail the need for biomaterials and explain the properties that biomaterial needs to possess. (10 Marks)
b. Delineate the applications of Gelatin that is used as a biomaterial. (10 Marks)

OR

- 8 a. Explain the characteristics of Biomaterial used in Wound healing. (10 Marks)
b. Describe atleast 4 methods of Surface Immobilization of Biomaterials. (10 Marks)

Module-5

- 9 a. With suitable examples, detail the concept of biodesigns in Medical applications. (10 Marks)
b. Describe Electrical tongue and Electrical nose. (10 Marks)

OR

- 10 a. Describe Bioremediation with examples. (10 Marks)
b. Bioprinting techniques are used to recreate body parts / organs. Justify. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.