

5495058

B.Tech. DEGREE EXAMINATION, SEPTEMBER 2020.

Fifth Semester

Biomedical Engineering

Elective : ELEMENTS OF BIOTECHNOLOGY

(From 2013–14 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What is biotechnology?
2. Classify microorganism.
3. Write the applications of enzymes.
4. Give the function of protein.
5. What is an antibiotic? Name some antibiotic.
6. Define microbial ecology.
7. What is industrial genetics?

8. Mention the technique of cutting DNA molecules.
9. Give some uses of plant cell culture.
10. What is the impact of biotechnology in food and beverage industry?

PART B — (5 × 11 = 55 marks)

Answer ONE question from each Unit.

UNIT I.

11. Explain the functions of cell organelles and explain the metabolism of cells. (11)

Or

12. With a neat sketch explain the structure and functions of RNA. (11)

UNIT II

13. Explain the different stages in the production of liquid enzyme preparation. (11)

Or

14. Discuss the techniques used for enzyme immobilization. (11)

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UNIT III

15. Discuss the development of vaccines and the significance of monoclonal antibodies. (11)

Or

16. Describe the stages of sewage treatment in the biological disposal of organic wastes. (11)

UNIT IV

17. Explain the different stages of formation of antibody producing hybridomas by fusion techniques. (11)

Or

18. Discuss about the protoplast and cell fusion technology used in genetic engineering. (11)

UNIT V

19. Explain how food and beverage fermentation is done using biotechnology methods. (11)

Or

20. Discuss about the diagnostic methods used in plant agriculture. (11)

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