

18. Describe in detail about the biodiesel production from microalgae.
19. With neat diagram explain the basic principle of recombinant DNA technology.
20. Explain in detail on various steps involved in the production of the microbial biofertilizers.

S.No. 5670

RCCSMB 10

(For candidates admitted from 2008–2015 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Microbiology – Major

MICROBIAL BIOTECHNOLOGY

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. Differentiate traditional and modern biotechnology.
2. Name the subjects which formed the roots of biotechnology.
3. Enlist the commonly employed techniques for immobilization of enzymes
4. What are enzymes? Why are they called biocatalyst?
5. List any four pharmaceutical products produced from microalgae source.

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6. Enlist the applications of microalgae Chlorella.
7. What is rDNA?
8. Which is a genetic vector?
9. What is VAM fertilizer?
10. What is gene therapy?

PART B — (5 × 5 = 25)

Answer ALL questions, choosing either (a) or (b).

11. (a) List five selected definitions for biotechnology.

Or

- (b) Briefly explain the basic concepts of biotechnology.

12. (a) What are industrial enzymes? Give commercial application of any two enzymes with their source.

Or

- (b) What are the advantages of immobilized enzymes? Explain.

13. (a) How microalgae act as potential source for food and supplement? Explain.

Or

- (b) Discuss in brief about the role of microalgae products of pharmaceutical value.

14. (a) What are restriction enzymes? How do these enzymes participate in the recombinant DNA technology?

Or

- (b) Write in brief about production of Human Growth Hormones using rDNA technology.

15. (a) Write an essay on production of mushroom.

Or

- (b) Give two examples of microorganisms used as bioinsecticides and discuss the advantage of bioinsecticides over chemical insecticides.

PART C — (3 × 10 = 30)

Answer any THREE questions.

16. Write a historical overview of chronological development of fermentation process.
17. Enlist the methods of immobilization of enzymes and explain each in brief with suitable example.