Reg. No. : | | | | | | | | | | |

T 3096

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Third Semester

Bio Technology

BT 1204 — MICROBIOLOGY

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is phase contrast microscopy?

2. What is meant by the limit of resolution in microscopy?

3. Give an account on Coli phage.

4. What is bacterial chemotaxis?

5. What is synchronous growth?

6. Give the significance of glyoxylate cycle in microorganisms.

7. Write the mode of action of phenol and phenolic compounds on microorganisms.

8. Name two antifungal antibiotics and mention their mode of action.

9. What are secondary metabolites? Give two examples with their producers.

10. What is the use of biosensors?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss the classification and nomenclature of microorganisms in detail.

Or

(b) Explain the principle and applications of electron microscopy to study microrganisms.

12. (a) Describe the structures external to the cell wall of bacteria and give their significance.

Or

(b) Discuss the mode of multiplication of fungi with two examples and add a note on Mycorrhiza.

13. (a) Explain the different methods available to quantitate the bacterial growth.

Or

(b) Explain how the bio–energy is utilized for the biosynthesis of small and macro molecules in microorganisms.

14. (a) Discuss all the physical methods used for the control of microorganisms.

Or

(b) Describe the process of inhibition of the synthesis of nucleic acids and proteins by any four antibiotics. Explain how the resistance is developed to antibiotics.

15. (a) Elaborate the industrial use of microorganisms for the production of penicillin and vitamin B–12.

Or

(b) Explain the use of various microorganisms as bio–fertilizers, bio–pesticides and bio–preservatives with suitable examples.