

A 312

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Third Semester

Industrial Biotechnology

IB 234 — MICROBIOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the applications of Dark field microscopy?
2. Differentiate peptidoglycan and teichoic acid.
3. What are complex media? Give example.
4. Write a note on inclusion bodies.
5. Explain dimorphic fungi with example.
6. Distinguish sanitization from disinfectant.
7. Write a note on glycopeptide antibiotics.
8. What are endotoxins?
9. Define bioremediation.
10. Define secondary metabolites.

PART B — (5 × 16 = 80 marks)

11. (i) Why does transmission electron microscopy have much greater resolution than the light microscopy?
(ii) Describe the principle of Scanning Electron Microscopy and fluorescent microscopy.

12. (a) Explain the prokaryotic cell organization in detail.

Or

(b) Discuss the various ways adopted to measure microbial growth.

13. (a) Write notes on :

(i) Heat as sterilizing agent

(ii) Sterilization by radiation

(iii) Halogens as sterilization agents.

Or

(b) Discuss in detail :

(i) phenol coefficient method

(ii) antiviral drugs.

14. (a) (i) Explain the difference between photosynthesis of cyanobacteria and photosynthetic bacteria.

(ii) Write a note on Entner Doudroff pathway.

Or

(b) Discuss the etiology (atleast TWO for each) and pathogenesis of the following :

(i) pneumonia

(ii) diarrhoea

(iii) meningitis

(iv) urinary tract infection.

15. (a) Discuss the various metabolic process involved in Nitrogen cycle.

Or

(b) Discuss the following :

(i) microorganisms used as biopesticide

(ii) microorganism in ore leaching.