

A 315

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

Third Semester

Industrial Biotechnology

IB 237 – BASIC INDUSTRIAL BIOTECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are primary and secondary metabolites?
2. Write the applications of proteases.
3. Define Algalization.
4. What are biopesticides? Give an example.
5. Define Bioremediation.
6. Write the advantage of biological methods of waste treatment.
7. What are recombinant proteins?
8. Write the importance of macrolides.
9. What are wild and type strains?
10. What is downstream processing?

PART B — (5 × 16 = 80 marks)

11. (i) Give a detailed account of formulation of growth medium and fermentation process of penicillin. (10)
- (ii) How are anaerobes used for waste treatment (6)
12. (a) What is single cell protein? What are the types of micro organisms used for its production and write its nutritional value.

Or

- (b) (i) Azolla is a member of water fern; why is it called as biofertilizer but not other water ferns. (4)
- (ii) Discuss in detail about rhizobial inoculants, its identification, mass production and field application. (12)
13. (a) Discuss the bio chemical pathways of organic acid production with special reference to citric acid.

Or

- (b) Write short notes on
- (i) Cryobiology
- (ii) Germplasm bank
- (iii) Gene bank
- (iv) Stages of cryopreservation.
14. (a) Write short notes on
- (i) Ex situ bioremediation
- (ii) Production of SCP on sewage water
- (iii) Hazards of GMMs released in environment
- (iv) Biodegradation of xenobiotics.

Or

- (b) Write in detail the method of production of aspartic acid and lipases.
15. (a) What is an UASB reactor? Discuss various stages of operation and application of UASB.

Or

- (b) (i) What are recombinant proteins? How are they produced? (8)
- (ii) What are biopolymers? Name any two organisms producing biopolymers. Discuss the type of polymers produced using microbes. (8)