

**I B.Tech Supplementary Examinations, November/December 2005**  
**FUNDAMENTALS OF BIOLOGY**  
**(Bio-Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Explain the organization of the shoot-apex. [16]
2. Describe the economic importance of medicinal plants. [16]
3. Describe the adaptations of animals to aquatic life. [16]
4. Write an essay on aquaculture. [16]
5. Describe the host-parasite interactions and explain the pathological effects of parasites to the hosts. [16]
6. What are the applications of genetic engineering in animal biotechnology? [16]
7. Write any two of the following:
  - (a) Morphological characters of micro organisms.
  - (b) Microbial bio diversity
  - (c) Microbial ecology. [8+8]
8. Define bio indicator Describe the significance of bio indicators. [16]

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1. Describe the procedure of production of suspension cultures. [16]
2. Describe the economic importance of medicinal plants. [16]
3. Discuss the main characteristics of Non-chordate. [16]
4. Write an essay on aquaculture. [16]
5. Explain the ELISA technique for detection of antibodies produced by experimental immunization. [16]
6. What are the common cell lines obtainable from culture collections. [16]
7. Give the general characters of algae and explain the useful and harmful effects of algae. [16]
8. Give a detailed account on microbial production of plastics. [16]

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1. Bryophytes are described as Amphibians of plant kingdom. Discuss. [16]
2. Describe the economic importance of medicinal plants. [16]
3. Define species and explain in detail the process of speciation. [16]
4. Give an account of Brackish water fisheries on India. [16]
5. Explain the ELISA technique for detection of antibodies produced by experimental immunization. [16]
6. What are the commonly used culture media for cell culture? And what are the components of a typical culture medium. [16]
7. Write any two of the following:
  - (a) Fungi
  - (b) Algae
  - (c) Protozoa. [8+8]
8. Define bio sensor and describe the applications of biosensors. [16]

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1. Describe the characteristics of living organisms and explain their classification. [16]
2. List out the various secondary metabolites produced by plants. [16]
3. Describe the adaptations of animals to aquatic life. [16]
4. Write an essay on aquaculture. [16]
5. Explain the ELISA technique for detection of antibodies produced by experimental immunization. [16]
6. Write short notes on:
  - (a) Transformed cells
  - (b) Embryonic stem cells
  - (c) Adult stem cells
  - (d) Animal cell types [8+8]
7. Write any two of the following:
  - (a) Morphological characters of micro organisms.
  - (b) Microbial bio diversity
  - (c) Microbial ecology. [8+8]
8. What is a bio polyester? Describe the advantages and disadvantages of bio polyesters. [16]

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