

Code No: 09A1BS06

R09

Set No. 2

I B.Tech Examinations, December-January, 2011-2012

FUNDAMENTALS OF BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

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

1. What is the Calvin cycle and what is its relationship to autotrophy? What is the key enzyme involved in autotrophic CO₂ fixation in most organisms? [15]
2. How does Fasciolopsis buski as a parasite affect man? Explain pathology in detail. [15]
3. Describe the different parts of digestive system with their functions. [15]
4. Describe the kingdom Monera and give its characteristic features. [15]
5. Write short notes on any TWO of the following:
 - (a) GM foods
 - (b) Biosensors
 - (c) Plantibodies. [7+8]
6. Explain how plant growth regulators are used to induce in vitro rooting of shoots. [15]
7. How is the information stored in DNA changed into structural and functional proteins? [15]
8. Describe the accessory structures of the eye? Explain their function. [15]

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Set No. 4

I B.Tech Examinations, December-January, 2011-2012
FUNDAMENTALS OF BIOLOGY
Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. What are bio-fertilizers? Name some of the bio-fertilizers and write the significance of bio-fertilizers. [15]
2. Elucidate the salient features of Bryophyta and briefly explain the life cycle of these organisms with an example. [15]
3. Explain in detail :
 - (a) Chargaff 's rule
 - (b) TATA Box. [8+7]
4. Explain the structure of phylum vertebra and dwell on the role of different skeleton found in these animals. [15]
5. Describe different parts of ear with neat diagram. Explain the mechanism of hearing. [15]
6. What is a virus? Explain the structure and function of virus with an example. [15]
7. Classify WBC and the percentage of each found in circulation. Briefly describe their functions. [15]
8. "Chlorophyll traps solar radiation"-explain the process and the benefit of the end product formed. [15]

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Set No. 1

I B.Tech Examinations, December-January, 2011-2012

FUNDAMENTALS OF BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

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

1. What are the different types of flagellar forms of bacteria? Explain their function using suitable diagrams. [15]
2. (a) Describe the basic characteristics of nerve tissues.
(b) How does a tissue can be classified? Discuss each one in briefly. [7+8]
3. Write short notes on:-
 - (a) Apices
 - (b) Primary meristems
 - (c) Secondary meristems
 - (d) Cambium . [15]
4. How is the precious and fragile genetic material of an organism replicated during cell division? Explain. [15]
5. Explain
 - (a) Kranz anatomy and its significance in C₄ photosynthesis
 - (b) fixation of CO₂ in mesophyll cells of C₄ plants. [7+8]
6. Give an account on
 - (a) Sensation of hearing
 - (b) Sensation of smell
 - (c) Sensation of taste. [6+5+4]
7. How can transgenic animals be used to produce drugs and chemicals of importance? [15]
8. What are the factors affecting human population density? Explain the role of each factor in causing the effect. [15]

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Set No. 3

I B.Tech Examinations, December-January, 2011-2012

FUNDAMENTALS OF BIOLOGY

Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Draw a neat labeled diagram of
 - (a) Cross section of eye
 - (b) Ear. [8+7]
2. Write brief notes on :-
 - (a) Gametophyte of Funaria or Moss
 - (b) Primary and secondary protonema
 - (c) Sporophyte of funaria.
 - (d) Fertilization in funaria. [15]
3. Give suitable examples and explain how microorganisms can serve as biosensors and bio-indicators. [15]
4. Describe the structure of villus of small intestine with neat labeled diagram. [15]
5. Explain non cyclic photo phosphorylation. [15]
6. Write short notes on :-
 - (a) Sexual dimorphism
 - (b) Polymorphism
 - (c) Variety and tribes in a species.
 - (d) Developmental stages in a life cycle of animals. [15]
7. When an RNA virus infects its host whose genome is made of DNA, explain how the infection is possible? What are the mechanisms involved in successfully integrating the viral genome into host. [15]
8. Give a list of harmful microorganisms and briefly write about some of the common diseases they cause in other organisms. [15]
