

Code No: R050212305

Set No. 1

II B.Tech I Semester Regular Examinations, November 2006

MICROBIOLOGY

(Bio-Technology)

Time: 3 hours

Max Marks: 80

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

1. Why are microorganisms so useful to biologists as experimental models? [16]
2. Give an account of Cyanobacteria and their importance. [16]
3. Describe with suitable examples viruses of Arthropods. [16]
4. How does a bacteriophage introduce its nucleic acid into host cell. [16]
5. Discuss different types of assay methods for viruses. [16]
6. Define growth. Describe the four phases of growth curve in a closed system and discuss the causes of each. [16]
7. Write the effect of the following environmental factors on the growth of microorganisms.
 - (a) Solutes.
 - (b) PH
 - (c) Oxygen
 - (d) Osmotic pressure. [4+4+4+4]
8. Discuss about the commonly used antimicrobial drugs and their uses. [16]

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Set No. 2

II B.Tech I Semester Regular Examinations, November 2006

MICROBIOLOGY

(Bio-Technology)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Describe the contributions of the following people in the development of microbiology a) John Tyndall b) Alexander Fleming c) John Needham d) Francisco Redi. [4+4+4+4]
2. Explain the polyphasic taxonomy in Prokaryotes. [16]
3. How is viral taxonomy different from bacterial taxonomy? [16]
4. Explain the entry of viruses into host cells. [16]
5. Discuss various types of culture techniques of viruses. [16]
6. What are nutrients? Describe major nutritional types of microorganisms. [16]
7. Define water activity and briefly discuss how it can be determined. Why is it difficult for microorganisms to grow at low water activity (a_w) values. [16]
8. How can you alter treatment conditions to increase the effectiveness of a disinfectant. [16]

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Set No. 3

II B.Tech I Semester Regular Examinations, November 2006

MICROBIOLOGY

(Bio-Technology)

Time: 3 hours

Max Marks: 80

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

1. How can you say that Koch's postulates are guidelines in identification of causative agent in disease? [16]
2. Give an account of Cyanobacteria and their importance. [16]
3. Explain why some single stranded RNA viruses have +ve strands while others have -ve strands. [16]
4. Explain the replication pathways of a bacteriophage. [16]
5. What is a virus? Discuss various types of viral infections. [16]
6. What are nutrients? Describe major nutritional types of microorganisms. [16]
7. Write short notes on:
 - (a) Fixation.
 - (b) Simple staining.
 - (c) Dye
 - (d) Preservation. [4+4+4+4]
8. What are the factors affecting sterilization and disinfection. [16]

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Set No. 4

II B.Tech I Semester Regular Examinations, November 2006

MICROBIOLOGY

(Bio-Technology)

Time: 3 hours

Max Marks: 80

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

1. Discuss briefly Sergei Winogradsky technique in isolation of microorganisms. [16]
2. Write about the molecular chronometers and signature sequences used in the classification of organisms. [16]
3. What is 'hepatitis'? Explain about hepatitis viruses. [16]
4. How does a bacteriophage introduce its nucleic acid into host cell. [16]
5. Write about the following:
 - (a) Tissue culture cultivation of viruses.
 - (b) Bacterial culture of viruses. [8+8]
6. What are nutrients? Describe major nutritional types of microorganisms. [16]
7. Explain the influence of environmental factors on growth of microorganisms. [16]
8. Briefly explain how the effectiveness of antimicrobial agents varies with population size, population composition, concentration or intensity of the agent, treatment duration, temperature and local environmental conditions. [16]
