

Code.No: A109212304

R09

SET-1

**II B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010**  
**MICROBIOLOGY**  
**(BIOTECHNOLOGY)**

**Time: 3hours**

**Max.Marks:75**

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

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1. Discuss the contributions of Pasteur of Koch to the germ theory of diseases of to the prevention of diseases. [15]
- 2.a) On what three major criteria did whittaker divide organisms into five kingdom system.  
b) Discuss the use of Gtc content in Microbial taxonomy. [8+7]
3. Write an account of the nutrition of bacteria. [15]
4. Explain the effect of temperature and osmotic pressure on microbial growth. [15]
5. Enumerate the steps involved in pathogenesis of vival diseases. [15]
- 6.a) Explain the structure of TMV.  
b) Add a note on applications of phages. [10+5]
7. Briefly describe the replication process in ds DNA bacteriophage. [15]
8. Discuss the different ways in which viruses may be cultivated. [15]

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SET-2

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**(BIOTECHNOLOGY)**

**Time: 3hours**

**Max.Marks:75**

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

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1. Write the various methods involved in identification of micro organisms. [15]
2. Write short notes on
  - a) Phylogenetic trees
  - b) General characters of Archea & Eubacteria. [15]
3. What are growth factors? Explain their functions in microbial metabolism. [15]
4. Describe the various methods involved in preservation of microbes. Add a note on their limitations. [15]
5. What steps are involved in the infection process & pathogenesis of bacterial diseases? [15]
6. Comment on the following
  - a) Structure of T – even bacteriophage
  - b) Structure of POX viruses. [15]
7. How does reproduction take place in Retroviruses? [15]
8. What are the various approaches used for purification of viruses. [15]

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SET-3

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**Time: 3hours**

**Max.Marks:75**

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

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1. Briefly discuss the theory of spontaneous generation & germ theory of diseases. [15]
2. Explain the various classical characteristics used in classification of microorganisms. [15]
3. Discuss the techniques used in isolation of pure cultures. Add a note on importance of pure cultures. [15]
4. Write short notes on
  - a) Cryopreservation
  - b) IMVIC tests. [15]
5. Describe the characteristic features of exotoxins & discuss the mechanisms by which exotoxins can damage cells. [15]
6. Write the classification of plant viruses based on their structure, symmetry and kind of genoma. [15]
7. Explain the DNA replication in temperate bacteriophage. [15]
8. Briefly describe the methods involved in findings virus concentration. [15]

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SET-4

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**MICROBIOLOGY**  
**(BIOTECHNOLOGY)**

**Time: 3hours**

**Max.Marks:75**

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

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1. Discuss the major contributions and events in the field of microbiology. [15]
2. Explain the molecular characteristics used in classifying microbes. [15]
3. Write in detail the special techniques involved for cultivation of anaerobes. [15]
4. Comment on the effect of solutes, PH of Oxygen on the growth of microbes. [15]
5. Describe the symptoms associated with influenza and the course of infection. Add a note on its control. [15]
6. Discuss the replication process of animal viruses giving example. [15]
7. Explain the structure of ds DNA plant viruses giving example. [15]
8. Briefly describe invitro cultivation of viruses. [15]

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