

Code No: A109212304

**R09**

**Set No. 2**

II B.Tech I Semester Examinations, May/June 2012

**MICROBIOLOGY**

**Bio-Technology**

**Time: 3 hours**

**Max Marks: 75**

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

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1. What features distinguish a bacteriophage from a bacterium? Discuss. [15]
2. Discuss:
  - (a) Effect of pH on microbial growth.
  - (b) Indole production test. [8+7]
3. List out the various means by which the pathogenic microorganisms can infect the human body. [15]
4. Compare and contrast the mode of replication of viral genome at different sites in the host organism such as the cytoplasm and nucleus. [15]
5. Briefly discuss the characteristics that differentiate Eubacteria from Archaeobacteria. [15]
6. How can Western and Southern blot be useful in Virology disease detection? [15]
7. What are the major groups for broadly classifying the Microbial Diversity? [15]
8. Explain the difference between enriched media and enrichment media. Explain with suitable examples. [15]

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**Set No. 4**

II B.Tech I Semester Examinations, May/June 2012

**MICROBIOLOGY**

**Bio-Technology**

**Time: 3 hours**

**Max Marks: 75**

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

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1. Explain in detail typical retroviral replication using an example. [15]
2. Write about the contributions of the following scientists in the field of Microbiology
  - (a) Antony Van Leeuwenhoek
  - (b) Louis Pasteur
  - (c) Robert Koch [5+5+5]
3. What is meant by culture media? Differentiate between synthetic and complex medias. [15]
4. Explain why Icosahedrons is considered to be the basic structure for all cubic viruses. [15]
5. Briefly discuss about the different methods used for preservation of microorganisms. [15]
6. Give two examples of the bacteria that produce anti phagocytic factors. What role do bacteriophages play in the toxigenicity of *Cornebacterium*, diphtheria? [15]
7. Describe the classification system based on evolutionary relationships. [15]
8. How are molecular methods utilized in the detection of phages? [15]

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**Set No. 1**

II B.Tech I Semester Examinations, May/June 2012

**MICROBIOLOGY**

**Bio-Technology**

**Time: 3 hours**

**Max Marks: 75**

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

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1. Define the following terms with suitable examples:
  - (a) Pathogenic
  - (b) Avirulent
  - (c) Virulent
  - (d) Attenuated. [15]
2. (a) Describe the medical importance of prions and viroids.  
(b) What is meant when it is said that a virus is in an inactive state? [7+8]
3. Write notes on
  - (a) Synthetic and complex media
  - (b) Glycolysis. [8+7]
4. (a) How do cells deal with the oxidative free radicals generated during respiration?  
(b) Describe chemical fixatives. [8+7]
5. What are the advantages and disadvantages of primary cell cultures and continuous cell lines for the cultivation of viruses? [15]
6. Give a general account of Microbial diversity. [15]
7. What is a viral assay? Explain various methods by which this is possible. [15]
8. Describe the classification system based on physical similarities (phenotypes) between organisms. [15]

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**Set No. 3**

II B.Tech I Semester Examinations, May/June 2012

**MICROBIOLOGY**

**Bio-Technology**

**Time: 3 hours**

**Max Marks: 75**

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

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1. What are the T series of bacteriophages? Explain the process and application of page-typing. [15]
2. Explain how a prophage is activated by induction? [15]
3. Write brief notes on:
  - (a) Role of Iron and its uptake in pathogenesis
  - (b) Role of Adhesins in establishing a colony during pathogenesis. [8+7]
4. Give a brief description of the experiments carried out which favored "Theory of Spontaneous Generation". [15]
5. Discuss the role of growth factors in bacterial nutrition. How are growth factor requirements used as microbial assays? [15]
6. Explain the methods involved in analyzing the viral components in a laboratory. [15]
7. Discuss how sugar fermentations are done with Triple Sugar Iron(TSI) agar medium. [15]
8. How is science of Taxonomy useful? What are its distinguishing features? [15]

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