

Printed Pages : 2



BT-305

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 992305**

Roll No.

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**B. Tech.**(SEM. III) (ODD. SEM.) THEORY  
EXAMINATION, 2014-15**MICROBIOLOGY AND CELL BIOLOGY**

Time : 3 Hours]

[Total Marks : 100

**Note :** Attempt **all** questions.

1. Attempt any **four** parts. **5×4=20**
  - (a) Differentiate between Gram positive and Gram negative bacteria.
  - (b) What do you understand by enriched media and minimal media ?
  - (c) What are the constituents of basic nutrient media ? Also give one function each.
  - (d) Write short notes on preservation of culture.
  - (e) What do you mean by pure culture ? Explain in brief.
  - (f) How microbes can be identified ? Explain in brief.
  
2. Attempt any **two** parts. **10×2=20**
  - (a) Describe different methods for strain improvement. Discuss the role of genetic engineering in strain improvement.

- (b) What do you mean by bactericidal agents ?  
Discuss the physical and chemical agents used for control of microorganisms.
- (c) Explain in detail the bacterial growth kinetics.
3. Attempt any **four** parts. **5×4=20**
- (a) Discuss the lytic cycle of bacteriophage.
- (b) Write short notes on viroids.
- (c) What are prions ? Discuss in short.
- (d) Write short notes on classification of viruses.
- (e) What do you mean by lysogenic cycle of bacteriophage ?
- (f) What do you mean by virusoids ? Explain shortly.
4. Attempt any **two** parts. **10×2=20**
- (a) What are biofertilizers ? Discuss the role of any two biofertilizers in detail.
- (b) What is bioremediation ? Discuss two major microorganisms involved in bioremediation.
- (c) Explain biological nitrogen fixation. Name the microbes involved in N<sub>2</sub> Fixation.
5. Attempt any **two** parts. **10×2=20**
- (a) Describe the structure and function of mitochondria.  
Why it is called as powerhouse of cell ?
- (b) Discuss about benign and malignant cancer. What is the role of p 53 protein in human ?
- (c) Differentiate between mitosis and meiosis. Discuss the mitosis in detail.
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