

Printed Pages : 2



EBT-302

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

PAPER ID : 994302

Roll No.

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B. Tech.

(SEM. III) (ODD SEM.)

THEORY EXAMINATION, 2014-15

MICROBIOLOGY & CELL BIOLOGY

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all questions. All questions carry equal marks.**1** Attempt any four parts of the following **(5x4=20)**

- Explain briefly the structure and functions of bacterial cell wall.
- Write a commonly used method for isolation of pure culture of bacterium.
- Write the contributions of Pasteur and Beijerinck.
- Write the special staining techniques for microscopic identification of Microorganisms.
- Explain the biochemical methods for measurement of microbial growth.

2 Attempt any four parts of the following: **(4x5=20)**

- Discuss the anaerobic digestion process of waste water treatment.
- Draw the Bacterial growth curve and explain.
- Describe the general characters of bacteria.
- Explain microbial growth kinetics.
- Explain Lyophilization and Sterilization.

- 3** Attempt any **two** of the followings : **(2x10=20)**
- (a) Discuss the anoxygenic photosynthesis in bacteria.
 - (b) What are Biofertilizers? Discuss the various types biofertilizers used in agriculture fields.
 - (c) What is Biological Nitrogen Fixation? Write the names of microorganism involved in N₂ fixation.
- 4** Attempt any **two** of the followings : **(2x10=20)**
- (a) Write the industrial applications of microorganism.
 - (b) What are Bioremediation? Explain the various groups of microbes involve in bioremediation. Also discuss the merit and demerit of bioremediations.
 - (c) What are causal organisms? Write the name and applications of causal organisms of Typhoid, Tuberculosis, Ameobiasis, Diarrhoea and Rabies.
- 5** Attempt any two parts of the following **(2x10=20)**
- (a) What is protein targeting? Discuss about the signal hypothesis.
 - (b) Describe the process of aging. Comment on the different theories of aging.
 - (c) Give a detailed account of the different stages involved in the cell cycle.
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