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GIET UNIVERSITY, GUNUPUR – 765022

M. Tech (First Semester – Regular) Examinations, June – 2021 MPEBT1051 - Advanced Microbiology and Microbial Techniques (Biotechnology)

Time: 2 hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A

(2 x 10 = 20 Marks)

Q1. Answer **ALL** questions

- How do you measure microbial diversity?
- What methods are presently used to classify microorganisms?
- What are considered to be the main criteria of classifying microorganisms?
- What is the generation time if 100 bacterial cells growing logarithmically for 5 hours produced 1.7×10^6 cells?
- What are the Pros and Cons of measuring cells using Coulter counter?
- How will you measure cell turbidity using spectrophotometer?
- Differentiate dry curing and wet curing forms of salting in food preservation.
- What are obligate pathogens? Give example
- What is the principle behind capsular staining?
- What is a differential medium?

PART – B

(6 x 5 = 30 Marks)

Answer **ANY FIVE** questions

Marks

- Explain the structural organization of bacteria. (6)
- Describe the growth kinetics of microbial cells in batch culture (6)
- Explain the screening and optimization of protease production with a neat flow chart. (6)
- Elaborate any three human pathogen viruses and its action against the host cells. (6)
- Write in detail about any five methods of food preservation. (6)
- Describe the nutritional requirements of bacterial growth in culture. (6)
- Explain the methods of Gram's staining and acid fast staining. (6)

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