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Total Number of Pages : 01

M.TECH

AR-19

M.TECH 1ST SEMESTER EXAMINATIONS NOV/DEC 2019

Biotechnology , MPEBT1051

ADVANCED MICROBIOLOGY AND IMMUNOLOGY

Time: 3 Hours

Max Marks : 70

The figures in the right hand margin indicate marks.

PART-A

(10 X 2=20 MARKS)

1. Answer the following questions.

- a) Distinguish between primary and secondary metabolites. Give one example for each?
- b) List the industrially useful microorganisms?
- c) Write two functions of microbial production of amylases?
- d) What is acquired immunity?
- e) Name two techniques used for strain improvement?
- f) Define adjuvent?
- g) What is the role of penicillin acylase?
- h)What are the factors responsible to enhance the stability of enzymes?
- i) What are immunogens?
- j) Give two application of enzyme based biosensor?

PART-B

(5 X 10=50 MARKS)

Answer any five questions from the following.

Q:2.a) Give a brief account on primary and secondary immune response?

b) Discuss about the factors affecting downstream processing and recovery of ethanol?

Q:3.a) Describe the structure of immunoglobulin molecules of five major classes and write their functions ?

b) Write the construction of transgenic mice along with application?

Q: 4.a) comment on cell cytotoxicity assay and how to measure it?

b) Write a notes on enzyme based biosensor?

Q:5.a) Explain about temperature Gradient Gel Electrophoresis (TGGE) ?

b) Discuss about microbial growth and kinetics?

Q: 6.Discuss in detail about the production, recovery, stability and formulation of amylase enzyme?

Q:7.a) Write a notes on flow cytometry with significance ?

b) Explain about the technique ELISA?

Q:8.a) Write a notes on complement system?

b) Discuss about the principle and application of immune fluorescence?