

2125
M. E. (Bio-Technology)
First Semester
ME-BIO-103: Microbial Biotechnology

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer the following briefly:-

- a) Name the production strains of propionic acid and beta carotene.
- b) Why are GMPs needed?
- c) What do you mean by stabilization of waste? What are its indicators?
- d) Name one thermophile and one psychrophile.
- e) Give two modes of pest biocontrol.

(5x2)

UNIT - I

II. How can bioprospecting be helpful in the production of a thermophilic enzyme? Explain the various steps with the help of an example. (10)

III. a) Elaborate the routes of synthesis of recombinant insulin.

b) Describe the production and downstream processing of itaconic acid. (4,6)

IV. Detail the types and large-scale production of chitinase enzyme. (10)

UNIT - II

V. Describe the role of microbial biotechnology in agriculture. (10)

VI. Write short notes on:-

a) Tertiary Waste treatment

b) Copper bioleaching (5, 5)

VII. What are microbial fuels? Explain their synthesis, advantages and disadvantages. (10)

x-x-x