

2123
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. I which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Answer the following briefly:-
- Differentiate between psychrophiles and thermophiles, giving example.
 - Define eutrophication, how to counter it?
 - Mention the benefits of recombinant insulin.
 - Mention the different sources of peroxidase enzyme.
 - Write the Wood-Werkman pathway for propionic acid production. (5x2)

UNIT - I

- II. Explain the microbial production, downstream processing and applications of inulinase enzyme. (10)
- III. Describe the types, mode of action and production of chitinase enzyme. (10)
- IV. Elaborate on the scope and technique of bioprospecting. (10)

UNIT - II

- V. Discuss the role of microorganisms as a sustainable agricultural technology. (10)
- VI. What are microbial fuel cells? Explain the construction of a methane cell. (10)
- VII. Write notes on the following:
- Bioleaching of ores
 - Waste management (5,5)

x-x-x