

Exam.Code:0908

Sub. Code: 33365

2015

B.E. (Biotechnology) Fourth Semester
BIO-414: Industrial Bio-Technology

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. Write reactions with molecular structures.

x-x-x

I. Attempt the following:-

- a) Write the applications of Lactic acid. (1)
- b) What is the role of sparger? (1)
- c) What is the role of baffles? (1)
- d) Write the names of crude media available for fermentation. (2)
- e) Name the organism for production of streptomycin. (1)
- f) Write the names of organisms used for production of amylases & protease. (2)
- g) Write the name of a cryoprotectant used for preservation of microbes. (1)
- h) Write the name of organism used for production of citric acid. (1)

UNIT - I

- II. Describe various components of an ideal growth medium. Also discuss the crude medias available. (10)
- III. Describe in detail the various components of a fermenter with labelled diagram, and the role of its each component. (10)
- IV. Describe various methods of culture preservation of microorganisms. (10)

UNIT - II

- V. Describe in detail the microbial production process of Penicillin. (10)
- VI. Describe various methods of enzyme immobilization. Discuss the advantages and disadvantages. (10)
- VII. How many types of amylase activity is present in microbial cultures. Write their applications. (10)

x-x-x