647510 **MSC4ft1E0112** **Seat No: _____**

M.Sc. Semester - 4 (CBCS) Examination
March/April- 2018
FERMENTATION TECHNOLOGY -2
(ELECTIVE - 1)

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que-1 Answer the following (any Seven). (14)

(a) What are different process included under down stream processing ?
(b) Enlist various factors that regulate microbial production of citric acid.
(c) Enlist applications of antibiotics.
(d) Enlist various by-products of ethanol fermentation.
(e) Outline biosynthesis of lactic acid.
(f) What is brewery ?
(g) Enlist microorganisms used for Vitamin B_{12} production with their average yields.
(h) What are the advantages of using immobilized enzymes ?
(i) State various applications of proteases.
(j) State industrial applications of microbial amylases.

Que-2 Answer the following (any Two) (14)

(a) Discuss recovery of Glutamic acid.
(b) Discuss the methods used for microbial cell disintegration.
(c) Discuss the recovery of ethanol from fermented medium.

Que-3 Answer the following. (14)

(a) Discuss the advantages of using thermophilic microbes in ethanol fermentation.
(b) Discuss various methods of cell immobilization.

OR

Que-3 Answer the following.

(a) Discuss the process for the production of penicillins.
(b) Comment on the importance of medium formulation in glutamic acid fermentation.

Que-4 Answer the following. (14)

(a) Discuss various applications of pectinases.
(b) Describe microbial production of xanthan.

Que-5 Write a short note on (any Two) (14)

(a) Semi-synthetic Penicillins
(b) Down-stream processing
(c) Vitamin B_{12} recovery
(d) Enzyme-based detergents and bleaching agents

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