

**T. Y. B. SC. (BIOTECHNOLOGY) SEM – VI (CBCS - 2015
COURSE) : SUMMER - 2018**

Subject: Bioprocess Technology & Quality Control

Day: **Monday**
Date: **09/04/2018**

S-2018-1063

Time: **10.00 am to 01.00 pm**
Max. Marks: 60

N.B.:

- 1) Q1 and Q5 are compulsory.
- 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
- 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
- 4) Answers to Both the sections to be written in SEPARATE answer books.
- 5) Draw a labeled diagram WHEREVER necessary.

SECTION - 01

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) What do mean by upstream and downstream processing?
- b) How the culture preservation is carried out by using liquid Nitrogen?
- c) What is submerged and surface fermentation?
- d) What is Protoplast fusion technique?
- e) Enlist various parts of fermenter
- f) What are baffles? Mention its role.

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Explain strain improvement technique by isolation of auxotrophic mutants.
- b) How isolation of industrially important microorganisms with desired characteristics is carried out?

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Continuous fermentation
- b) Explain measurement and control of pH and temperature during fermentation

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) Role of Chelators and Minerals
- b) Sparger

SECTION - 02

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) What are antifoam probes?
- b) What is the role of impeller in fermenter?
- c) How cell disruption is carried out by detergents?
- d) Mention the significance of Gel permeation chromatography in product recovery
- e) What do you mean by downstream processing?
- f) What do you mean by QA, QC?

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) What is solid state fermentation? Mention its significance.
- b) Explain solvent recovery by distillation

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Explain Fluidized bed reactor and its applications
- b) Write SOP for Good documentation.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Liquid-liquid extraction
- b) Batch filters
