

**T. Y. B. Sc. (Biotechnology) SEM – VI (2010 COURSE) : WINTER -
2018**

SUBJECT: INDUSTRIAL BIOTECHNOLOGY

Day : Saturday
Date : 20/10/2018

W-2018-1201

Time 10.00 AM TO 01.00 PM
Max.Marks:80

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to both the sections should be written in the **SEPARATE** answer book.

SECTION –I

- Q.1 A)** Answer **ANY ONE** of the following: **(06)**
- i) What is primary screening? Discuss the steps in primary screening.
 - ii) Discuss industrial fermentation of Amylase in brief.
- B)** Answer **ANY FIVE** of the following: **(10)**
- i) What are the criteria for selection of industrially important microorganisms?
 - ii) What are the components of fermentation process?
 - iii) What is inoculum development?
 - iv) What is the world scenario of enzyme fermentation?
 - v) What is the role of chelators in fermentation media?
 - vi) Mention criteria for selecting raw materials for formulation of fermentation media.
- Q.2 A)** Write short notes on **ANY FOUR** of the following: **(16)**
- i) Preservation methods of industrially important microorganisms.
 - ii) Nitrogen sources in fermentation media.
 - iii) Antifoam agents
 - iv) Inoculum development of bacteria
 - v) Solid state fermentation.

SECTION –II

- Q.3 A)** Answer **ANY ONE** of the following: **(06)**
- i) Draw a neat labelled diagram of a typical fermenter and explain its various parts.
 - ii) Discuss industrial production of streptomycin.
- B)** Answer **ANY FIVE** of the following: **(10)**
- i) Name the various methods of enzyme immobilization. Give the applications of immobilized enzymes.
 - ii) How is glucose monitored during fermentation?
 - iii) What are the applications of papain?
 - iv) What are the different methods of measurement of biomass?
 - v) What is ultra-filtration? Give its significance
 - vi) What is Rotameter? Mention its functions.
- Q.4** Answer **ANY FOUR** of the following: **(16)**
- i) Explain the methods of assessment of Papain activity.
 - ii) Discuss ethanol fermentation in brief.
 - iii) Draw a flow chart of Penicillin production.
 - iv) Discuss the process of Latex collection.
 - i) Discuss an anaerobic process of Solid Waste Management.
- Q.5 A)** Write short notes on **ANY FOUR** of the following: **(16)**
- i) pH measurement and control
 - ii) Trickling filter
 - iii) Lactic acid fermentation.
 - iv) Rotary vacuum filter
 - v) Gluconic acid production.

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