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SARDARPATELUNIVERSITY
B.Sc. Examination-2025
Microbiology-Semester V
US05CMIC24-FermentationTechnology I



Date:08-10-2025

Total Marks:70

Time:10:00 a.m.to 01:00 p.m.

Q-1 Select The Right Answer.

(10)

- 1) Which of the following dye is used to detect organic acid producers?
A. Methyl red B. Phenol red C. Congo red D. All of Them
- 2) Secondary metabolites are produced in this phase:
A. Log phase B. Trophophase C. Idiophase D. Decline phase.
- 3) Which of the following enzyme has application in genetic engineering?
A. Ligase B. Streptokinase C. Amylase D. Protease.
- 4) Which of the following acts as inducer for Amylase?
A. Pullunase B. Pectin C. Starch D. All of them.
- 5) What is the holding time in batch sterilization?
A. 20-60Min. B. 30-60Min. C. 30-50Min. D. 10-30Min.
- 6) Which of the following method is practical at industrial scale to sterilize air?
A. Radiation. B. Filtration C. Ozone injection D. All of them.
- 7) Which of the following fermentation is an open system?
A. Continuous B. Batch C. Both And B D. None of Them
- 8) Following device is used to prevent vortex into the fermenter.
A. Agitator B. Baffles C. Sparger D. None of them.
- 9) Which of the following method is used for separation of micro molecules?
A. Ultrafiltration B. Precipitation C. Reverse osmosis D. All of them.
- 10) Which centrifuge is used to separate mould mycelia?
A. Tubular bowl B. Disc bowl C. Basket D. Multichamber



(1)

Q-2 Answer In Brief (Any10)

(20)

- 1) Define: Screening.
- 2) Write in brief on crowded plate method.
- 3) Write advantages of microbial enzymes.
- 4) Write a note on role of inhibitor in fermentation medium.
- 5) Enlist various substrates used as nitrogen source.
- 6) Write ideal characters of fermentation medium.
- 7) Write a note on Fed batch process.
- 8) Write a note on sulfite oxidation method.
- 9) Write a note on Scale up.
- 10) Enlist various criteria for selection of recovery process.
- 11) Write a note on Ultra filtration.
- 12) Write osmotic shock as a method of cell disruption



Q-3 Write in detail on significance of secondary screening.

(10)

OR

Q-3 Describe primary screening of organic acid and growth factor producing organisms. (10)

Q-4 Write a note on Batch sterilization of medium.

(10)

OR

Q-4 Describe various substrates used as carbon source in detail. (10)

Q-5 Write a note on Scale down method.

(10)

OR

Q-5 Describe advantages and disadvantages of solid state fermentation. (10)

Q-6 Write a note on Liquid-liquid extraction.

(10)

OR

Q-6 Explain physico-mechanical methods of cell disruption. (10)

—X—

(2)