

Ref. No. : Ex/FTBE/PC/B/T/316/2024(S)

B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING THIRD YEAR FIRST SEMESTER SUPPLEMENTARY EXAM– 2024

Subject : MICROBIAL TECHNOLOGY

Time: 3hr

Full Marks: 100

Part I (Total Marks 50)

Instructions : Use Separate Answer scripts for each part

Answer any five questions from the following:

5x10=50

1. Compare between batch and fed batch fermentation. What are the chemical and enzymetic methods of cell disruption? Define enzyme immobilization. 6+2+2=10

2. What is the difference between putrefaction and decay? What is the role of microorganism in the carbon cycle? Mention any two disadvantages of extraction of enzyme from animal source. 3+5+2=10

3. Name two edible varieties of mushroom. What is spawn? Write the major phases of mushroom cultivation.

4. Mention the principle of the following methods:

5+5=10

a) Solvent precipitation

b) Any one separation method based on size and mass

5. What are the advantages and disadvantages of algal protein? What is the difference between liquefaction and saccharification? What is dextrose equivalent? 5+3+2=10

6. What are the advantages and disadvantages of enzyme immobilization? What are the criteria to select ideal matrix for immobilization? 6+4=10

[Turn over

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FIRST SEMESTER SUPPLEMENTARY EXAM - 2024**

Microbial Technology

Time: 3 hours

Full Marks: 100

Part II (Marks 50)

Answer Question No 1 and any three questions(Q2-Q6) from the following:

- 1.Explain the following: 4x5
- a) component parts of a fermentation process
 - b) flavour and aroma of wine
 - c) hops for beer production
 - d) recovery of ethanol from fermented broth..
2. Define Proof and Proof gallon for ethanol. Explain black strap molasses and high test molasses 2+2+ 3+3
- 3.What is meant by grape vinegar and malt vinegar? State the steps involved in production of vinegar. Mention the methods of vinegar production. 2.3+3.5+2+2
- 4.Explain malt and malt adjuncts. What is wort? 3+4+3
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- 5.What is antibiotic? Give an example of antibacterial antibiotic. What is the mode of action of penicillin?Give the flow chart of recovery of PenG from fermented broth 2.5+1+2.5+4.
- 6.Write short notes on (any two) from the following: 2x5
- a.Lactic acid bacteria.
 - b)advantages of using grapes for wine fermentation
 - c) melolactic fermentation