

B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING THIRD YEAR FIRST SEMESTER
SUPPLEMENTARY EXAM - 2018

MICROBIAL TECHNOLOGY

Time: 3hrs

Full Marks: 100

Use Separate Answer Script for each Part

(50 marks for each part)

PART- I

Answer question 1 and any two from the rest.

1. Explain the following:

4x5

- a) characteristics for selection of ethanol producing yeast.
- b) isolation of penicillin from fermentation broth.
- c) importance of hop and malt adjunct for beer fermentation.
- d) upstream and downstream processing of a fermentation process.

2. Discuss about:

3x5

- a) aroma of wine.
- b) classification of antibiotic according to structure.
- c) Molasses for ethanol fermentation.

3a) Define : primary metabolite, secondary metabolite, antibiotic

b) Name different types of alcoholic beverages. Mention the grape species commonly used for wine production. What is malt? Explain mashing and wort boiling for beer fermentation.

4.5+2.5+1+2+5

4. Explain the following (any three):

3x5

- a) ale beer and lager beer.
- b) lactose and CSL for penicillin fermentation
- c) top fermenting and bottom fermenting yeast
- d) recovery of ethanol from fermentation broth.

[Turn over

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING THIRD YEAR
FIRST SEMESTER SUPPLEMENTARY EXAM - 2018**

Subject: MICROBIAL TECHNOLOGY Time: Three Hours Full Marks: 100

Use Separate Answer Scripts for Part I and Part II

Part II (Marks-50)

1. Answer any **one**:

a. What are the disadvantages of plant and animal enzymes over microbial enzymes? What are the criteria of selection of microorganism for enzyme production? 5+5=10

b. What are the methods of cell disruption? What is the difference between Homofermentative and Heterofermentative Lactic acid Bacteria? Give one example for each of them. 5+3+2=10

2. Answer any **two**:

a. What is enzyme immobilization? What are the merits and demerits of enzyme immobilization? What are the methods of enzyme immobilization? Write some industrial application of immobilized enzymes. 2+6+7+5=20

b. How commercially edible mushrooms are cultivated? How enzymatic conversion of glucose to fructose is done? What are the uses of high Fructose Corn Syrup? 10+7+3=20

c. Write short notes on: 10+10=20

i. Merits and demerits of consumption of algal protein

ii. Spore process for microbial transformation of Progesterone