B.Sc. FOOD SCIENCE & TECHNOLOGY
THIRD SEMESTER (REPEAT)
FOOD FERMENTATION TECHNOLOGY
BFST-304
[USE OMR SHEET FOR OBJECTIVE PART]

SET A

Duration: 3 hrs.   Full Marks: 70

(**Objective**)

Time: 30 mins.   Marks: 20

Choose the correct answer from the following: *1×20=20*

1. In alcoholic fermentation process acetaldehyde is converted to alcohol in the presence of............ enzyme.
   a. Pyruvate decarboxylase
   b. Acetaldehyde dehydrogenase
   c. Oxalacetate
   d. Maltate dehydrogenase

2. Microfiltration is used to separate the particles whose size is:
   a. 0.1-10 µm
   b. 0.001-0.1 µm
   c. 0.0001-0.001µm
   d. 0.00001-0.0001µm

3. In homolactic acid fermentation, both molecules of pyruvate is converted to..........
   a. Acetate
   b. Lactate
   c. Maltate
   d. Propionate

4. In the processing of soya sauce ....is used as a starter culture.
   a. *Aspergillus niger*
   b. *Aspergillus oryzae*
   c. *Lactobacillus thermophilus*
   d. *Lactobacillus lactis*

5. .... is a osmo tolerant.
   a. *Acetobacter aceti*
   b. *Acetobacter peroxydans*
   c. *Saccharomyces cerevisiae*
   d. *Lactobacillus lactis*

6. ....enzymes are used for the production of butter.
   a. Lipase
   b. Rennin
   c. Amylase
   d. Isomerase

7. In ....method supercritical gases are mixed with the cell suspension.
   a. Decompression
   b. Osmotic shock
   c. Chemical method
   d. High pressure homogenization

8. ....is used as a inhibitor in the glycerol production.
   a. Bromide
   b. Penicillin
   c. Ethionine
   d. Sodium bisulphate

9. Commonly used anionic detergent for cell disruption is..........
   a. Triton
   b. Sodium dodecyl sulfate
   c. Trimethyl ammonium
   d. All of the above

10. Osmotic shock is a ....type of method which is used for cell disruption.
    a. Mechanical
    b. Non mechanical
    c. Chemical
    d. Enzymatic

11. Yeast commonly used for the production of alcoholic beverage is:
    a. *S. cerevisiae*
    b. *Bacillus*
    c. *L. lactis*
    d. *Clostridium botulinum*

12. For the preparation of tofu ....is used as a stabilize agent.
    a. Calcium sulfate
    b. Magnesium sulfate
    c. Both a and b
    d. None of the above

13. Fermentation only yields a net of ....ATP.
    a. 2
    b. 4
    c. 6
    d. 7

14. In the production of butanol......... microorganism is used.
    a. *Clostridium botulinum*
    b. *Clostridium acetobutylicum*
    c. *S. cerevisiae*
    d. *L. lactis*

15. In acetic acid fermentation ethanol is first converted to:
    a. Acetaldehyde
    b. Acetic acid
    c. Propionic acid
    d. Acetalyted

16. For mushroom production ....are used as a substrate.
    a. Soyabean
    b. Milk curd
    c. Straw
    d. Cane sugar

17. .... inhibit the growth of *Listerea monocytogenase*.
    a. Butanoic acid
    b. Acetic acid
    c. Propionic acid
    d. Citic acid

18. In submerged fermentation, ...are used as a nutrient source.
    a. Alcohol
    b. Oil
    c. Milk
    d. Both a and b

19. ....is used as a preservative for vinegar.
    a. Salt
    b. Sulfur dioxide
    c. Benzoic acid
    d. Nitrate

20 In bioreactor, ...is used for the proper mixing.
    a. Baffles
    b. Agitator
    c. Sparger
    d. Jacket

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(Descriptive)

Time : 2 hr. 30 mins.   Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Define single cell protein. Write a note on raw materials used for the   2+8=10
   production of single cell protein.

2. Explain the factors which control the alcoholic fermentation process   10
   and also write a note on organisms used for wine making.

3. "X' is the fermentation process which is used for the production of   2+8=10
   antibiotics as well aflatoxins. Identify the process and write a note on it.

4. Write a note on different types of fermentors.   10

5. a) Name the microorganisms involved in the production of sauerkraut   6+4=10
      and mention their role in the fermentation process.
   b) How fermentation helps in the preparation of dosa?

6. a) Explain the methods used for isolation and screening.   5+5=10
   b) Write a note on different types of media.

7. A particular industry is producing protein through fermentation   10
   process and they are facing problems in recovery of protein. Being a
   food technologist how you will fix this problem. Explain.

8. a) Write a note on filtration process used to separate solid-liquid   5+5=10
      material in fermentation.
   b) What are the processes required for concentration of the product?

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