

**B.Sc. FOOD SCIENCE & TECHNOLOGY  
THIRD SEMESTER  
FOOD FERMENTATION TECHNOLOGY  
BFST-304**

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

**(Objective)**

Marks: 20

*Choose the correct answer from the following:*

*1×20=20*

- The membrane size for Ultrafiltration is:  
a. 0.2 Micron  
b. 0.02 Micron  
c. 0.002 Micron  
d. 0.0002 Micron
- Who discovered fermentation?  
a. Antoni Van Leeuwenhoek  
b. Robert Koch  
c. Louis Pasteur  
d. Alexander Fleming
- Which of the following factor does not directly have an impact in fermentation process?  
a. Temperature  
b. pH  
c. Moisture Content  
d. Aeration Rate
- Which of the following is not a fermented product?  
a. Sauerkraut  
b. Khoa  
c. Miso  
d. Kimchi
- Which of the following is not a cell disruption method?  
a. Ultrafiltration  
b. Ultrasonication  
c. Blending  
d. Bead Beating
- The pH of completely fermented Sauerkraut is.....  
a. Below 7  
b. Below 5  
c. Below 3  
d. Almost 1
- .....is the method of separating suspended particles from a liquid or gas using porous medium which retain the particles but allows the liquid or gas to pass through.  
a. Adsorption  
b. Filtration  
c. Centrifugation  
d. Sedimentation
- The chemical formula of alum used in flocculation is:  
a.  $Al_2(SO_4)_1$   
b.  $Al_2(SO_4)_2$   
c.  $Al_2(SO_4)_3$   
d. None of these
- Which of the following is not a type of starter culture?  
a. Single strain starter  
b. Multi-strain starter  
c. Mixed-strain starter  
d. Double-strain starter
- Which of the following is not an example of detergent used in cell-disruption?  
a. Triton X-100  
b. Sodium lauryl sulphate  
c. Sodium dodecyl sulphate  
d.  $\beta$ -glucosidase

11. Who showed that *Saccharomyces cerevisiae* causes fermentation forming products such as beer and buttermilk?
  - a. Louis Pasteur
  - b. Alexander Fleming
  - c. Robert Koch
  - d. Selman Waksman
12. Which of the following is fermentation process?
  - a. Batch Process
  - b. Continuous Process
  - c. Fed-Batch Process
  - d. All of these
13. Which of the following is the process of converting sugar into alcohol?
  - a. Reduction
  - b. Sterilization
  - c. Fermentation
  - d. Bleaching
14. Which of the following is not essential for fermentation to occur?
  - a. Micro-organisms
  - b. CO<sub>2</sub>
  - c. Sugar
  - d. All of these
15. Centrifugation is done for separation of particles of size:
  - a. 100-200 Micrometer
  - b. 100-0.1 Micrometer
  - c. 200-1 Micrometer
  - d. 1-0.1 Micrometer
16. Main function of the neutralization tank is to:
  - a. Blow air to the effluent
  - b. Sediment the solid particles
  - c. Coagulate the sludge
  - d. Maintain pH
17. The scientific name of Baker's Yeast is:
  - a. *Saccharomyces cerevisiae*
  - b. *Saccharomyces boulardii*
  - c. *Cryptococcus neoformans*
  - d. *Kluyvermycesmarxianus*
18. Which of the following is not a microbiological culture media?
  - a. Natural media
  - b. Synthetic media
  - c. Semi-synthetic media
  - d. Complex media
19. The bioreactor is not capable of.....
  - a. Control pH
  - b. Producing aseptic conditions
  - c. Meeting containment regulations
  - d. Produce electricity
20. Which of the following does not influence filtration?
  - a. Temperature
  - b. pH
  - c. Density
  - d. Viscosity

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**( Descriptive )**

Time : 2 hr. 30 mins.

Marks : 50

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

1. Explain working mechanism of Bioreactor with a labelled diagram. Describe the different types of fermentation. 5+5=10
2. What are effluents? Explain the process of ETP with suitable flow-chart. 2+8=10
3. Differentiate between Baker's and Brewer's yeast. State and describe the different types of Baker's yeast. 5+5=10
4. Write a short note on the history of fermentation. Differentiate between alcoholic and non-alcoholic fermentation. 5+5= 10
5. Write a short note on: 2.5×4=10
  - a) Freezing and Thawing
  - b) Ultrasonication
  - c) Osmotic Shock
  - d) Bead Beating
6. Write about different types of materials used in packaging of fermented products. 10
7. Draw the process flow chart of: 2.5×4=10
  - a) Sauerkraut
  - b) Fermented bakery food product
  - c) Miso
  - d) Soya Sauce
8. What do you mean by "back-slopping"? Discuss the classifications of starter culture. 2+8=10

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