

- Q.27 Compare and contrast the production processes of beer and wine.
- Q.28 Describe the production technology of yogurt, including the microorganisms involved and the fermentation process.
- Q.29 Explain the steps involved in the production of sauerkraut and its nutritional benefits?
- Q.30 Discuss the sources of single-cell protein and their advantages in terms of nutritive value.
- Q.31 Explain the production process of single-cell protein, including the role of microorganisms.
- Q.32 Describe the concept of production of vitamins and amino acids through fermentation.
- Q.33 Provide examples of vitamins produced through fermentation and the microorganisms used for their production.
- Q.34 Write down the production technology of yogurt and its health benefits.
- Q.35 Discuss the potential role of fermentation in addressing global food security and malnutrition challenges.

#### **SECTION-D**

- Note:** Long answer questions. Attempt any two questions out of three Questions. (2x10=20)
- Q.36 Explain the procedures and importance of maintaining pure cultures in fermentation processes, highlighting the challenges and solutions in maintaining the purity of microbial cultures.
- Q.37 Describe the basic configuration of a fermenter and discuss in detail the functions and significance of agitator/impellers, sparger and baffles in the fermentation process.
- Q.38 Compare the production processes of beer and wine, including raw materials, fermentation conditions, and final product characteristics. Discuss the factors influencing the unique attributes of each product

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**4th Sem.**  
**Branch : Food Tech.**  
**Sub. Food Fermentation Technology**

Time : 3 Hrs. M.M. : 100

#### **SECTION-A**

**Note: Multiple type Questions. All Questions are compulsory. (10x1=10)**

- Q.1 What is food fermentation?  
 a) Cooking food with heat  
 b) Preserving food with chemicals  
 c) Converting carbohydrates into alcohol or organic acids using microorganisms  
 d) Freezing food for long-term storage
- Q.2 Which of the is NOT an advantages of food fermentation?  
 a) Extended shelf life      b) Enhanced flavour  
 c) Reduced nutritional value    d) Lower cost
- Q.3 Which type of fermentation produces alcohol as a primary product?  
 a) Alcoholic fermentation  
 b) Lactic acid fermentation  
 c) Acetic acid fermentation  
 d) Butyric acid fermentation
- Q.4 What are substrates in the context of fermentation?  
 a) Microorganism  
 b) Ingredients used in fermentation  
 c) End products  
 d) Temperature controllers

- Q.5 What is the primary function of agitator/impellers in a fermentor?

  - Introducing air
  - Mixing the fermentation broth
  - Measuring pH levels
  - Controlling temperature

Q.6 Which component of a fermentor is responsible for introducing air or other gases?

  - Agitator/impellers
  - Baffles
  - Sparger
  - Process control

Q.7 What is the primary ingredient in the production of beer?

  - Grapes
  - Barley
  - Apples
  - Rice

Q.8 Which of the following is NOT a beverage produced through fermentation?

  - Whiskey
  - Rum
  - Wine
  - Orange juice

Q.9 Which microorganism is primarily responsible for curd production?

  - Yeast
  - Lactic acid bacteria
  - Molds
  - Saccharomyces cerevisiae

Q.10 What is the primary microorganism involved in the fermentation of idli and dosa batter?

  - Yeast
  - Lactic acid bacteria
  - Molds
  - Saccharomyces cerevisiae

## **SECTION-B**

**Note: Objective type questions. All questions are compulsory. (10x1=10)**

- Q.11 Which microorganism is primarily responsible for curd production?

Q.12 What is the primary microorganism involved in the fermentation of idli and dosa batter?

Q.13 What are the sources of single-cell protein?

Q.14 Name one advantage of single-cell protein production.

Q.15 Why are vitamins and amino acids produced through fermentation?

Q.16 Name one microorganism commonly used in the production of vitamins through fermentation.

Q.17 What is the primary purpose of fermenting food products?

Q.18 Which microorganism is responsible for the fermentation process in making sauerkraut?

Q.19 What are the advantages of single-cell protein production?

Q.20 In the context of fermentation, what is the primary role of fungi in the production of vitamins?

### **SECTION-C**

**Note:** Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)

- Q.21 Define fermentation and explain its importance in food production.
  - Q.22 Describe the difference between alcoholic fermentation and lactic acid fermentation.
  - Q.23 Explain the significance of maintaining pure cultures in fermentation processes.
  - Q.24 Provide a detailed description of the basic configuration of a fermenter.
  - Q.25 Discuss the functions of agitator/impellers, sparge, and baffles in a fermenter.
  - Q.26 Explain the steps involved in the production of whiskey through fermentation.