Q.30 Provide examples of specific vitamins and amino acids that can be produced through fermentation, along with their applications.

Q.31 Discuss the importance of process control in a fermenter and how it contributes to the efficiency of fermentation processes.

Q.32 Explore the differences in the production processes of vinegar and baker's yeast, emphasizing their respective uses in the food industry.

Q.33 Describe the traditional production methods of tempeh and miso, highlighting their cultural significance and nutritional attributes.

Q.34 Explain the limitations and challenges associated with the large-scale production of single-cell protein and potential strategies to overcome them.

Q.35 Discuss the role of fermentation in the production of specific amino acids, such as lysine or tryptophan, and their applications in food and pharmaceutical industries.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Discuss the historical evolution of fermentation and its role in human food practices, emphasizing its significance in food preservation and production.

Q.37 Elaborate on the advantages of fermented food products in terms of shelf-life extension, enhanced nutritional value, and sensory attributes, Provide specific examples to support your explanation.

Q.38 Compare and contrast alcoholic fermentation, lactic acid fermentation, and acetic acid fermentation, including their respective end products and applications.

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4th Sem / Food Tech.
Subject:- Food Fermentation Technology

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 What are the sources of single-cell protein
a) Plants b) Animals
c) Microorganisms d) Minerals

Q.2 What is the main advantage of single-cell protein production?
a) Low cost b) High protein content
c) Extended shelf life d) Enhanced flavour

Q.3 What is the primary purpose of producing vitamins and amino acids through fermentation?
a) To increase their cost
b) To enhance their flavor
c) To reduce their availability
d) To meet nutritional needs

Q.4 Which microorganisms are commonly used in the production of vitamins through fermentation?
a) Bacteria b) Viruses
c) Fungi d) Archaea

Q.5 Which of the following is a distilled beverage produced through fermentation?
a) Apple juice b) Whiskey
c) Milk d) Tomato juice

Q6 What is the primary ingredient in the production of sourdough bread?

a) Grapes b) Barley
c) Wheat flour d) Rice

Q.7 What microorganism is primarily responsible for the fermentation of yogurt?
a) Yeast
b) Lactic acid bacteria
c) Molds
d) Saccharomyces cerevisiae

Q8 Which of the following is a traditional fermented Korean dish made from soyabeans and wheat?
a) Tofu b) Kimchi
c) Miso d) Dhokla

Q.9 What is the primary advantage of single-cell protein production for human consumption?
a) It requires minimal Resources
b) It has a long shelf life
c) It enhances food flavor
d) It reduces nutrient content

Q.10 Which microorganism is commonly used in the production of single-cell protein?
a) Saccharomyces cerevisiae
b) Streptococcus thermophilus
c) Escherichia coli
d) Penicillium notatum

SECTION-B

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

Q.11 What is fermentation?
Q.12 Name one advantage of food fermentation.
Q.13 Which type of fermentation process produces alcohol as a primary product?
Q.14 What are substrates in the context of fermentation.
Q.15 What are pure cultures in fermentation?

Q.16 Why is the maintenance of pure cultures important in fermentation?
Q.17 What is a fermenter?
Q.18 What is the primary function of agitator/ impellers in a fermenter?
Q.19 What is the primary ingredient in the production of beer?
Q.20 Name one distilled beverages produced through fermentation.

SECTION-C

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

Q.21 Elaborate on the historical significance of fermentation in food preservation and production.
Q.22 Discuss how fermentation enhances the flavor and sensory characteristics of food products.
Q.23 Compare and contrast alcoholic fermentation and lactic fermentation, highlighting their application.
Q.24 Explain the importance of aseptic techniques in maintaining pure cultures for fermentation.
Q.25 Provide a detailed explanation of the role of baffles in a fermenter and how they influence the fermentation process.
Q.26 Describe the production process of rum and its unique characteristics compared to other distilled beverages.
Q.27 Discuss the nutritional benefits of yogurt and its role in promoting gut health.
Q.28 Compare the advantages and disadvantages of single-cell protein production with traditional protein sources.
Q.29 Explain the concept of biofortification using fermentation and its potential impact on addressing nutritional deficiencies.