

# Question bank

## 2 Mark Questions

### **Cheese Making:**

1. Define the role of rennet in cheese making.
2. What is curdling in cheese production, and how is it achieved?
3. Mention two methods of milk coagulation used in cheese making.
4. Name two common bacterial cultures used in cheese production.
5. What is the significance of pasteurization in cheese making?
6. What role does salt play in the cheese making process?
7. Differentiate between soft and hard cheese based on moisture content.
8. What are the primary ingredients used to make cheese?
9. Explain the process of whey separation in cheese making.
10. How does aging affect the flavor of cheese?

### **Principles of Cheese Making:**

11. What is the principle of enzymatic coagulation in cheese making?
12. Describe the principle of lactic acid fermentation in cheese making.
13. How does temperature control influence the texture of cheese?
14. What is the principle behind cheese ripening?
15. Mention two principles governing the safety of cheese production.

### **Ice Cream Making:**

16. Define overrun in ice cream making.
17. What is the role of emulsifiers in ice cream production?
18. Explain the function of stabilizers in ice cream making.
19. What is the process of homogenization in ice cream making?
20. Mention two types of freezing methods used in ice cream production.

## **14 Mark questions**

### **Case Study 1: Cheese-Making Process**

**Scenario:** A local dairy farm wants to start producing traditional cheddar cheese on a small scale. The farm has access to fresh milk and wants to ensure its product is high-quality and free from contamination.

#### **Questions:**

1. Explain the role of enzymes in cheese making, particularly in the coagulation process.
  2. What factors determine the texture and flavor of cheddar cheese during maturation?
  3. How does milk quality affect the overall cheese-making process?
  4. Describe the importance of pasteurization in cheese making.
  5. Why is pH monitoring crucial in cheese production?
  6. What could be the effects of using a different type of milk (e.g., goat's milk) on cheddar cheese quality?
  7. What are the key microbial safety concerns in the cheese-making process?
  8. How does temperature control during curdling impact the final cheese product?
  9. Discuss the importance of hygiene and sanitation in a small-scale cheese-making setup.
  10. Outline the economic considerations for starting a small-scale cheese production unit.
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### **Case Study 2: Cheese Types and Processing**

**Scenario:** A gourmet cheese shop wants to diversify its product line by offering a wider variety of cheeses, including soft, hard, and blue cheeses.

#### **Questions:**

1. How do different types of rennet affect the characteristics of various cheeses?
2. Compare the production processes of soft cheese (e.g., Brie) and hard cheese (e.g., Parmesan).
3. What factors influence the aging process in hard and soft cheeses?

4. Explain how molds contribute to the flavor profile of blue cheese.
  5. How does the moisture content vary between different types of cheeses?
  6. Discuss the role of bacterial cultures in creating the distinctive flavors of soft cheeses.
  7. What are the challenges in producing a consistent quality of artisanal cheeses?
  8. How does brining affect the texture and flavor of certain cheeses?
  9. How can packaging influence the shelf life of different types of cheeses?
  10. What quality control measures can be implemented for various cheese types?
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### **Case Study 3: Cheese-Making Technology**

**Scenario:** A large-scale cheese manufacturing company is looking to implement new technologies to improve production efficiency while maintaining product quality.

#### **Questions:**

1. What are the advantages of using automated curd-cutting machines in cheese making?
  2. Discuss how modern pasteurization technology enhances cheese safety.
  3. How can sensors be used to monitor pH and moisture levels during cheese production?
  4. What are the benefits of using controlled environmental conditions in cheese maturation?
  5. How can robotics improve efficiency in cheese packaging and handling?
  6. Explain how advanced filtration technologies can help in whey processing.
  7. How does process automation affect the consistency and quality of mass-produced cheeses?
  8. What challenges arise from implementing new technology in traditional cheese-making methods?
  9. How can new technologies reduce waste and improve sustainability in cheese production?
  10. What role does data analytics play in ensuring consistent cheese quality on a large scale?
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## Case Study 4: Ice Cream Production Principles

**Scenario:** A small ice cream manufacturer wants to produce premium ice cream with natural ingredients but faces challenges related to texture and melting issues.

### Questions:

1. What factors influence the texture and creaminess of premium ice cream?
  2. How does the use of stabilizers affect the quality of ice cream?
  3. Why is overrun (air incorporation) important in ice cream production?
  4. What is the impact of fat content on the melting properties of ice cream?
  5. How do freezing techniques influence ice crystal formation in ice cream?
  6. What are the challenges in producing natural ice cream without artificial stabilizers?
  7. How does the choice of emulsifiers affect the final texture of ice cream?
  8. Explain the role of sugar in preventing large ice crystal formation.
  9. What are the quality control measures to ensure consistency in texture and flavor?
  10. How can the shelf life of natural ice cream be extended without preservatives?
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## Case Study 5: Ice Cream Flavor Development

**Scenario:** An artisanal ice cream company wants to experiment with unique and exotic flavors such as cardamom-pistachio and lavender-honey.

### Questions:

1. How does the fat content influence the flavor release in ice cream?
2. Discuss the challenges of balancing sweet and savory flavors in ice cream.
3. What is the role of aroma compounds in enhancing ice cream flavor perception?
4. How can stabilizers or emulsifiers interfere with the natural flavor of ice cream?
5. What is the impact of different sweeteners (e.g., honey, agave) on ice cream flavor and texture?
6. How do freezing and storage conditions affect the flavor profile of exotic ice cream?
7. How can the use of natural ingredients like herbs and spices affect ice cream consistency?

8. What are the potential allergen concerns with exotic flavors, and how can they be addressed?
  9. How does temperature influence the perception of sweetness in ice cream?
  10. Discuss the importance of market testing for exotic ice cream flavors.
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## **Case Study 6: Ice Cream Manufacturing and Equipment**

**Scenario:** A mid-sized ice cream manufacturing company is upgrading its production facility and needs to choose new equipment to enhance its capacity while maintaining product quality.

### **Questions:**

1. How do batch and continuous freezers differ in terms of ice cream quality and production efficiency?
  2. What are the key considerations when selecting ice cream filling and packaging equipment?
  3. How does the choice of pasteurization method impact ice cream quality?
  4. Discuss the role of homogenizers in improving the texture of ice cream.
  5. What are the advantages of using low-temperature extrusion in ice cream manufacturing?
  6. How can automated mixing and freezing systems improve product consistency?
  7. What is the role of inline flavoring systems in large-scale ice cream production?
  8. How can energy-efficient technologies be incorporated into ice cream production?
  9. What are the key maintenance concerns for ice cream manufacturing equipment?
  10. How does automated quality control technology (such as viscosity sensors) help in ice cream production?
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## **Case Study 7: Regulatory Standards in Dairy and Ice Cream**

**Scenario:** A new dairy and ice cream startup needs to meet all regulatory standards for production, packaging, and labeling.

**Questions:**

1. What are the key food safety standards for dairy products and ice cream set by FSSAI?
2. How does the HACCP system ensure the safety of dairy products like cheese and ice cream?
3. What are the labeling requirements for nutritional information on ice cream products?
4. How does temperature control in the supply chain impact product safety and quality?
5. What are the specific guidelines for additives and preservatives in ice cream manufacturing?
6. How can food allergen risks be managed in dairy production?
7. What are the packaging standards for ensuring the long shelf life of ice cream?
8. How does compliance with FSSAI regulations affect product development timelines?
9. What are the environmental regulations concerning waste management in dairy production?
10. Discuss the penalties for non-compliance with dairy product standards.