

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM**

**MGU-UGP (HONOURS)**

**FIRST SEMESTER EXAMINATION**

**(2024 ADMISSION ONWARDS)**

MG1DSCFSQ100– Introduction to food science

Duration: 2 hrs

Maximum Marks: 50

*Students should attempt atleast one question from each course outcome to enhance their overall outcome attainability.*

**Part A**

**Multiple Choice Questions**

**Answer All Questions**

**Each question carries 1 mark**

1. Recall the significant invention did Nicholas Appert contribute to food science in 1810?  
a) Pasteurization b) Canning c) Refrigeration d) Fermentation [K] [1]
2. Concentrated source of energy?  
a) Carbohydrate b) Protein c) Fat d) Vitamin [K] [1]
3. Identify which nutrient is essential for healthy bone development  
a) Calcium b) Iron c) Vitamin C d) Potassium [U] [4]
4. Select the spoilage causing microorganism in foods.  
a) Bacteria b) Yeast c) Mold d) All of these [U] [2]
5. Select the Physical hazard present in food  
a) Glass b) Bacteria c) Peanut d) Herbicide [U] [3]
6. Identify the correct reason why wholesalers are crucial in the food supply chain.  
a) Reducing transportation costs b) Facilitating bulk purchasing c) Offering promotions d) Direct consumer sales [U] [2]

7. Identify which one is not a component of Food security.  
a) Affordability b) Availability c) Accessibility d) Sustainability [U] [3]
8. Find the primary goal of HACCP?  
a) Improve food taste b) Reduce food waste  
c) Prevent food born hazards d) Increase food production [U] [3]
9. Identify the food born pathgen?  
a)Bacteria b) Viruses c) Parasites d) All of the above [U] [3]
10. Example of primary processed food  
a)Wheat flour b) Bread c) Pasta d) Noodles [U] [2]
- (1x10=10)**

## **Part B**

### **Short Essay Type Questions**

#### **Answer 4 Questions**

**Each question carries 5 marks**

11. Recall the most common food preservation methods during the Middle Ages? [K] [1]
12. Write a short note on water soluble vitamins? [K] [1]
13. Describe the physiological functions of food? [U] [4]
14. Discuss on some of the unit operations done in food industries ? [U] [2]
15. Illustrate a note on High risk food? [U] [3]
16. Describe Food security? [U] [3]

**(5x4=20)**

**Part C**

**Essay Type Questions**

**Answer 2 Questions**

**Each question carries 10 marks**

17. Demonstrate in detail about terminologies used in food science? [K] [1]
18. Discuss the functions of food? [U] [4]
19. Discuss on beneficial and spoilage causing micro-organisms in foods. [U] [2]
20. Recognise the possible hazards in seafood industry and its control [U] [3]

**(2x10=20)**

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM**

MGU-UGP(HONOURS)

FIRST SEMESTER EXAMINATION

(2024 ADMISSION ONWARDS)

**MG1MDCFSQ100 – FOOD PROCESSING TECHNOLOGY**

Duration: 2hrs

Maximum Marks: 35

*Students should attempt atleast one question from each course outcome to enhance their overall outcome attainability.*

**Part A**

Multiple Choice Questions

Answer **All** questions

Each question carries **1** mark

1. Choose the full form of HTST in pasteurization. [Remember, CO. NO 1,3]
  - a) High-Temperature Short-Time
  - b) Heat-Transfer System Test
  - c) High-Temp Stabilizing Technique
  - d) High-Thermal Saturation Treatment
  
2. Choose the name of the product which is free from living microorganisms are called. [Remember, CO.NO 1,3]
  - a) Septic
  - b) Sterile
  - c) Safe
  - d) Clean
  
3. Identify the primary goal of freezing food. [Remember, CO. NO 1,3,4]
  - a) Destroying bacteria
  - b) Retarding microbial growth
  - c) Removing moisture
  - d) Enhancing flavour
  
4. Identify the low-temperature preservation method. [Remember, CO. NO 1,3]
  - a) Dehydration
  - b) Canning
  - c) Freezing
  - d) Pasteurisation
  
5. Identify brewer's yeast. [Remember, CO. NO 1,3]
  - a) *Saccharomyces cerevisiae*
  - b) *Saccharomyces pasteurianus*

- c) *Saccharomyces bayanus*
- d) *Saccharomyces paradoxus*

6. Identify the indication for irradiated food. [Remember, CO. NO 1,3]

- a) Eco mark
- b) Agmark
- c) Radura
- d) BIS

7. Name the process by which sugar is converted into alcohol without the presence of oxygen.

- a) Putrefaction [Remember, CO. NO 1,3]
- b) Fermentation
- c) Respiration
- d) Digestion

8. Select the fermented product made from cabbage. [Remember, CO. NO 1,3]

- a) Sauerkraut
- b) Soy sauce
- c) Miso
- d) Natto

9. Name the process of exposing food to ionizing radiation called. [Remember, CO. NO 1,3]

- a) Sterilization
- b) Pasteurisation
- c) Dehydration
- d) Irradiation

10. Identify the process of removing air from cans during canning process.

- a) Thermal processing [Remember, CO. NO 1,3]
- b) Blanching
- c) Exhausting
- d) Sealing

11. The enzyme tested to check the effectiveness of pasteurization is called \_\_\_\_.

- a) Phosphatase [Remember, CO. NO 1,3]
- b) Protease
- c) Lipase
- d) Lactase

12. Identify the temperature used in LTLT pasteurization. [Remember, CO. NO 1,3]

- a) 63°C
- b) 72°C
- c) 85°C
- d) 50°C

13. Identify the index organism for pasteurization. [Remember, CO. NO 1,3]

- a) *Escherichia coli*
- b) *Bacillus cereus*
- c) *Listeria monocytogenes*
- d) *Coxiella burnetii*

14. Name the method that involves storing food just above its freezing point.

- a) Freezing [Remember, CO. NO 1,3]
- b) Refrigeration
- c) Curing
- d) Smoking

15. Name the method commonly used to freeze food quickly.

- a) Air freezing [Remember, CO. NO 1,3]
- b) Blast freezing
- c) Blow freezing
- d) Vacuum freezing

[1×15 = 15]

### Part B

Short Essay type Questions

Answer 4 Questions

Each question carries 5 marks

- 16. Define the principle of refrigeration in food preservation. [Remember, CO. NO 1,3]
- 17. Explain briefly the methods of pasteurization. [Remember, CO. NO 4]
- 18. Describe the process of fermentation and its importance in food processing. [Understanding, CO.NO 3]
- 19. List two advantages of freezing over refrigeration. [Remember, CO. NO 1,3, 4]
- 20. Write the steps involved in canning process. [Remember, CO.NO 2,3]
- 21. Define drying. Describe the various methods of drying. [Understanding, CO. NO 1,2,3]

[5 × 4 = 20]

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM**

MGU-UGP(HONOURS)

FIRST SEMESTER EXAMINATION

(2024 ADMISSION ONWARDS)

**MG1MDCFSQ101- BAKING TECHNOLOGY**

Duration: 1 hour

Maximum Marks:35

*Students should attempt at least one question from each course outcome to enhance their overall attainability*

**PART A**

Multiple Choice Questions

Answer **All** Questions

Each Question carries **1** mark

1. Name a wheat protein. [Remember] [CO1]  
a) Gluten    b) Casien    c) Albumin    d) Whey protein
2. Choose which among the following is not a function of egg. [Remember] [CO1]  
a) Production of carbon dioxide                      b) Stabilizing agent  
b) c} Foaming agent                                      d) Emulsifying agent
3. Identify a hard baked product.  
a) Bread    b) Cake    c) Muffin    d) Cookie [Apply] [CO3]
4. Choose the emulsifying agent among the following [Remember] [CO2]  
a) Triglycerides    b) Cephalin  
c) Lecithin    d) Yeast
5. Select the correct reason for the softness in bread and cake. [Remember] [CO1]  
a) Expansion of gases                                      b) Caramelization  
c) Gelatinization of Starch                              d) Gluten formation

6. Identify, which among the following is not a function of leavening agents.

[Understand] [CO1]

- a) Softness of texture
- b) Increase in volume
- c) Crumb colour development
- d) Improve moisture content

7. Indicate, which among the following is gluten free sweet cookies. [Analyse] [CO4]

- a) Sponge cookie
- b) Lemon cookies
- c) Meringue cookie
- d) Choco-chip cookies

8. Identify, which ingredient, causes cookie spreading in oven. [Apply] [CO3]

- a) Flour.
- b) Coco powder
- c) Fat
- d) Sugar

9. Give an example for leavening agent.

[Understand] [CO2]

- a) Sodium bicarbonate
- b) Potassium bicarbonate
- c) Sodium chloride
- d) Sodium hydroxide

10. Identify, which category the yeast belonged to.

[Understand] [CO1]

- a) Protozoa
- b) Fungus
- c) Bacteria
- d) Virus

11. Omit the odd one out

[Remember] [CO2]

- a) Yeast
- b) Sodium Chloride
- c) Baking soda
- d) Baking powder

12. Give the correct answer, gas produced during fermentation. [Understand] [CO1]

- a) Oxygen
- b) Carbon dioxide
- c) Nitrogen
- d) Hydrogen

13. Recognize the ideal temperature baking cookies

[Apply] [CO3]

- a) 175-200°C
- b) 50-100°C
- c) 500-600°C
- d) 350-400°C

14. Select the wrong answer, Maillard reaction contribute [Understand] [CO1]

- a) nutty flavour
- b) toasty flavour
- c) umami flavour
- d) savoury flavour



15. From the given options, select the colour developed during caramelisation

[Understand ] [CO1]

- a) white-pink      b) pale yellow- brown      c) orange- red      d) pink-orange

## **PART B**

Short Essay Type Questions

Answer **4** Questions

Each question carries **5** marks

11. Describe the crust formation in bread. [Understand] [CO1]
12. Explain the advantages and disadvantages of baking. [Apply] [CO3]
13. Discuss about the types of fats used in baking industry. [Understand] [CO2]
14. Write a brief outline on process of making lemon cookies. [Analyse] [CO4]
15. Differentiate between caramelisation and Maillard reaction. [Remember] [CO1]
16. Explain in detail the process of cookie processing [Apply] [CO3 ]

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM**

**MGU-UGP (HONOURS)**

**FIRST SEMESTER EXAMINATION**

**(2024 ADMISION ONWARDS)**

**MG1MDCFSQ102– Food and Culture**

Duration:1.5 hrs

Maximum Marks: 35

*Students should attempt atleast one question from each course outcome to enhance their overall outcome attainability.*

**Part A**

**Multiple Choice Questions**

**Answer All Questions**

**Each question carries 1 mark**

1. Identify which of the following traditional cooking techniques would you recommend for someone who wants to achieve low-fat, healthy cooking while retaining the nutrients in food?

A) Deep frying B) Tandoori roasting C) Steaming D) Braising [U] [2]

2. If you were to create a fusion dish combining Indian tandoori with Chinese stir-fry, state what key techniques would you use to prepare it?

A) Marinating meat with spices, then cooking quickly in a hot pan with vegetables B) Deep frying marinated meat and then simmering with spices C) Steaming vegetables and combining them with roasted spices D) Boiling meat and stir-frying vegetables with coconut milk [U] [2]

3. If a society adopts a fast-food culture due to globalization, it is likely that:

a) Traditional meals will become more frequent. b) Food preparation time will increase. c) Dietary habits will shift toward convenience and processed foods. d) Agricultural methods will remain unchanged. [U] [1]

4. To evaluate the role of food culture on public health, one should consider:

a) Only the economic factors of food production. b) The balance between traditional eating habits and modern fast-food consumption. c) How food prices are regulated. d) The availability of imported foods.

[U] [1]

5. Which of the following best defines food culture?

a) The study of food nutrients and their health benefits. b) The set of practices, beliefs, and traditions related to the production, preparation, and consumption of food. c) The economic aspects of food distribution and pricing. d) The biological processes involved in food digestion. [U] [1]

6. Which dish is served during the Indian festival of Dussehra?

a)Puran Poli b)Modak c) Jalebi and Fafda d) Kheer [A] [3]

7. Which South Indian delicacy is commonly served during weddings and festivals?

a)Dosa b)Pongal c)Payasam d)Idli [A] [3]

8. How has technology facilitated food globalization? [A] [3]

a) By limiting communication between food producers and consumers. b) By improving transportation and preservation methods c) By reducing the need for food imports. d) By focusing on local markets only.

9. A developing nation begins exporting large quantities of fruit to wealthier countries due to globalization. Which of the following is a potential negative impact on the developing nation?

A) Improved agricultural infrastructure. B) Local food shortages as more produce is exported

C) Decreased national GDP due to food trade. D) Improved access to international markets. [A] [3]

10. A bakery is introducing gluten-free bread options due to the increasing demand for gluten-free products. What is the most appropriate approach to maintain quality while catering to dietary changes?

A) Use gluten-free flour substitutes like almond flour but maintain traditional baking techniques to ensure texture and flavor. B) Replace all ingredients with artificial ones to mimic the texture of gluten-based bread. C) Completely change the texture of the bread and stop using any baking techniques D) Offer regular bread only, ignoring gluten-free options. [A] [3]

11. What is the symbolic meaning of eating fish during Christmas in many European countries?

a)Fertility and prosperity b)Purity and strength c) Health and vitality d) Wealth and success [E][4]

12. In Diwali celebrations, sweets like laddoos and barfis symbolize:

a)Health and wellness b)Good fortune and happiness c)Strength and power d)Long life [E] [4]

13. During Kwanzaa, what does the corn (Muhindi) on the table represent?

a)Strength and courage b)Unity of the family c) The future and children d)Wealth and abundance[E][4]

14. Food culture primarily includes which of the following aspects?

a) Only the nutritional content of meals. b) How people grow, cook, share, and think about food. c) How restaurants price their dishes. d) The science behind food preservation. [U] [1]

15. Which of the following is NOT a component of food culture?

a) Traditional cooking methods. b) Historical and social influences on food choices. c) Nutritional value of foods only. d) Beliefs about what is appropriate to eat in a specific society. [U] [1]

**(1x15=15)**

## **Part B**

### **Short Answer Type Questions**

#### **Answer 4 Questions**

#### **Each question carries 5 marks**

16. Why is culinary diversity important in a globalized world? [A] [3]

17. In what ways do cultural practices influence the types of food people eat? [U] [1]

18. What is the importance of fermentation in traditional food preservation techniques across various cultures? [U] [2]

19. Quote the connection between food and cultural identity? [U] [1]

20. State your understanding of a culinary tradition? [A] [3]

21. How do certain spices, like cinnamon, represent warmth and affection in Christmas baking?

[E] [4]

**(4x5=20)**