

Reg No.....

Name.....

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

MGU-UGP(HONOURS), REGULAR EXAMINATION 2026

FIFTH SEMESTER

MG5DSEFSQ304 – SPICES AND OLEORESINS

(2024 ADMISSION ONWARDS)

**Remember(K), Understand(U), Apply(A), Analyze (An), Evaluate(E), Create(C),
Skill(S), Interest(I) and Appreciation (Ap)**

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. Identify which of the following is primarily used to impart flavour, aroma and colour to foods?
A) Preservatives B) Spices
C) Emulsifiers D) Stabilizers
[U]/[CO1]
2. Identify from the following is a culinary herb
A) Black pepper B) Cardamom
C) Mint D) Turmeric
[U]/[CO1]
3. The primary function of spices in food is to provide:
A) Protein B) Flavour, taste and aroma
C) Moisture D) Carbohydrates
[U]/[CO1]
4. The preservative action of spices is mainly associated with their:
A) Starch content B) Antimicrobial and antioxidant properties
C) Protein content D) Water content
[U]/[CO2]
5. Piperine is the characteristic pungent compound present in:
A) Turmeric B) Black pepper
C) Cardamom D) Cinnamon
[U]/[CO2]

6. Curcumin is the major colouring compound associated with:
 A) Ginger B) Turmeric
 C) Clove D) Cumin [U]/[CO2]
7. The dried flower buds of which spice are used as a spice [U]/[CO2]
 A) Clove B) Cinnamon
 C) Coriander D) Fenugreek
8. Cardamom is mainly valued for its:
 A) Sweetening property B) Characteristic aroma and flavour
 C) High protein content D) High starch content [A]/[CO3]
9. Cinnamon is obtained mainly from the:
 A) Root B) Bark
 C) Fruit D) Flower [U]/[CO3]
10. Ginger is classified botanically as a:
 A) Seed B) Rhizome
 C) Flower D) Bark [U]/[CO3]
11. Select which of the following spices is obtained from the dried fruit
 A) Black pepper B) Clove
 C) Cinnamon D) Mace [U]/[CO3]
12. Mace is the dried:
 A) Seed of nutmeg B) Aril of nutmeg
 C) Bark of cinnamon D) Flower bud of clove [A]/[CO3]
13. The essential oil of clove is particularly rich in:
 A) Eugenol B) Piperine
 C) Curcumin D) Capsaicin [An]/[CO3]
14. Capsaicin is responsible for the pungency of:
 A) Chilli B) Cinnamon
 C) Cardamom D) Coriander
15. Steam distillation is commonly used for the extraction of:
 A) Proteins B) Essential oils
 C) Starch D) Dietary fibre [An]/[CO4]
16. Oleoresins are generally obtained by:
 A) Fermentation B) Solvent extraction
 C) Freezing D) Blanching [An]/[CO4]

17. Supercritical fluid extraction of spices commonly uses:
 A) Nitrogen B) Oxygen
 C) Liquid carbon dioxide D) Hydrogen [An]/[CO4]
18. Identify an important quality characteristic of spices
 A) Colour B) Aroma
 C) Moisture content D) All of the above [An]/[CO4]
19. Choose the spice is commonly obtained from the seeds of the plant
 A) Cumin B) Cinnamon
 C) Clove D) Turmeric [U]/ [CO2]
20. The major products obtained from spice extraction industries include:
 A) Essential oils and oleoresins B) Proteins and starch
 C) Vitamins and minerals D) Enzymes and pigments only [An]/[CO4]

(1X20=20)

PART B

Short Essay Type

Questions Answer 6 Questions

Each question carries 5 marks

21. Explain the primary functions of spices with reference to flavour, taste, aroma, texture and colour. [U]/[CO1]
22. Differentiate between spices, condiments, seasonings and culinary herbs, giving suitable examples. [U]/[CO1]
23. Explain the preservative, and antioxidant functions of spices. [U]/[CO1]
24. Describe the composition and characteristics of major and minor spices. [A]/[CO2]
25. Explain the important post-harvest handling practices for fruit spices. [A]/[CO3]
26. Describe the post-harvest handling of stem spices. [An]/[CO3]
27. Write a note on the dietary and medicinal uses of major and minor spices. [U]/[C41]
28. Explain the processing of ginger and garlic [A]/[CO1]

(6X5=30)

PART C

Essay type questions

Answer any **2** questions

Each question carries 10 marks

29. Discuss the processing of pepper. [A/[CO3]
30. Explain oleoresins. Discuss on the methods of manufacture. [An/[CO4]
31. Describe the post-harvest handling of different spice materials such as seeds, fruits, flowers, buds, leaves, stems, barks, roots and rhizomes. [An/[CO3]
32. Explain the classification, functions and importance of spices, condiments, seasonings and culinary herbs. [U/[CO1]

(2X10=20)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

**MGU-UGP (HONOURS) REGULAR EXAMINATION OCTOBER 2026
FIFTH SEMESTER**

**Discipline Specific Course (DSC) - MG5DSCFSQ300 - TECHNOLOGY OF MEAT,
FISH, EGG AND POULTRY**

(2024 ADMISSION ONWARDS)

Duration: 1 Hour 30 Minutes

Maximum Marks: 50

***Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I)
and Appreciation(Ap)***

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

Part A

MCQ

Answer all questions

Each question carries 1 marks

1. Identify the major proteins responsible for muscle contraction in meat. [U]/[CO1]
 - a) Collagen
 - b) Actin and myosin
 - c) Elastin
 - d) Keratin
2. Recognize the primary function of connective tissue in meat. [U]/[CO1]
 - a) Provides structural support
 - b) Increases water content
 - c) Produces pigments
 - d) Prevents oxidation
3. Classify collagen as a type of meat protein based on its function. [U]/[CO1]
 - a) Contractile protein
 - b) Structural protein
 - c) Pigment protein
 - d) Enzymatic protein
4. Identify the main purpose of ante-mortem examination of food animals. [U]/[CO1]
 - a) To improve meat colour
 - b) To detect diseases before slaughter
 - c) To increase fat content
 - d) To improve packaging
5. Recognize the main objective of stunning before slaughter. [U]/[CO1]
 - a) To increase muscle growth
 - b) To render the animal unconscious
 - c) To improve meat flavour
 - d) To increase carcass weight
6. Identify the process of removing the hide or skin from a slaughtered animal. [U]/[CO1]
 - a) Evisceration
 - b) Dressing
 - c) Skinning
 - d) Chilling
7. Classify evisceration as a step in meat processing based on its purpose. [U]/[CO1]
 - a) Removal of internal organs
 - b) Removal of hair

- c) Removal of blood
- d) Removal of bones
- 8. Identify the major change occurring in meat after slaughter due to depletion of ATP. [U]/[CO2]
 - a) Rigor mortis
 - b) Emulsification
 - c) Gelatinization
 - d) Fermentation
- 9. Recognize the main purpose of meat curing. [U]/[CO2]
 - a) To increase moisture content
 - b) To improve preservation and flavour
 - c) To remove all proteins
 - d) To increase microbial growth
- 10. Identify the preservation method that involves exposure of meat to smoke. [U]/[CO3]
 - a) Smoking
 - b) Freezing
 - c) Blanching
 - d) Irradiation

(10X1=10)

Part B

Short essay

Answer any 4 questions

Each question carries 5 marks

- 11. Explain the structure and composition of meat and discuss the major proteins present in muscle tissue. [U]/[CO1]
- 12. Explain the purpose and procedure of ante-mortem examination and discuss its importance in meat production. [U]/[CO1]
- 13. Describe the major steps involved in slaughtering and dressing of meat animals. [U]/[CO1]
- 14. Explain the different stunning methods used in meat animals and discuss their importance before slaughter. [U]/[CO1]
- 15. Explain the major post-mortem changes in meat and discuss their influence on meat quality. [U]/[CO2]
- 16. Explain the principles of meat curing and discuss the functions of commonly used curing agents. [U]/[CO3]

(4X5=20)

Part C

Essay

Answer any 2 questions

Each question carries 10 marks

- 17. Explain the structure of skeletal muscle and discuss the chemical composition, major proteins and connective tissue components of meat. [U]/[CO1]
- 18. Explain the ante-mortem examination, stunning and slaughtering procedures of meat animals and discuss their importance in obtaining safe and wholesome meat. [U]/[CO1]
- 19. Explain the different stages involved in carcass dressing and processing, including bleeding, skinning, evisceration, washing, chilling and meat cuts. [U]/[CO1]
- 20. Explain the major post-mortem changes in meat, including rigor mortis, ageing and meat conditioning, and discuss their effects on meat quality and tenderness. [U]/[CO2]

(2X10=20)

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MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) REGULAR EXAMINATION, OCTOBER 2026

FIFTH SEMESTER

Discipline Specific Core Course (DSC)

MG5DSCFSQ301 – DAIRY TECHNOLOGY

(2024 ADMISSION ONWARDS)

Duration: 1.5 Hrs

Maximum Marks: 50

**Remember(K), Understand(U), Apply(A), Analyse (An), Evaluate(E), Create(C),
Skill(S), Interest(I) and Appreciation (Ap)**

Students should attempt at least 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 the Father of White Revolution in India. [K]/[CO1]
a) M. S. Swaminathan c) Norman Borlaug
b) Dr. Verghese Kurien d) C. Subramaniam
2. Recognize the major protein present in milk. [K]/[CO1]
a) Albumin c) Globulin
b) Gelatin d) Casein
3. Developed acidity in milk is mainly caused by: [U]/[CO1]
a) Microbial fermentation of lactose c) Minerals
b) Proteins d) Fat
4. Give the FSSAI standard for Toned milk. [K]/[CO2]
a) Fat - 3.5%, SNF - 9.0% c) Fat - 3.0%, SNF - 8.5%
b) Fat - 4.5%, SNF - 8.5% d) Fat - 0.5%, SNF - 9.0%

5. The standard temperature at which a Zeal lactometer is calibrated at. [K]/[CO2]
 - a) 16 Degree Celsius
 - b) 30 Degree Celsius
 - c) 20 Degree Celsius
 - d) 27 Degree Celsius

6. Identify a platform test from the following. [K]/[CO2]
 - a) Smell or odour
 - b) MBRT Test
 - c) Alcohol Test
 - d) Titratable Acidity

7. Identify the colour of milk in a positive Phosphatase Test. [K]/[CO2]
 - a) Yellow
 - b) Green
 - c) Blue
 - d) Red

8. A milk that can be graded as very good in the basis of MBRT test, should show a minimum MBR time (in hours) of. [K]/[CO2]
 - a) 2 Hours
 - b) 3 Hours
 - c) 4 Hours
 - d) 5 Hours

9. The process of agitating cream at a suitable temperature until the fat globules adhere, forming larger and larger masses and until a relatively complete separation of fat and serum occurs, is known as. [U]/[CO3]
 - a) Homogenization
 - b) Churning
 - c) Overrun
 - d) Renneting

10. Identify the coagulating agent used for making cheese. [U]/[CO3]
 - a) Rennet
 - b) Citric acid
 - c) Lactic acid
 - d) Paraffin

[1 X 10 = 10]

Part B

Short Answer

Answer any 4 questions

Each question carries 5 marks

11. Give the definition of milk from any three sources. [K]/[CO1]
12. Discuss the factors affecting the composition of milk. [U]/[CO1]
13. Explain the different laboratory tests done for milk. [U]/[CO2]
14. Define pasteurization. Explain the method of pasteurization in milk. [U]/[CO2]
15. Describe the processing steps of butter. [U]/[CO3]
16. Discuss about the production of Khoa. [U]/[CO3]

[5 X 4 = 20]

Part C
Long Essay
Answer any **2** questions
Each question carries **10** marks

- | | |
|---|-----------|
| 17. Describe in detail on the processing of homogenized toned milk. | [U]/[CO2] |
| 18. Explain on the cleaning procedures in a dairy plant. | [U]/[CO2] |
| 19. Discuss in detail on the manufacturing of cheddar cheese. | [U]/[CO3] |
| 20. Summarize on the production of milk powder. | [U]/[CO3] |

[10 X 2 = 20]

Reg.No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) Theory EXAMINATION October 2026
V SEMESTER
DSE – MG5DSEFSQ300 – TECHNOLOGY OF CEREALS, PULSES AND
OILSEEDS
(2024 ADMISSION ONWARDS)

Duration: 2 Hours

Maximum Marks: 70

Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I) and Appreciation(Ap)

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

Part A

MCO

Answer all questions

Each question carries **1** marks

1. Outermost layer of outermost of rice epidermis is known as _____ [K] / [CO1]

 - a. Hyaline layer
 - b. Aleurone layer
 - c. Seed coat
 - d. Nucellus
2. Two milling systems show similar milling recovery. System A produces 62% head rice, whereas System B produces 48% head rice. For premium rice production, the preferable system is _____ [U] / [CO1]

 - a. System A
 - b. System B
 - c. Neither systems
 - d. Both systems
3. _____ is responsible for the distinctive aroma in basmati rice [K] / [CO1]

 - a. 2-acetyl-1-pyrroline
 - b. 2- acetylpyridine
 - c. 2 –acetylpyrrole
 - d. 2-propionyl-1-pyrroline
4. _____ is a hydrothermal treatment of paddy carried out before drying [U] / [CO1]

 - a. Parboiling
 - b. Germination
 - c. Tempering
 - d. Malting
5. Traditional parboiling generally involves soaking paddy in ambient water for_____ [U] / [CO1]

 - a. 3 – 5 hours
 - b. 24- 48 hrs
 - c. 5 – 10 hours
 - d. no soaking
6. During parboiling, water-soluble B vitamins present in the outer layers of the rice grain move towards the endosperm. This change is mainly due to : [U] / [CO1]

 - a. Protein denaturation
 - b. Lipid hydrolysis
 - c. Enzymatic browning
 - d. Diffusion of soluble nutrients with moisture movement

7. During hot-air drying of paddy, excessively high air temperature can result in _____. [K] / [CO1]
 - a. Prevents discoloration
 - b. Grain fissuring
 - c. longer grain storage
 - d. No significant change
8. The major portion of the wheat grain by weight is _____. [U] / [CO2]
 - a. Bran
 - b. Endosperm
 - c. Germ
 - d. Husk
9. The principal storage proteins of wheat are [K] / [CO2]
 - a. Gliadin and glutenin
 - b. Albumin and globulin
 - c. Casein
 - d. Oryzenin
10. Durum wheat is primarily used for the production of _____. [U] / [CO2]
 - a. Bread only
 - b. Cake
 - c. Breakfast cereals only
 - d. Pasta and macaroni products
11. The embryonic portion of a maize kernel is termed the _____. [U] / [CO3]
 - a. Germ
 - b. Aleurone
 - c. Endosperm
 - d. Pericarp
12. Corn protein is _____. [K] / [CO3]
 - a. Gluten
 - b. Oryzenin
 - c. Zein
 - d. Casein
13. A starch-processing unit requires maize containing predominantly amylopectin. The appropriate variety is _____. [K] / [CO3]
 - a. Dent corn
 - b. Flint corn
 - c. Waxy corn
 - d. Popcorn
14. _____ is the limit amino acid in pulses [K] / [CO4]
 - a. Lysine
 - b. Methionine
 - c. Histidine
 - d. Glycine
15. A diet requires both plant protein and healthy fats in a compact food source. Among the following, the most appropriate choice is [E] / [CO4]
 - a. Oilseeds
 - b. Fruit juice
 - c. Refined oil
 - d. Egg
16. Decortication of pulses refers to the removal of the _____. [U] / [CO4]
 - a. Cotyledon
 - b. Seed coat
 - c. Germ
 - d. Endosperm
17. The solvent commonly used for industrial extraction of vegetable oils is _____. [K] / [CO4]
 - a. Acetic acid
 - b. Methanol
 - c. Ethanol
 - d. Hexane
18. Trypsin inhibitors in pulses primarily interfere with the digestion of _____. [U] / [CO4]
 - a. Lipids
 - b. carbohydrates
 - c. Protein
 - d. Minerals
19. A person develops acute haemolytic anaemia after consuming fava beans. The condition is most consistent with [An] / [CO4]
 - a. Lathyrism
 - b. Favism
 - c. Cyanide poisoning
 - d. None of the above
20. A common raw material for preparation of legume protein products is [K] / [CO4]

- | | |
|-------------------|-------------|
| a. Maize | b. Soyabean |
| c. Sunflower seed | d. Almond |

[1x20 = 20]

Part B

Short Answer

Answer any **6** questions

Each question carries **5** marks

- | | | |
|-----|--|-------------|
| 21. | Comment on rice bran | [K] / [CO1] |
| 22. | Assess the nutritional and technological advantages of flaked rice as a convenience food. | [U] / [CO1] |
| 23. | Explain the principle of farinograph testing. | [U] / [CO2] |
| 24. | A dough prepared with wheat flour is kneaded inadequately. Predict the effect on gluten development. | [U] / [CO2] |
| 25. | Add a brief note on HFCS | [K] / [CO3] |
| 26. | Differentiate between corn meal and corn flour based on particle size and application. | [U] / [CO3] |
| 27. | A soybean-based food is inadequately heat-treated. Identify the antinutritional factor that may remain active. | [A] / [CO4] |
| 28. | State the main purpose of hydrogenation. | [K] / [CO4] |

[5x6 = 30]

Part C

Essay

Answer any **2** questions

Each question carries **10** marks

- | | | |
|-----|--|-------------|
| 29. | Explain the complete sequence of degumming, neutralization, bleaching and deodorization in edible oil refining, highlighting the purpose of each step. | [E] / [CO4] |
| 30. | Explain wheat flour as a versatile raw material for producing bread, biscuits and cakes, considering their different quality requirements. | [U] / [CO2] |
| 31. | Explain the steps involved in rice milling | [K] / [CO1] |
| 32. | A rice mill observes excessive grain breakage and low head-rice yield during milling. Write principles of parboiling to suggest suitable process conditions that can improve milling recovery. | [U] / [CO1] |

[10x2 = 20]

QP Code

Reg. No:.....

Name :.....

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) END SEMESTER EXAMINATION, October 2026
Semester: 5
DSE – MG5DSEFSQ301 - COCONUT PROCESSING TECHNOLOGY
(2024 ADMISSION ONWARDS)

Duration: 2 Hour

Maximum Marks: 70

Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I) and Appreciation(Ap)

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

Part A

MCQ

Answer all questions

Each question carries **1** marks

1. Which statement best describes the importance of coconut cultivation?
 - (a) It is a minor ornamental crop with no economic role
 - (b) It is a major plantation crop supporting the rural economy through oil, fibre and food products *U / CO1*
 - (c) It is grown only for export of raw whole nuts
 - (d) It has no industrial applications
2. Which of the following is a traditional coconut harvesting practice?
 - (a) Mechanical tree-climbing robots
 - (b) Manual climbing using traditional climbing gear/rope loops *U / CO1*
 - (c) Hydraulic cherry-picker lifts
 - (d) Drone-based nut picking
3. Copra is mainly graded on the basis of
 - (a) colour of the husk
 - (b) moisture content and quality of the dried kernel *U / CO1*
 - (c) height of the coconut tree
 - (d) sweetness of coconut water
4. In cold pressing, coconut oil is extracted by
 - (a) heating copra to a high temperature before pressing
 - (b) mechanically pressing coconut without applying external heat *U / CO2*
 - (c) dissolving oil using an organic solvent
 - (d) fermenting coconut milk
5. Refining of coconut oil is mainly carried out to
 - (a) increase its moisture content
 - (b) remove impurities and free fatty acids and improve shelf life *U / CO2*
 - (c) darken the colour of the oil
 - (d) reduce the oil yield
6. A batch of coconut oil shows a high free fatty acid value on testing. This indicates that the oil
 - (a) is of very good quality with a long shelf life
 - (b) has deteriorated due to hydrolysis/rancidity *A / CO3*
 - (c) has unusually low moisture content

- (d) was extracted very recently
7. A coconut flour sample is found to retain moisture above the acceptable limit. The most likely consequence is
- (a) improved shelf life
 - (b) microbial spoilage and reduced shelf life
 - (c) better texture and taste
 - (d) higher market price
- A / CO3*
8. To check for possible adulteration in a sample of coconut milk, which parameter should be tested first?
- (a) acidity of the packaging material
 - (b) fat/oil content of the milk
 - (c) colour of the carton
 - (d) brand name printed on the pack
- A / CO3*
9. Before certifying a batch of coconut sugar as export-quality, which parameters must be verified?
- (a) taste alone
 - (b) moisture content, purity and microbial safety
 - (c) packaging colour only
 - (d) transportation cost
- A / CO3*
10. Which quality parameter is most critical while assessing coconut water meant for bottling?
- (a) acidity and microbial load
 - (b) thickness of the husk
 - (c) age of the tree
 - (d) climatic zone of cultivation
- A / CO3*
11. Comparing coconut water processing with coconut apple product development, the key difference is that
- (a) both use the mature dried kernel
 - (b) water processing uses the liquid endosperm while apple products use the spongy sprout tissue
 - (c) both require solvent extraction
 - (d) both processes are identical
- An / CO4*
12. The factor that most significantly affects the yield and quality of coconut cheese is
- (a) fat content of the coconut milk used
 - (b) colour of the husk
 - (c) age of the tree alone
 - (d) height at which the nut was harvested
- An / CO4*
13. In the desiccated coconut manufacturing process, the final moisture content mainly influences
- (a) shelf life and microbial stability of the product
 - (b) sweetness of the product
 - (c) colour of the fibre
 - (d) thickness of the husk
- An / CO4*
14. The quality of spray-dried coconut milk powder is most affected by
- (a) inlet/outlet drying temperature and feed moisture content
 - (b) tree variety alone
 - (c) harvesting season alone
 - (d) length of husk fibre
- An / CO4*
15. Analysing coconut by-product streams, coir pith is primarily obtained from
- (a) the coconut shell
 - (b) husk processing
 - (c) kernel residue
 - (d) coconut water
- An / CO4*

16. Whether coconut oil cake is suitable as cattle feed or as fertiliser mainly depends on its
- (a) protein and residual oil content
 - (b) husk colour
 - (c) shell thickness
 - (d) tree height
- An / CO4*
17. Comparing coconut jam and coconut honey production, the key processing difference is that
- (a) both use identical sap-concentration methods
 - (b) honey involves sap concentration while jam involves kernel/milk-based cooking with sugar
 - (c) both use only coconut shell as raw material
 - (d) neither process involves heat
- An / CO4*
18. High storage temperature of desiccated coconut primarily leads to
- (a) improved shelf life
 - (b) rancidity due to oxidation of residual fat
 - (c) further moisture removal only
 - (d) no significant effect
- An / CO4*
19. The variable that most affects the texture and mouthfeel of coconut cream during production is
- (a) efficiency of fat separation
 - (b) age of the tree
 - (c) colour of the husk
 - (d) month of harvesting
- An / CO4*
20. Comparing shell charcoal and coir fibre as by-products, their primary raw material source is
- (a) both obtained from the coconut shell
 - (b) charcoal from the shell, fibre from the husk
 - (c) both obtained from the kernel
 - (d) both obtained from coconut water
- An / CO4*

[1 x 20 = 20]

Part B

Short Answer

Answer any **6** questions

Each question carries **5** marks

21. Explain the various grades of copra and describe the drying techniques used to produce them. *U / CO1*
22. Explain the working principles of cold pressing, expeller pressing and solvent extraction methods of coconut oil extraction, bringing out the differences between them. *U / CO2*
23. A coconut oil processing unit wants to verify the quality of a new batch of oil before packaging. Apply suitable testing methods to check its moisture content, oil content and acidity, explaining the significance of each test. *A / CO3*
24. Analyse the coconut water processing method and the preparation of coconut apple products, and evaluate the factors that affect their final quality. *An / CO4*
25. Analyse the effect of raw-material quality and processing variables on the production of coconut milk, coconut cream and coconut cheese. *An / CO4*
26. Analyse how variations in drying method and moisture level affect the quality of desiccated coconut and coconut flour. *An / CO4*
27. Analyse the processing steps involved in coconut honey, coconut jam and spray-dried coconut milk powder production, and their effect on product shelf life. *An / CO4*
28. Analyse the by-products generated during coconut processing and evaluate their economic and industrial significance. *An / CO4*

[5 x 6 = 30]

Part C

Essay

Answer any **2** questions

Each question carries **10** marks

29. Describe in detail the traditional and modern coconut processing methods, and explain the post-harvest handling and storage practices used to maintain nut quality. *U / CO1*
30. Explain in detail the various coconut oil extraction methods (cold pressing, expeller pressing, solvent extraction) and the refining processes involved in producing quality coconut oil. *U / CO2*
31. A coconut processing industry receives a batch of coconut oil, coconut milk and coconut flour for quality certification. Apply suitable quality-control tests and assurance procedures to evaluate whether the batch meets acceptable standards, justifying your approach. *A / CO3*
32. Analyse the stages involved in producing coconut-based products — coconut water/apple products, coconut milk/cream/cheese, desiccated coconut/flour, and coconut honey/jam/milk powder — and evaluate how different processing variables affect product quality and shelf life. *An / CO4*

[10 x 2 = 20]

QPCode

Reg.No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) THEORY EXAMINATION OCTOBER 2026
FIFTH SEMESTER
DSE- MG5DSEFSQ302 – CONFECTIONERY AND CHOCOLATE PROCESSING
TECHNOLOGY
(2024 ADMISSION ONWARDS)

Duration: 2 Hours

Maximum Marks: 70

Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I) and Appreciation(Ap)

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

Part A

MCQ

Answer all questions

Each question carries **1** marks

1. The development of confectionery is primarily associated with the use of: [U] / [CO 1]

A. Cereals only

B. Sugar and cocoa products

C. Meat products

D. Vegetables

2. Which of the following is a major raw material used in confectionery manufacture? [U] / [CO 1]

A. Cocoa

B. Rice bran

C. Fish oil

D. Meat

3. The function of an emulsifier in confectionery products is mainly to: [U] / [CO 1]

A. Increase microbial growth

B. Promote stability of mixtures

C. Reduce sweetness completely

D. Increase moisture content only

- | | | |
|-----|---|--------------|
| 4. | Which is considered a special fat used in confectionery? | [U] / [CO 1] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Cocoa butter</div> <div>B. Butter milk</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Fish oil</div> <div>D. Mustard oil</div> </div> | |
| 5. | The removal of unwanted materials from cocoa beans is known as: | [A] / [CO 2] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Tempering</div> <div>B. Winnowing</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Conching</div> <div>D. Enrobing</div> </div> | |
| 6. | Roasting of cocoa beans mainly helps to: | [U] / [CO 2] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Develop flavour and aroma</div> <div>B. Remove all fat</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Increase water content</div> <div>D. Prevent grinding</div> </div> | |
| 7. | Nib grinding in cocoa processing produces: | [A] / [CO 2] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Sugar syrup</div> <div>B. Chocolate liquor/mass</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Flour</div> <div>D. Caramel</div> </div> | |
| 8. | The process used to obtain the desired crystal structure in chocolate is: | [U] / [CO 2] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Fermentation</div> <div>B. Tempering</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Winnowing</div> <div>D. Baking</div> </div> | |
| 9. | Bloom formation in chocolate can be associated with: | [A] / [CO 2] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Improper crystallization or storage</div> <div>B. Proper packaging only</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Excessive fermentation of flour</div> <div>D. Baking temperature only</div> </div> | |
| 10. | Enrobing refers to: | [U] / [CO 2] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Grinding cocoa beans</div> <div>B. Coating a confectionery centre with chocolate</div> </div> <div style="display: flex; justify-content: space-between;"> <div>C. Fermenting cocoa beans</div> <div>D. Crystallizing sugar</div> </div> | |
| 11. | Select the process is commonly used in industrial sugar confectionery manufacture? | [A] / [CO 3] |
| | <div style="display: flex; justify-content: space-between;"> <div>A. Centrifugation</div> <div>B. Smoking</div> </div> | |

C. Freezing

D. Pickling

12. A sugar substitute is mainly used to: [A] / [CO 3]
- A. Replace part or all of the sugar B. Increase flour protein
- C. Replace cocoa beans D. Remove all moisture
13. A high-boiled candy generally has: [An] / [CO 3]
- A. High moisture content B. Low moisture content
- C. High protein content D. No sugar
14. Select from the following is a type of high-boiled candy? [U] / [CO 3]
- A. Lollipop B. Bread
- C. Muffin D. Cookie
15. Which confectionery product contains a centre surrounded by a candy shell? [A] / [CO 3]
- A. Centre-filled candy B. Bread
- C. Waffle D. Scone
16. Select the type of dough mentioned in flour confectionery? [A] / [CO 3]
- A. Developed dough B. Cocoa liquor
- C. Sugar syrup D. Caramel mass
17. Select the flour confectionery product? [A] / [CO 3]
- A. Doughnut B. Chocolate liquor
- C. Toffee D. Fruit drop
18. Select the type of confectionery paste? [U] / [CO 4]
- A. Liquorice paste B. Bread dough
- C. Cocoa nib D. Flour slurry

19. Toffee is primarily classified under: [U] / [CO 4]
- A. Miscellaneous confectionery products B. Flour milling products
C. Cocoa beans D. Bakery yeas
20. Fruit drops are classified as: [A] / [CO 4]
- A. Fruit confectionery B. Flour confectionery
C. Cocoa products D. Fermented dairy

[1x20 = 20]

Part B

Short Answer

Answer any **6** questions

Each question carries **5** marks

21. Explain the history and evolution of confectionery and discuss the important raw materials used in confectionery manufacture. [U] / [CO 1]
22. Explain the functions of sugar, cocoa, milk products, special fats, emulsifiers and nuts in confectionery products [U] / [CO 1]
23. Describe the major steps involved in cocoa bean processing, including cleaning, breaking, winnowing, sterilization, alkalization, roasting and nib grinding. [A] / [CO 2]
24. What is chocolate tempering? Explain its importance and discuss the causes of fat bloom in chocolate [A] / [CO 2]
25. Explain enrobing technology and discuss the production of dark, milk and white chocolate. [U] / [CO 2]
26. Explain the general technical aspects of industrial sugar confectionery manufacture, including sugar syrup preparation, crystallization and centrifugation [A] / [CO 3]
27. Describe the manufacture of high-boiled candies and explain the characteristics of centre-filled candies, lollipops and co-extruded products. [A] / [CO 3]
28. Explain the manufacture and characteristics of caramel, toffee, fudge and fruit confectionery such as fruit drops. [A] / [CO 4]

[5x6 = 30]

Part C

Essay

Answer any **2** questions

Each question carries **10** marks

- | | | |
|-----|---|---------------|
| 29. | Discuss in detail the history and evolution of confectionery. Explain the properties, functions and quality considerations of the major raw materials used in confectionery | [U] / [CO 1] |
| 30. | Describe the complete chocolate manufacturing process from cocoa bean processing to finished chocolate. | [A] / [CO 2] |
| 31. | Differentiate between developed dough, short dough, semi-sweet dough, enzyme-modified dough and frozen dough. Give suitable examples of products made from them. | [An] / [CO 3] |
| 32. | Explain in detail the manufacture of sugar and flour confectionery products. | [E] / [CO 4] |

[10x2 = 20]

QPCode

Reg.No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) THEORY EXAMINATION OCTOBER 2026
FIFTH SEMESTER
DSE- MG5DSEFSQ303 – BAKERY PRODUCTS TECHNOLOGY
(2024 ADMISSION ONWARDS)

Duration: 2 Hours

Maximum Marks: 70

Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I) and Appreciation(Ap)

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

Part A

MCQ

Answer all questions

Each question carries 1 marks

1. Desirable crust formation during baking is mainly associated with: [U] / [CO 1]
A. Maillard reaction and caramelization
B. Gelatinization and proteolysis
C. Increased starch hydration
D. Gluten formation during cooling

2. Development of a gluten-free bakery product requires particular attention to: [An] / [CO 4]
A. Ingredient selection and prevention of gluten cross-contact
B. Increasing wheat flour at a lower concentration
C. Eliminating all starch-based ingredients
D. Increasing gluten development

3. The process in which heat causes starch granules to absorb water and swell is called _____. [U] / [CO 1]
A. Gelatinization
B. Retrogradation
C. Fermentation
D. Caramelization

4. Hard-dough biscuits require greater attention to: [U] / [CO 2]
A. Dough development and gluten characteristics
B. Egg foam stability
C. Yeast fermentation
D. Fat aeration
5. A product formulated without wheat, rye or barley gluten is classified as: [A] / [CO 4]
A. Gluten-free B. Low-fat
C. High-fibre D. Vegan
6. A chiffon cake differs from a pound cake mainly in its: [A] / [CO 3]
A. Aerated structure and oil-based formulation
B. High butter content
C. Requirement for yeast fermentation
D. Absence of eggs
7. In cake formulation, incorrect balancing of liquid and flour is most likely to affect: [A] / [CO 3]
A. Batter consistency and final texture B. Only crust colour
C. Only icing adhesion D. Only packaging stability
8. A major advantage of continuous bread-making systems is: [U] / [CO 2]
A. High-throughput and consistent production
B. Elimination of process control
C. Complete dependence on manual handling
D. Elimination of fermentation
9. The controlled cuts made on the surface of proofed bread dough are called _____. [U] / [CO 2]
A. Scoring B. Docking
C. Laminating D. Moulding
10. Which characteristic is most appropriate for a properly baked cracker? [U] / [CO 2]
A. Crispness with low residual moisture
B. Soft crumb with high moisture
C. Elastic texture with high gluten development
D. Moist interior with limited baking
11. A cake whose volume depends substantially on incorporated egg foam is classified as a _____ cake. [A] / [CO 3]
A. Choux B. Pound
C. Meringue D. Foam

12. Increasing dietary fibre in a bread formulation generally increases the requirement for: [An] / [CO 4]
 A. Water B. Yeast only
 C. Sugar only D. Fat only
13. The pastry made from a cooked dough that expands mainly through steam during baking is: [A] / [CO 3]
 A. Puff pastry B. Choux pastry
 C. Short-crust pastry D. Flaky pastry
14. Excessive loaf volume and a weak crumb may indicate problems in: [U] / [CO 2]
 A. Formulation issues B. Packaging alone
 C. Dough development or proofing D. Storage container
15. The primary purpose of applying food safety controls during bakery production is to: [An] / [CO 4]
 A. Prevent or reduce food safety hazards B. Increase product volume
 C. Reduce food wastage D. Extend proofing time
16. The system used to systematically identify and control significant food safety hazards is _____. [An] / [CO 4]
 A. HACCP B. GMP
 C. FSO D. TQM
17. The progressive loss of freshness in stored bread is known as: [U] / [CO 2]
 A. Retrogradation B. Rancidity
 C. Staling D. Fermentation
18. Excessive spreading of cookies may result from an imbalance of: [U] / [CO 2]
 A. Fat, sugar, flour and moisture B. Egg foam and steam
 C. Yeast, salt and proofing time D. Milk proteins and acidity
19. A cake with a dense crumb despite adequate baking should first be examined for: [A] / [CO 3]
 A. Incorrect formula balance/inadequate aeration
 B. Excessive cracker lamination
 C. Improper bread scoring
 D. Insufficient pastry folding
20. The major gas responsible for dough expansion during yeast-leavened bread making is: [U] / [CO 1]
 A. Oxygen & Carbon dioxide B. Carbon dioxide
 C. Nitrogen D. Hydrogen

[1x20 = 20]

Part B

Short Answer

Answer any 6 questions

Each question carries 5 marks

21. Explain heat transfer during baking, temperature effects on bakery products. [U] / [CO 1]

- | | | |
|-----|---|---------------|
| 22. | Explain the basic principles of baking and discuss the effects of temperature on bakery products. | [U] / [CO 1] |
| 23. | Describe the conventional, chemical, mechanical and continuous methods of bread making. | [U] / [CO 2] |
| 24. | Explain bread scoring and common external and internal bread faults. | [U] / [CO 2] |
| 25. | Describe the classification of biscuits into short-dough and hard-dough types, including the functions of major ingredients and important processing steps. | [U] / [CO 2] |
| 26. | Explain formula balancing in cake manufacture with reference to batter-type, foam-type, pound and chiffon cakes. | [A] / [CO 3] |
| 27. | Describe the different types of icing and explain their use in basic cake decoration. | [A] / [CO 3] |
| 28. | Explain the formulation of modified bakery products for special nutritional requirements, with reference to high-fibre and low-sugar. | [An] / [CO 4] |

[5x6 = 30]

Part C

Essay

Answer any 2 questions

Each question carries 10 marks

- | | | |
|-----|--|---------------|
| 29. | Discuss the fundamentals of baking in detail. | [U] / [CO 1] |
| 30. | Explain the major bread-making methods, equipment used, varieties of bread, common faults and corrective measures. | [U] / [CO 2] |
| 31. | Explain the manufacture of major pastry products. | [A] / [CO 3] |
| 32. | Analyse the technology and quality control of biscuits and cookies. Discuss the functions of ingredients, processing methods, equipment, product characteristics, common faults and appropriate corrective measures. | [An] / [CO 4] |

QP Code

Reg. No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

MGU-UGP(HONOURS) Theory EXAMINATION October 2026

FIFTH SEMESTER

**MG5DSEFSQ305-PROCESSING TECHNOLOGY OF FRUITS AND
VEGETABLES**

(2024 ADMISSION ONWARDS)

Duration: 2 Hours

Maximum Marks: 70

***Remember(K), Understand(U), Apply(A), Analyse (An), Evaluate(E), Create(C), Skill(S),
Interest(I), and Appreciation (Ap)***

*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 the form of pectin in unripe fruits: [K]/[CO1]
a) Pectic acid b) protopectin
c) pectinic acid d) pectin
2. Identify the method used to produce fruit juice powder [U][CO4]
a) Freeze-drying b) spray drying
b) c) sun drying d) osmotic drying

3. Identify a water-soluble pigment [U]/[CO2]
a) chlorophyll b) betalians
c) carotene d) lycopene
4. The soluble solid content of fruit juice measured in [U]/[CO4]
a) kilograms b) brix c) ppm d) grams
5. State the principle behind freeze-drying [K]/[CO3]
a) osmosis b) conduction
c) sublimation d) convection
6. formation of large ice crystals in freezing can cause [U]/[CO3]
a) better texture b) greater tissue damage
c) sterilization d) colour changes
7. Name the gas generally reduced in concentration during storage of fruits and vegetables [K]/[CO2]
a) CO₂ b) oxygen c) hydrogen d) nitrogen
8. Chemical preservative commonly used in fruit products [K]/[CO3]
a) calcium carbonate b) salt
c) sodium benzoate d) NaCl
- 9 Identify pigment in tomato [U]/[CO2]
a) lycopene b) betalians c) chlorophyll d) anthocyanins
10. Select major reason for post-harvest losses [U]/[CO1]
a) microbial b) mechanical
c) physiological d) all of the above
11. Name the flavour enhancer commonly used in fruit products [K]/[CO3]
a) salt b) MSG c) citric acid d) Baking soda
12. Vinegar production involves a conversion of alcohol in to [U]/[CO4]

- a) citric acid b) lactic acid c) acetic acid d) maleic acid

13. Classify onion as a [A]/[CO1]

- a) tuber b) rhizome c) bulb d) root

14. Choose the preservative commonly used in tomato ketch up [U]/[CO4]

- a) Sodium benzoate b) sodium bicarbonate
c) sodium carbonate d) Mg sulphate

15. Find the simple and oldest method of dehydration [K]/[CO3]

- a) Sun drying b) kiln drying
c) spray drying d) cabinet drying

16. Grading of fruits and vegetables is done according to [U]/[CO1]

- a) size b) Vitamin content
c) water content d) taste

17. Identify the usual temperature range for refrigeration of perishable foods

[U]/[CO2]

- a) 0-5⁰C b) 20-30⁰C
c) -18 - -30⁰C d) -4 –15⁰C

18. Outline hypobaric storage is storage [U]/[CO2]

- a) at high pressure b) at reduced atmospheric pressure
c) in water d) in freezer

19. Identify the main purpose of blanching [A]/[CO1]

- a) inactivates enzymes b) increase microbial growth
c) prevents colour changes d) Increase nutritive value

20. Select the fruit which is an excellent source of vitamin C

a) banana b) pear c) amla d) apple

(1X20=20)

PART B

Short Essay Type Questions

Answer **6** Questions

Each question carries **5** marks

- | | |
|---|------------|
| 21. Prepare a note on edible coating and multiple coating. | [U]/[CO3] |
| 22. Explain freeze-drying. | [U]/[CO3] |
| 23. Discuss on the changes occurring during fruit ripening. | [K]/[CO1] |
| 24. Compare tomato sauce and ketchup | [A]/[CO4] |
| 25. Explain in detail on blanching. | [U]/[CO1] |
| 26. Describe pigments present in fruits and vegetables. | [K]/[CO2] |
| 27. Prepare a note on jam and jelly. | [U]/[CO4] |
| 28. Discuss on CAP and MAP. | [A]/[CO2] |

(6X5 =30)

PART C

Essay type questions

Answer any **2** questions

Each question carries **10** marks

29. Prepare an essay on canning.

[U]/[CO2]

30. Explain in detail about beverages. Describe the processing of wine and cider with the help of a flowchart

[K]/[CO4]

31. Discuss on the principles, methods and problems in dehydration. [A]/[CO2]

32. Explain in detail on the preprocessing methods in fruits and vegetables processing

[U]/[CO1]

(2X10=20)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

**MGU-UGP (HONOURS) REGULAR EXAMINATION OCTOBER 2026
FIFTH SEMESTER**

**Skill Enhancement Course (SEC) - MG5SECF SQ300 - FOOD PHOTOGRAPHY AND
STYLING**

(2024 ADMISSION ONWARDS)

Duration: 1 Hour 30 Minutes

Maximum Marks: 50

***Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I)
and Appreciation(Ap)***

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

Part A

MCQ

Answer all questions

Each question carries 1 marks

1. Identify the camera setting that controls the size of the lens opening. [U]/[CO1]
A) ISO
B) Aperture
C) Shutter speed
D) Focal length
2. Identify the camera setting that determines the sensitivity of the camera sensor to light. [U]/[CO1]
A) Aperture
B) Shutter speed
C) ISO
D) White balance
3. Describe the function of shutter speed in food photography. [U]/[CO1]
A) Controls the duration of light exposure
B) Controls the colour of the food
C) Controls the size of the lens
D) Controls the background texture
4. Identify the lens commonly used for capturing detailed close-up images of food. [U]/[CO1]
A) Macro lens
B) Fisheye lens
C) Wide-angle lens
D) Standard lens
5. Explain the purpose of composition in food photography. [U]/[CO1]
A) Arranging visual elements effectively within the frame
B) Increasing the nutritional value of food
C) Improving the shelf life of food
D) Changing the cooking method
6. Identify the composition principle that divides an image into nine sections using two horizontal and two vertical lines. [U]/[CO1]
A) Symmetry
B) Rule of thirds

- C) Leading lines
 - D) Framing
7. Distinguish natural lighting from artificial lighting in food photography. [U]/[CO1]
 - A) Natural lighting uses available light sources such as sunlight
 - B) Natural lighting always requires a studio flash
 - C) Artificial lighting is obtained only from sunlight
 - D) Artificial lighting cannot be controlled
 8. Define food styling in the context of food photography. [U]/[CO2]
 - A) Arranging and presenting food attractively for the camera
 - B) Processing food to increase its shelf life
 - C) Evaluating the nutritional composition of food
 - D) Packaging food for commercial distribution
 9. Explain the application of colour theory in food styling. [U]/[CO2]
 - A) Creating visual harmony and contrast in food presentation
 - B) Increasing the nutritional quality of food
 - C) Extending the shelf life of food
 - D) Improving the cooking characteristics of food
 10. Identify an important consideration when selecting props and backgrounds for food photography. [U]/[CO2]
 - A) Suitability to the food and overall composition
 - B) Maximum number of decorative objects
 - C) Highest possible colour intensity
 - D) Complete dominance over the food subject
 11. Identify the composition technique that uses visual elements to guide the viewer's attention through an image. [U]/[CO1]
 - A) Leading lines
 - B) Aperture
 - C) ISO
 - D) Shutter speed
 12. Explain the purpose of framing in food photography. [U]/[CO1]
 - A) Emphasizing and isolating the main subject
 - B) Increasing the nutritional value of the food
 - C) Changing the texture of the food
 - D) Increasing the cooking temperature
 13. Describe the role of composition in creating an effective food photograph. [U]/[CO1]
 - A) Organizing visual elements within the frame
 - B) Increasing the shelf life of food
 - C) Improving the nutrient content of food
 - D) Reducing the moisture content of food
 14. Apply a basic photo-editing technique to remove unwanted areas from a food photograph. [A]/[CO3]
 - A) Cropping
 - B) Fermentation
 - C) Blanching
 - D) Dehydration
 15. Demonstrate an appropriate editing process for improving the tonal appearance of a food photograph. [A]/[CO3]
 - A) Adjusting brightness and contrast
 - B) Increasing cooking time
 - C) Adding preservatives
 - D) Altering food texture

16. Demonstrate the use of culturally relevant props and traditional food items to communicate the identity of a region. [S]/[CO4]
 - A) Food storytelling
 - B) Food preservation
 - C) Food fortification
 - D) Food packaging
17. Apply appropriate visual elements to represent the cultural characteristics of a traditional cuisine. [A]/[CO4]
 - A) Traditional ingredients and utensils
 - B) Laboratory equipment
 - C) Industrial machinery
 - D) Packaging materials
18. Demonstrate the use of lighting, colour and arrangement to evoke nostalgia through a food photograph. [S]/[CO4]
 - A) Emotional storytelling
 - B) Food preservation
 - C) Nutritional evaluation
 - D) Quality control
19. Apply sequential food images to communicate the preparation and serving of a traditional dish. [A]/[CO4]
 - A) Visual storytelling
 - B) Food packaging
 - C) Sensory evaluation
 - D) Food processing
20. Develop a consistent approach to composition, lighting and styling across a series of food photographs. [S]/[CO4]
 - A) Personal photographic style
 - B) Food safety system
 - C) Preservation method
 - D) Quality control system

(20X1=20)

Part B

Short essay

Answer any 5 questions

Each question carries 4 marks

21. Explain the functions of aperture, shutter speed and ISO in food photography. [U]/[CO1]
22. Describe the principles of composition, framing and the rule of thirds in food photography. [U]/[CO1]
23. Explain the basic techniques of food styling and their importance in creating visually appealing food images. [U]/[CO2]
24. Discuss the application of colour theory in food styling and the selection of suitable props and backgrounds for food photography. [U]/[CO2]
25. Explain the principles of composition and framing used to create an effective food photograph. [U]/[CO1]
26. Describe the basic photo-editing tools and techniques used to enhance food photographs. [U]/[CO1]
27. Explain how food culture and storytelling elements can be incorporated into food photography to communicate the characteristics of different cuisines and evoke emotions. [U]/[CO4]

(5X4=20)

Part C

Essay

Answer any 1 question

Each question carries 10 marks

28. Discuss the fundamentals of camera operation in food photography, including aperture, shutter speed, ISO, different lenses, composition, framing and the rule of thirds. [U]/[CO1]
29. Explain the principles of natural and artificial lighting, composition and framing, and describe the basic photo-editing techniques used to enhance food photographs. [U]/[CO1]

(1X10=10)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) REGULAR EXAMINATION OCTOBER 2026
FIFTH SEMESTER
Skill Enhancement Course (SEC) - MG5SECFSQ301 - INFLIGHT CATERING
TECHNOLOGY

(2024 ADMISSION ONWARDS)

Duration: 1 Hour 30 Minutes

Maximum Marks: 50

Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I)
and Appreciation(Ap)

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

Part A

MCQ

Answer all questions

Each question carries 1 marks

1. Identify the sector of the aviation industry concerned with providing meals and food services to passengers during flights. [U]/[CO1]
A) Aviation catering
B) Ground handling
C) Aircraft maintenance
D) Air traffic control
2. Describe the primary role of catering services in the airline industry. [U]/[CO1]
A) Providing food and meal services to passengers
B) Managing aircraft navigation
C) Maintaining aircraft engines
D) Controlling airport security
3. Explain the importance of understanding trends in the aviation catering industry. [U]/[CO1]
A) Adapting catering services to changing passenger expectations
B) Increasing aircraft speed
C) Reducing flight duration
D) Managing air traffic
4. Identify the principle that ensures a menu provides a suitable variety of foods and dishes. [U]/[CO1]
A) Menu balance
B) Food packaging
C) Aircraft maintenance
D) Meal transportation
5. Describe the role of dietary considerations in inflight menu planning. [U]/[CO1]
A) Accommodating the nutritional and dietary needs of passengers
B) Increasing aircraft capacity
C) Reducing cabin pressure
D) Improving aircraft navigation
6. Identify a special meal requirement that may be provided to accommodate passenger needs. [U]/[CO1]
A) Vegetarian meal

- B) Standard equipment meal
 - C) Maintenance meal
 - D) Navigation meal
7. Explain the importance of culinary creativity in inflight menu design. [U]/[CO1]
 - A) Enhancing the appeal and variety of meals offered to passengers
 - B) Increasing aircraft fuel capacity
 - C) Reducing airport congestion
 - D) Improving aircraft engine performance
 8. Describe the purpose of food preparation methods in inflight catering. [U]/[CO1]
 - A) Preparing food appropriately for subsequent service during flights
 - B) Increasing aircraft speed
 - C) Managing passenger boarding
 - D) Controlling aircraft navigation
 9. Identify an important consideration when designing an inflight menu for diverse passengers. [U]/[CO1]
 - A) Dietary preferences and requirements
 - B) Aircraft paint colour
 - C) Flight altitude alone
 - D) Runway length
 10. Explain the significance of historical development in understanding the aviation catering industry. [U]/[CO1]
 - A) Understanding the evolution of airline catering services and practices
 - B) Determining aircraft engine capacity
 - C) Controlling air traffic
 - D) Managing airport construction
 11. Identify the purpose of food safety regulations and standards in inflight catering. [U]/[CO2]
 - A) Ensuring the safety of food served to passengers
 - B) Increasing aircraft speed
 - C) Improving aircraft navigation
 - D) Reducing passenger capacity
 12. Explain the importance of hygienic food handling practices in inflight catering. [U]/[CO2]
 - A) Preventing contamination of food during handling and preparation
 - B) Increasing flight duration
 - C) Improving aircraft design
 - D) Reducing meal variety
 13. Describe the role of quality control measures in ensuring safe inflight meals. [U]/[CO2]
 - A) Monitoring food safety and quality during meal production
 - B) Increasing aircraft fuel efficiency
 - C) Controlling passenger boarding
 - D) Managing flight schedules
 14. Identify the regulatory aspect that supports compliance with food safety requirements in inflight catering. [U]/[CO3]
 - A) Food safety standards
 - B) Aircraft interior design
 - C) Passenger entertainment
 - D) Flight scheduling
 15. Explain the importance of complying with applicable local and international standards in inflight catering. [U]/[CO3]

- A) Ensuring catering operations meet prescribed regulatory requirements
 - B) Increasing aircraft seating capacity
 - C) Reducing flight distance
 - D) Improving aircraft speed
16. Identify specialized equipment commonly used for reheating inflight meals. [U]/[CO2]
- A) Inflight catering oven
 - B) Bakery mixer
 - C) Ice cream freezer
 - D) Laboratory incubator
17. Describe the purpose of adapting cooking methods to high-altitude conditions. [U]/[CO2]
- A) Maintaining the desired quality of food under inflight conditions
 - B) Increasing aircraft speed
 - C) Reducing passenger numbers
 - D) Improving aircraft navigation
18. Explain the importance of packaging in maintaining food quality during transportation and service. [U]/[CO2]
- A) Protecting food quality and safety during handling and transportation
 - B) Increasing aircraft capacity
 - C) Reducing flight duration
 - D) Improving passenger entertainment
19. Apply an appropriate packaging consideration for an inflight meal that must maintain its quality during transportation and service. [A]/[CO4]
- A) Selecting packaging that protects the food during handling and transportation
 - B) Selecting packaging based only on appearance
 - C) Using packaging without considering food compatibility
 - D) Selecting packaging that allows food contamination
20. Analyze the suitability of packaging materials for different cuisines based on their ability to maintain food quality and safety. [An]/[CO5]
- A) Matching packaging properties with the requirements of the cuisine
 - B) Selecting identical packaging for every cuisine
 - C) Selecting packaging only according to colour
 - D) Selecting packaging without considering food characteristics

(20X1=20)

Part B

Short essay

Answer any 5 questions

Each question carries 4 marks

- 21. Explain the importance of catering services in the airline industry, including their historical development and current trends. [U]/[CO1]
- 22. Describe the principles of menu planning and design for inflight catering, considering passenger requirements. [U]/[CO1]
- 23. Explain the dietary considerations, special meal requirements and culinary creativity involved in inflight menu planning. [U]/[CO1]
- 24. Explain the importance of food safety regulations, hygiene practices and quality control measures in ensuring safe inflight meals. [U]/[CO2]
- 25. Explain the adaptation of cooking methods to high-altitude conditions and the role of specialized inflight catering equipment. [U]/[CO2]
- 26. Apply suitable packaging considerations to maintain food quality and safety during transportation and inflight service. [A]/[CO4]
- 27. Analyze the factors to be considered when selecting packaging materials for different

cuisines in airline catering. [An]/[CO5]

(5X4=20)

Part C

Essay

Answer any 1 question

Each question carries 10 marks

28. Discuss the principles of inflight menu planning and design, including dietary considerations, special meal requirements, culinary creativity and food preparation methods for diverse passengers. [U]/[CO1]
29. Analyze the culinary challenges associated with inflight kitchens and evaluate suitable techniques for preserving food quality during air travel, including packaging considerations and packaging materials for different cuisines. [An]/[CO5]

(1X10=10)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM MGU-UGP (HONOURS)
THEORY MODEL QUESTION PAPER FIFTH SEMESTER
SKILL ENHANCEMENT COURSE (SEC)
MG5SECFSQ302 - FOOD SAFETY MANAGEMENT SYSTEM
(2024 ADMISSION ONWARDS)

Duration : 1.5 Hours

Maximum Marks: 50

Remember (K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I) and Appreciation(Ap)

PART A

Answer All Questions

Each question carries 1 mark

1. HACCP stands for [K] / [CO1]
 - a) Hazard Analysis and Critical Control Point
 - b) Hazard Assessment and Control Procedure
 - c) Health Analysis and Critical Control Process
 - d) Hazard Control and Certification Programme
2. Identify a biological hazard. [U] / [CO2]
 - a) Glass b) Pesticide
 - c) Salmonella d) Metal
3. The first principle of HACCP is [K] / [CO1]
 - a) Establish monitoring procedures
 - b) Conduct hazard analysis
 - c) Establish corrective actions
 - d) Establish verification procedures
4. A Critical Control Point (CCP) is a step at which [U] / [CO2]
 - a) Food is packaged
 - b) A hazard can be prevented, eliminated or reduced to an acceptable level
 - c) Food is transported
 - d) Food is labelled
5. Which of the following is a physical hazard? [K] / [CO2]
 - a) Aflatoxin b) Salmonella
 - c) Glass fragment d) Cleaning chemical
6. ISO 22000 is related to: [U] / [CO3]
 - a) Environmental management
 - b) Food Safety Management Systems
 - c) Quality control of medicines
 - d) Occupational safety
7. PDCA stands for: [K] / [CO3]
 - a) Plan-Do-Check-Act
 - b) Prepare-Develop-Control-Act
 - c) Plan-Develop-Check-Assess
 - d) Prevent-Do-Control-Assess
8. Recall an important component of the context of an organization. [K] / [CO3]
 - a) Internal and external issues
 - b) Product colour only

- c) Packaging design only
- d) Advertising strategy
- 9. Food defence mainly deals with [U] / [CO4]
 - a) Accidental contamination
 - b) Intentional contamination
 - c) Food nutrition
 - d) Food packaging
- 10. Food fraud refers to: [U] / [CO4]
 - a) Accidental food contamination
 - b) Intentional deception for economic gain
 - c) Microbial spoilage
 - d) Food allergy
- 11. Pick a common food allergen [K] / [CO4]
 - a) Water b) Milk c) Salt d) Sugar
- 12. Environmental monitoring is mainly used to [U] / [CO4]
 - a) Monitor food prices
 - b) Detect potential contamination in the processing environment
 - c) Measure food colour
 - d) Determine food cost
- 13. Verification in HACCP is used to determine whether. [U] / [CO5]
 - a) The system is working as intended
 - b) Employees are paid correctly
 - c) Food is attractive
 - d) Packaging is inexpensive
- 14. Corrective action is taken when [U] / [CO5]
 - a) A deviation occurs
 - b) Production begins
 - c) Food is purchased
 - d) A product is advertised
- 15. Identify a chemical hazard [K] / [CO2]
 - a) Hair b) Metal piece
 - c) Pesticide residue d) Bacteria
- 16. FSSC 22000 is a food safety certification scheme based on [U] / [CO4]
 - a) ISO 22000 and additional requirements
 - b) ISO 9001 only
 - c) HACCP only
 - d) GMP only
- 17. BRCGS is associated with [K] / [CO4]
 - a) Food safety and quality standards
 - b) Banking standards
 - c) Medical diagnosis
 - d) Agricultural taxation
- 18. HALAL certification ensures compliance with [K] / [CO4]
 - a) Islamic dietary requirements
 - b) Organic farming requirements
 - c) Kosher dietary requirements
 - d) Environmental standards only
- 19. KOSHER certification is related to [K] / [CO4]
 - a) Jewish dietary laws
 - b) Islamic dietary laws

- c) Food packaging laws
 - d) Environmental management
 - 20. Documentation and record keeping in FSMS are important for [U] / [CO5]
 - a) Traceability and evidence of implementation
 - b) Increasing food colour
 - c) Reducing product size
 - d) Advertising products
- (1 X 10 = 10)**

PART B

Answer any 5 questions

Each question carries 4 marks

- 21. Recognise the importance of food safety management systems in the food industry. [K] / [CO1]
 - 22. Describe the different types of food hazards with suitable examples [A] / [CO2]
 - 23. Recall the principles of HACCP. [K] / [CO1]
 - 24. Explain the procedure for hazard analysis and risk assessment in a food processing unit. [U] / [CO2]
 - 25. Define Critical Control Point. Explain the importance of determining CCPs in HACCP. [U] / [CO2]
 - 26. Explain monitoring, verification and corrective actions in a food safety management system. [U] / [CO5]
 - 27. Describe the PDCA cycle. Explain its importance in ISO 22000:2018. [U] / [CO3]
- (5 X 4 = 20)**

PART C

Answer any 1 question

Each question carries 10 marks

- 28. Explain ISO 22000:2018 in detail. Discuss its major requirements, including organizational context, leadership, planning, support, operation, performance evaluation and improvement. [U] / [CO3]
 - 29. Explain FSSC 22000 and its additional requirements. Discuss the importance of food defence, food fraud prevention, allergen management, environmental monitoring, product labelling, cross-contamination control and multi-certification requirements. [U] / [CO4]
- (1 X 10 = 10)**