

**THIRD SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2020**

Food Technology

FTL 3C 04—PRINCIPLES OF FOOD SCIENCE

(2017 Admissions)

Time : Three Hours

Maximum : 64 Marks

**Part A**

Answer *all* the questions :

1. Name the milk protein.
2. Orange colour of carrot is due to which pigment ?
3. Pulses are rich source of which macronutrient ?
4. The anti-nutritional factor in egg is \_\_\_\_\_.
5. Gas responsible for fruit ripening is \_\_\_\_\_.
6. The flavouring compound in garlic is \_\_\_\_\_.
7. Name the meat pigment.
8. Fish odour is due to the formation of \_\_\_\_\_.
9. What is the major constituent in corn syrup ?
10. Name three simple sugars.

(10 × 1 = 10 marks)

**Part B**

Answer *all* the questions :

11. What are the energy components of food ?
12. What is the classification of fruits based on respiration ?
13. What are the major spices in India ?
14. Enlist the microbes used for the preparation of Yoghurt.
15. Enlist egg white proteins.

**Turn over**

16. Name the muscle protein in meat.
17. Define food.

(7 × 2 = 14 marks)

### Part C

Answer any *five* questions :

18. What are the classification food groups ?
19. Write a short note on anti-nutritional factors in legumes.
20. Write in detail about climacteric and non-climacteric fruits.
21. What are the major functions of spices in food ?
22. Briefly explain types of milk.
23. Write a short note on rigor mortis.
24. Write in detail about fish liver oil.
25. What are the functional properties of sugar ?

(5 × 4 = 20 marks)

### Part D

Answer any *two* of the following :

26. Explain in detail the preservation of fish.
27. Write a detailed note on manufacturing of egg powder. What are its applications ?
28. Explain objectives and methods cooking.

(2 × 10 = 20 marks)

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Food Technology

FTL 3C 04—PRINCIPLES OF FOOD SCIENCE

Time : Two Hours

Maximum : 60 Marks

**Section A**

*Answer at least **eight** questions.*

*Each question carries 3 marks.*

*All questions can be attended.*

*Overall Ceiling 24.*

1. What is tenderization of meat ?
2. What are egg white proteins ?
3. What are thermal degradation of sugar ?
4. What is fish meal ?
5. What is malting process ?
6. What is Kumiss ?
7. Enlist major spices in India.
8. Fishy odour is due to \_\_\_\_\_.
9. What is Chalaza ?
10. What is the enzyme involved in the production HFCS ?
11. Pulses are deficient in \_\_\_\_\_ and \_\_\_\_\_ amino acids
12. What are the microorganisms involved in the production yoghurt ?

(8 × 3 = 24 marks)

**Turn over**

**Section B**

*Answer at least **five** questions.*

*Each question carries 5 marks.*

*All questions can be attended.*

*Overall Ceiling 25.*

13. Write a short note on the effect of germination on nutritional quality of pulses.
14. Differentiate climatic and non climatic fruits.
15. Write a note on functional properties of spices in food.
16. Write in details the production of yoghurt.
17. Explain the functional role of egg in food.
18. Write a short note on reactions of sugar with amino acid and protein.
19. Write a short note on browning of cut vegetables and fruits.

(5 × 5 = 25 marks)

**Section C**

*Answer any **one** question.*

*The question carries 11 marks.*

20. Write in detail the factors affecting meat quality.
21. Elaborate thermal processing of milk.

(1 × 11 = 11 marks)

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Food Technology

FTL 3B 05—FOOD ENGINEERING

Time : Two Hours

Maximum : 60 Marks

**Section A**

*Answer at least **eight** questions.*

*Each question carries 3 marks.*

*All questions can be attended.*

*Overall Ceiling 24.*

1. What is the function of an atomizer in spray drier ?
2. Brief on rheoectic and thixotropic fluids.
3. What is foam mat drying ?
4. What are different methods of pasteurization ?
5. What is the principles microwave heating ?
6. What are different types of boiler ?
7. What is cryogenic freezing ?
8. What are the types of evaporator ?
9. What are the major applications of heat exchangers ?
10. Define storage modulus and lose modulus ?
11. What is the function of a condenser in refrigeration ?
12. What are Newtonian fluids ?

(8 × 3 = 24 marks)

**Turn over**

**Section B**

*Answer at least **five** questions.*

*Each question carries 5 marks.*

*All questions can be attended.*

*Overall Ceiling 25.*

13. What are the classification of fluids based on the response to applied shear force ?
14. Explain different method of blanching and the purpose of blanching in vegetables.
15. Compare and contrast direct contact and indirect contact freezing.
16. With the help of diagram explain working of falling film evaporator, and its application.
17. Write a short note on working of spray dryer.
18. Explain different modes of heat transfer.
19. Describe in brief the major parts of a boiler.

(5 × 5 = 25 marks)

**Section C**

*Answer any **one** question.*

*Each question carries 11 marks.*

20. With the help of neat diagram explain different refrigeration systems and their applications.
21. Explain the working of shell and tube heat exchangers. What are their applications and demerits?

(1 × 11 = 11 marks)

**THIRD SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2020**

Food Technology

FTL 3B 05—TECHNOLOGY OF FOOD PRESERVATION

(2017 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A**

*Answer all the questions.  
Each question carries 1 mark.*

Multiple choice :

1. Storage of food under reduced pressure is called :
  - a) Aseptic packaging.
  - b) Hyperbaric storage.
  - c) Hypobaric storage.
  - d) Gas packaging.
2. Tin can is patented by :
  - a) Nicholas Appert.
  - b) Peter Durand.
  - c) Louis pasture.
  - d) Alexander Fleming.
3. Propionate is effective against :
  - a) Mold
  - b) Yeast.
  - c) Bacteria.
  - d) All of these.
4. Major source of anti-freeze protein is :
  - a) Tuber.
  - b) Spinach.
  - c) Fish.
  - d) Papaya.

Fill in the blanks :

5. \_\_\_\_\_ is the fermented product from cabbage.
6. MSG is used as a/an \_\_\_\_\_ in food.
7. Irradiation of food is done by \_\_\_\_\_ rays.
8. Frozen storage temperature is \_\_\_\_\_.

**Turn over**

Give very short answer :

9. Expand GRAS.
10. What is flame peeling ?

(10 × 1 = 10 marks)

### Part B

*Answer any **five** questions.  
Each question carries 2 marks.*

11. Define thawing.
12. What is the principle of microwave heating ?
13. What is freezer burn ?
14. Enlist different drying method used in food commodity.
15. What is aseptic packaging ?
16. What is spray drying ?
17. Write any two preservatives used in meat.

(5 × 2 = 10 marks)

### Part C

*Answer any **six** questions.  
Each question carries 5 marks.*

18. Explain lactic acid fermentation.
19. What is the significance of blanching in fruit preservation ?
20. Differentiate between pasteurisation and sterilisation.
21. Explain the quality deterioration in frozen food.
22. Write the types of irradiation on the basis of dosage.
23. Write a short note on recent trends in preservation technique.
24. What are the steps followed in new product development ?
25. Write short note on chemical preservative.

(6 × 5 = 30 marks)



**Section B**

*Answer at least **five** questions.*

*Each question carries 5 marks.*

*All questions can be attended.*

*Overall Ceiling 25.*

13. What are toxicants in food ?
14. Differentiate between quality control and quality assurances.
15. Discuss the different types of preservatives used in food ?
16. Why do vegetables need to be blanched before freezing them ?
17. Write the parameters that one can use to slow down or inhibit the growth of microorganisms.
18. Differentiate between codex and ISO.
19. Discuss the significance of HACCP.

(5 × 5 = 25 marks)

**Section C**

*Answer any **one** question.*

*The question carries 11 marks.*

20. Differentiate between low temperature and high temperature preservation methods.
21. Explain why food safety and quality are of global concern.

(1 × 11 = 11 marks)