

**THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)  
EXAMINATION, NOVEMBER 2021**

(CBCSS)

Food Science and Technology

FST 3C 15—PACKAGING TECHNOLOGY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

1. *In cases where choices are provided, students can attend all questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

**Part A**

*Answer any four questions.  
Each question carries 2 weightage.*

1. What is lacquering ?
2. Role of packing in food industry.
3. Differentiate LDPE and HDPE.
4. Factors affecting shelf life study.
5. Tensile and bursting strength.
6. Write a note on biodegradable packaging.
7. The role of tertiary package in food packaging.

(4 × 2 = 8 weightage)

**Part B**

*Answer any four questions.  
Each question carries 3 weightage.*

1. Write a note on WVTR.
2. Explain the different machineries used in food packaging.

**Turn over**

3. Explain the requirements of effective packaging.
4. Write a note on polypropylene.
5. Explain in detail MAP.
6. Write a short on semi rigid containers.
7. Explain chemical and biological changes in food.

(4 × 3 = 12 weightage)

### Part C

*Write essay on any two of the following.  
Each question carries 5 weightage.*

1. Why special packaging are important explain and list out the advantages ?
2. Explain paper and glass acts as a packaging material.
3. Write essay on packaging standard and regulations.
4. What are the different packaging testing methods ? Explain in detail.

(2 × 5 = 10 weightage)

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FST 3C 14—TECHNOLOGY OF CEREALS, LEGUMES AND OIL SEEDS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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**Part A**

*Answer any four questions.  
Each question carries 2 weightage.*

1. What is starch damage and what is its importance ?
2. How L/B ratio is used for grading of paddy/rice ?
3. What are minor pulses ? Name two of them.
4. What is supercritical extraction ?
5. What are anti-nutritional factors ?
6. What is wet milling of maize ?
7. What is gelatinization of starch ?

(4 × 2 = 8 weightage)

**Part B**

*Answer any four questions.  
Each question carries 3 weightage.*

1. Discuss the physical properties of wheat.
2. Name the dough testing instruments and list their uses.

**Turn over**

3. Write the steps involved in preparing coconut vinegar.
4. Differentiate between the traditional and modern methods of pulse milling.
5. How oil seeds and cakes could be used in the preparation of weaning foods ?
6. List the advantages and disadvantages of parboiling of paddy.
7. How are ghani and expellers used to extract oil ?

(4 × 3 = 12 weightage)

### Part C

*Write essay on any two of the following.  
Each question carries 5 weightage.*

1. Discuss in details the uses and functionalities of Baking additives.
2. Describe the structure of rice grain with associated nutritional facts.
3. Describe T-D Process used in the milling of maize.
4. Explain : (a) virgin coconut oil (b) protein isolates and their production.

(2 × 5 = 10 weightage)

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FST 3C 13—PRINCIPLES OF FOOD PROCESSING AND PRESERVATION

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

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**Part A**

*Answer any four out of seven questions, each question carries 2 weightage.*

1. Explain food adulteration with 2 examples.
2. What is Protective food ?
3. Define freeze concentration.
4. Define Pasteurization.
5. What is Hurdle Technology ?
6. Give two applications of microfiltration in food processing ?
7. What is Hedonic scale of sensory evaluation ?

(4 × 2 = 8 weightage)

**Part B**

*Write a short essay on any four of the following, each question carries 3 weightage.*

1. Give the classification of foods based on pH.
2. Explain process time evaluation for canned products.

**Turn over**

3. Why moisture cannot be reduced below Equilibrium moisture content in drying ?
4. Explain Curing and effect of salt on food preservation.
5. How low temperature is effective in food preservation ?
6. What are the basic principles of food preservation ?
7. Write about panel selection process for sensory evaluation.

(4 × 3 = 12 weightage)

### Part C

*Answer any two questions, each question carries 5 weightage.*

1. Explain FSSAI Regulations on chemical preservation of foods.
2. Briefly mention about canning of foods. Explain how heat penetrates into containers ?
3. Explain the principles of High Pressure Processing and give its application in food processing.
4. Define fermentation preservation. Differentiate alcoholic, acetic and lactic fermentation.

(2 × 5 = 10 weightage)

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FST 3C 12—TECHNOLOGY OF FRUITS, VEGETABLES, SPICES AND PLANTATION  
PRODUCTS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

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**Part A**

*Answer any four questions.  
Each question carries 2 weightage.*

Write a short note on :

- 1) Coffee concentrate.
- 2) Storage of spices.
- 3) Blanching.
- 4) IQF.
- 5) Citrus fruits.
- 6) Role of fruits in health ?
- 7) Methods used for preserving fruits/vegetables ?

(4 × 2 = 8 weightage)

**Part B**

*Answer any four questions.  
Each question carries 3 weightage.*

- 8) Storage defects in fruits and vegetables products.
- 9) Decaffeination of tea.

**Turn over**

- 10) Role of acid in jam/gel preparation.
- 11) Write about preparation of pickle with specification.
- 12) Write a note on RTD beverages.
- 13) Note on spice oleoresin extraction.
- 14) Differentiate between drying and dehydration.

(4 × 3 = 12 weightage)

### Part C

*Answer any two questions.  
Each question carries 5 weightage.*

- 15) Describe processing of soluble coffee and types of coffee.
- 16) Elaborate on Banana and kokum based products with specifications.
- 17) Note on various storage practices of fruits and vegetables.
- 18) Outline composition and therapeutic value of major spices.

(2 × 5 = 10 weightage)