

Certificate/Diploma in Food Preservation

Objectives :

To enable student –

- 1) To acquire Knowledge of Food Preservation.
- 2) To acquire Knowledge of Preservation Techniques.

Duration of the Course:

Certificate:6 months

Diploma : 1 Year

Eligibility: Any student enrolled in the degree program of the college.

Subjects covered under Certificate Course are Sr No. 1,2 and 3	
Name of Paper	Credits
GC-FP-01T Fundamentals of Food Preservation	06
GC-FP-02T Methods of Food Preservation	06
GC-EM-03P Pracrical and Project-I	06
Subjects covered under Diploma Course are Sr No. 1,2,3,4,5 and 6	
GC-FP-04T Modern Techniques of Preservation	06
GC-FP-05T Handling of Preserved Products	06
GC-FP-06P Pracrical and Project	06

Fundamentals of Food Preservation

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 35%

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any ten questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A and B of the question paper and any ten short questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Section A

Unit I - Fundamentals of food preservation

- Concept & History
- Importance of food preservation
- Advantages of food preservation

Unit II - Food spoilage - Causes & Effects

- Factors affecting food Spoilage

- Causes of food spoilage by bacteria , yeasts , moulds

Section A

Unit III - Food preservation by Dehydration

- Methods of Drying :-
- Dehydration by Air Drying
- Sun Drying &
- Freeze Drying

Unit IV - Food Preservation by Chemicals

- Concept & Importance of Food preservatives
- Use of Chemicals: Natural & synthetic

Methods of Food Preservation

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 35%

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any ten questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A and B of the question paper and any ten short questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Section A

Unit I - Fundamentals of food preservation

- Principles, Scope of Food preservation
- Classification of Food on the basis of Shelf Life

Unit II - Food spoilage - Causes & Effects

- Spoilage due to enzymes activity, insects, pests and rodents

- Spoilage due to chemical & Physical factors

Section B

Unit III - Food preservation by freezing methods

- Advantages & Disadvantages of freezing
- Changes in food during freezing storage

Unit IV - Food Preservation by irradiation

- Ultra Violet and ionizing irradiation
- Their effect on Micro organisms
- Use of Radiations in the treatment of food

Practical and Project I

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 35%

Practical

- 1) Identification of lab equipment
- 2) Identification of class I & class II Preservatives .
- 3) Identification of spoiled food .
- 4) Preparation of product by using Salt as preservative (any two)
- 5) Preparation of product by using Sugar as a preservative (any two)
- 6) Preparation of product by using Oil as preservative (any two)
- 7) Preparation of product by using Chemical preservative (any two)
- 8) Visit to the food preservation unit .

Scheme of practical examination

Internal practical examination

40 marks

- I) Preparation
20 marks
- II) Identification
10 marks
- III) Submission of practical record book
5 marks
- IV) Viva – Voce
5 marks

References :

- 1) Khetarpaul N (2005) Food Processing and Preservation . Daya books .
- 2) Rahman M S (2007) Handbook of Food Preservation 2nd ed CRC Press .
- 3) Nagi M and Bajaj S (1982) Home Preservation of fruits and Vegetables . Centre for Communication and International Linkages , PAU , Ludhiana .
- 4) Srivastava R P and Kumar S (2002) Fruits and Vegetables Preservations : Principles and Practices
3rd Edition . International Book Distributing Co. Lucknow .

Modern Techniques of Preservation

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 35%

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any ten questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A and B of the question paper and any ten short questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Section A

Unit I - Microorganisms in food

- Introduction
- Types of Microorganisms, Conditions for growth

Unit II - Modern techniques in food preservation

- Concept, Definition

- High Hydrostatic pressure
- Hurdle technology
- Pulse electric field

Section B

Unit III - Storage

- Storage of commonly used foods :
 - perishable
 - semi-perishable
 - Non-perishable food items

Unit IV - Labeling and Preservatives

- Labeling and costing of products
- Food standards and quality control

Handling of Preserved

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 35%

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any ten questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A and B of the question paper and any ten short questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Section A

Unit I - Microorganisms in food

- Food Spoilage
- Causes and effects of food spoilage and their control

Unit II - Modern techniques in food preservation

- Heat treatments- Boiling and steam under pressure
- Microwave heating : properties , mechanism , microwave generator and microwave food application

Section B

Unit III - Storage

- Selection and purchase of foods for preservation
- Basics of packaging and packaging material

Unit IV - Labeling and Preservatives

- Food additives , preservatives and antioxidants
- Coloring matter and emulsifying agents

Practicaland Project II

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 6
Pass Percentage: 35%

Practical –

- 1) Introduction to drying equipment .
Max. Marks : 50
- 2) Drying of Fruits (any two)
Practical : 40
- 3) Drying of Vegetable (any two)
Int. Ass. : 10
- 4) Drying of seeds (any two)
Periods : 4 hrs / week
- 5) Blanching of Vegetables .
- 6) Steaming of Vegetables .
- 7) Preservation of fruits by Syruping .
- 8) Introduction of freezing equipment
- 9) Freezing of Fruits (any two)
- 10) Visit to cold storage unit .

Scheme of practical examination

Internal practical examination

40 marks

- I) Preparation
20 marks
- II) Identification of equipments
10 marks
- III) Submission of practical record book
5 marks
- IV) Viva – Voce
5 marks

References :

- 1) Sivasankar B (2004) Food Processing and Preservation . PHI Learning Pvt. Ltd ,
New Delhi
- 2) Adams M R and Moss M O (2018) Food Microbiology . New Age International
Private Limited , New Delhi
- 3) Kalila M and Sood S (1996) food Preservation and processing Ist Edition Kalyani
Publishers ,
New Delhi .
- 4) Khader V (1999) Text Book on Food Storage and Preservation Ist Edition Kalyani
Publishers ,
New Delhi .
- 5) Nagi M and Bajaj S (1982) Home Preservation of fruits and Vegetables . Centre for
Communication and International Linkages , PAU , Ludhiana .