

## Semester- III

Course Opted	Course Name	Credits
CC - 10 (Core Course)	Food Processing	5 (5+0)
CC - 11 (Core Course)	Food Science and Experimental Food	5 (5+0)
CC - 12 (Core Course)	Institutional Food Management	5 (5+0)
CC - 13 (Core Course)	Community Nutrition	5 (5+0)
CC - 14 (Core Course)	Practical	5 (0+5)
AEEC - 2 (Ability Enhancement Compulsory Course)	Human Values & Professional Ethics & Gender Sensitization	5 (5+0)
Total		30

K. Singh  
7.2.19

Singh  
7.2.19

Singh  
7/2/19

G  
02/02/19

(P)K  
7/2/19

## Semester - III

Core Course 10:

Food Processing

06 Credits

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory - ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) - each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) - each question of 10 marks, three to be answered.**10 x 3 = 30 marks***Objectives:**

This course will enable the students to

- Acquire necessary knowledge of basic principles and procedures in the production of important food products
- Gain basic knowledge about food processing and technology.
- Understand food standard and related laws

**Unit I**

Food spoilage, role of microorganisms, food borne hazards of microbial origin

**Unit II**

Food preservation - principles &amp; methods

Physical principles in undertaking food processing operation including thermal processing, ionizing radiation, refrigeration freezing and dehydration, Mineral processing

**Unit III**

Basic principles of food product developments need and types of food

Extruded foods- merit, describe and use of Extruded foods

Organic Foods, Processing and packaging of Organic Foods and programme for production

Product evaluation techniques sensory evaluation and product testing

Fermentation technology - fermentation, enrichment and fortification

**Unit IV**

Packaging technique - packaging materials, types of packaging effects of packaging on nutritive value of foods, latest trends in packaging

Food labeling - definition, principles of labeling, nutrition labeling - research and testing

**Unit V**

Food standards and laws

Food additives, food color, flavoring agents, preservative, and antioxidants, emulsifying agents, and stabilizing agents

Handwritten signatures and dates at the bottom of the page:

- Signature: 7/2/19
- Signature: 7/2/19
- Signature: 7/2/19
- Signature: 7/2/19
- Signature: 7/2/19
- Signature: 7/2/19



**Core Course 11: Food Science and Experimental Food****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory - ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) - each question of 3 marks, four to be answered.**3 x 4 = 12 marks**Group C- Five questions (one from each unit) - each question of 10 marks, three to be answered.**3 x 10 = 30 marks***Objectives:**

- To acquire knowledge regarding food groups
- To gain knowledge regarding cooking methods applied for specific food items

**Unit I****Introduction to food sciences:**

- Aims and objectives of the study of food science
- Food acceptability by variation in color, flavor and texture

**Unit II****Carbohydrates in foods**

- Sugar - Sources, properties and uses, stages of sugar cookery
- Starch - Sources, properties and uses, processed cereal products

**Unit III****Protein cookery**

- Pulses - composition, methods of cooking, germination and fermentation
- Meat - structure, common types, changes occurring during cooking of meat
- Fish - types, characteristics of fresh fish, cooking and preservation
- Egg - structure, methods of cooking, uses of egg in different preparations
- Milk - composition, effect of heat on milk, uses in cookery

**Unit IV****Vegetables and fruits**

- Classification, composition, color/pigments, effects of cooking on vegetables
- Fruits - Classification, composition, effect of heat and methods of preservation

**Unit V****Nuts, oils/seeds and beverages**

- Nuts and oils/seeds - composition and uses in cookery
- Beverages and appetizers- coffee, tea, fruit beverages

**References :**

1. Charley H. (1982), Food Science, 2nd Edition, John Wiley and Sons, New York
2. Posten N and Fletcher Kaa. JH (1996), Food Science, 5th Edition, CBS, Publishers and Distributors, New Delhi
3. Food Chemistry and Experimental Foods by M.Swaminathan, Ganesh & Co., Madras
4. Sri Laxmi (2005), Food Science, 3rd Edition, New Age International Publisher

Prashant  
7/2/19

Prashant  
7/2/19

Krishna  
2.2.19

Prashant  
7/2/19

Prashant  
7/2/19

Prashant  
7/2/19

Prashant  
7/2/19

Core Course 12:

**Institutional Food Management****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (five questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 2 = 20 marks***Objectives:**

This course is designed to:

- Provide practical field level experience in food administration
- Equip the students to have knowledge about various food service systems impart
- knowledge of quantity cookery and quality control in food administration.

**Unit I****Introduction to Food Service**

- Food service system and their development
- An introduction to Food Service Industry

**Unit II****Food Service System Planning and Management Planning**

- Strategies in planning
- Kitchen layout planning
- Pricing of product

**Organization and Management**

- Tools of management
- Personnel management
- Organization and steps in organizing

**Unit III****Food production**

- Menu planning.
- Food purchase
- Cost control
- Quantity Food production
- Standardization of recipes

**Service Management**

- Delivery and service of foods in different systems

**Unit IV**

- Management of Social Institutes – family as an institutes, child care institutions

**Unit V****Food Hygiene and Sanitation**

- Sanitation and safety in food services

**References :**

1. West & Wood "Food service in institutions – John Wiley & Sons, 1977
2. dgdgdg .oa feyfk libera] vlgkj] look isca/k A
3. Mohini Seth, Institutional Food Management, New Age International Publishers

Singh 2/3/19  
 Singh 2/3/19  
 Kulkarni 2/2/19  
 2/2/19  
 2/2/19  
 2/2/19  
 2/2/19  
 PK 7/2/19

**Core Course 13: Community Nutrition 05 Credits**

**Full Marks: 70 Time: 3 Hours**

The pattern of question papers will be as under

- Group A- Compulsory – ten questions (two questions from each unit) of two marks each.  $2 \times 10 = 20$  marks
- Group B- Five questions (one from each unit) – each question of 5 marks, four to be attempted.  $5 \times 4 = 20$  marks
- Group C- Five questions (one from each unit) – each question of 10 marks, three to be attempted.  $10 \times 3 = 30$  marks

**Objectives:**

- 1 Equip the community/ public to have knowledge about various nutritional problems and their prevention
- 2 Understand the causes and consequences of nutrition problem in society
- 3 Acquire basic knowledge about various approaches to nutrition and health programmes
- 4 Gain basic knowledge about food consumed by the community
- 5 To assess nutritional status of the community

**Unit I**

- Concept of Public Nutrition, relationship between health and nutrition
- Nutritional problems prevalent in India and measures to combat them
- Bone health problems and dietary management

**Unit II**

- 1 Assessment of nutritional status
- Direct – Anthropometric, clinical and Biochemical
- Indirect – Vital & diet survey

**Unit III**

- 1 Nutrition Education – objectives, planning, evaluation of nutrition education programme
- Selection of effective nutrition education method

**Unit IV**

- National and international agencies involved in women and child welfare
- National agencies – ICDS, ICMR, ICAR and NIPCCD
- International agencies – WHO, FAO, UNICEF

**Unit V**

- 1 Primary health care of the community – National health care delivery system, indicators of health

**References:**

1. *Principles of Nutrition & Dietetics* by M. K. Das & M. K. Das
2. *Community Nutrition* by M. K. Das & M. K. Das
3. *Community Nutrition* by M. K. Das & M. K. Das
4. *Child Nutrition & Primary Education* by Surendra Nath Mishra, Maharajgan Behara
5. *Principles of Nutrition & Dietetics* by M. K. Das & M. K. Das

Handwritten signatures and dates in blue ink at the bottom of the page, including dates like 7-2-19 and 7-2-19.

**Core Course 14:****Practical****05 Credits**

Full Marks: 70

Time : 3 Hours

*The pattern of question papers will be as under*

Group A - Compulsory - ten questions (two questions from each unit) of two marks each.

2 x 10 = 20 marks

Group B - Five questions (one from each unit) - each question of 8 marks, four to be answered.

5 x 4 = 20 marks

Group C - Five questions (one from each unit) - each question of 10 marks, three to be answered.

10 x 3 = 30 marks

**Core Course: 10****Food Processing**

- Physical principles in freezing and dehydration processing
- Chemical principle in food processing - Chemical changes in food that affect texture, sanitation and waste disposal
- Packaging - Latest trends in packaging, function and management.
- Food labeling - Definition, principles, nutritional labeling, food standards and laws.
- Quality control - risk analysis, Hazard Analysis Critical Control Point System (HACCP)

**Core Course: 11****Food Science and Experimental Food**

- Crystallization of sugar, stages of sugar cookery, preparation of peanut brittle, gulab jaman
- Study of changes occurring during cooking of meat, fish and egg Preparation of meat roast and minced meat fried egg steamed fish, poached egg, omelets, moussaise
- Effect of soaking and germination- preparation of dishes from soaked germinated grams sattu- Bisi and khichr
- Use of different methods of cooking vegetables and their effect on nutrients, steps to minimize losses
- Gelatin and frozen desserts - factors affecting ice crystal formation

**Core Course: 12****Institutional Food Management**

- Running and managing a food service institution cafeteria
- Quantity cooking - standardized portions
- Visit to various food service institutions.

**Core Course: 13****Community Nutrition**

- Development of low cost recipes for infants, preschoolers, elementary school children, adolescents, pregnant and lactating mothers.
- Planning of cyclic menus for balwadi/nursery school, mid-day snack/school lunch.  
Survey: Dietary surveys and assessment of nutritional status
- Visits to the ongoing public health nutrition programmes

*[Handwritten signature]*  
11/2/19

*[Handwritten signature]*  
11/2/19

31  
7-2-19

*[Handwritten signature]*  
11/2/19

*[Handwritten signature]*  
02/02/19

*[Handwritten signature]*  
singh

*[Handwritten signature]*  
11/2/19