**SECOND YEAR**

**Semester-III**

**HSc-301: Food Science**

Theory: 4hrs/week

Practicals: 2 hrs./week

**Objectives:**

1. To impart basic knowledge about the composition of various food stuffs and their products.
2. To explore different methods of food preservation
3. To understand the advantages and disadvantages of various cooking methods.
4. To know the miscellaneous food products available in the market.

**Unit I** **Introduction to food, nutrition and nutrients**-

**Definitions:** Food, Food Science, Nutrition, Nutrients, Health, Malnutrition, Balanced diet.

**Functions of food**

**Classification of food**, Basic five food groups (NIN), energy yielding, bodybuilding and protective foods; food guide pyramid

**Unit II**: **Methods of cooking**- Definition, advantages and disadvantages of cooking

**a) Classification of cooking methods**-

i. Wet methods- Boiling, simmering, steaming (direct, indirect), cooking under pressure

ii .Dry methods- Baking, broiling or grilling, pan-broiling, parching.

ii. Frying methods- Deep fat frying, shallow fat frying

iv. Microwave cooking, solar cooking.

Effect of cooking on food and nutrients.

**b) Objectives of Cooking**

**Unit III:** **Study of food from vegetable origin**:

**i. Rice**- Structure, composition, nutritive value, parboiling, gelatinization, rice products (rice flakes, puffed rice).

**ii. Wheat**- Structure, composition, nutritive value, wheat products (spaghetti, vermicelli, bread, noodles).

**iii .Maize**- Structure, composition, nutritive value.

**iv. Millets**- Ragi, jowar, bajra, oats; malting.

**b.Legumes or pulses**- Composition, nutritive value, sprouting or germination, fermentation.

**c.Nuts and oil seeds**- Groundnut, coconut, gingili seeds, soybean, etc., and their role in cookery.

**d.Fruits and vegetables-** Classification, composition, nutritive value, pigments, ripening changes, browning reaction (enzymatic and non-enzymatic).

**e.Spices and condiments-** Definition, uses, role in cookery, common spices and condiments used in India.

**Unit IV:** **Study of food from animal origin**:

1. **Milk and milk products-** Importance, composition, nutritive value, and types of milk available in the market (non fermented, fermented, etc),
2. **Eggs-** Structure, composition, nutritive value, role of eggs in cookery.
3. **Flesh food-**

**i. Meat-** Composition, nutritive value, tenderness of meat, changes during cooking.

**ii.Poultry-** Classification, nutritive value.

**iii.Sea foods-** Fish : composition, nutritive value.

**Unit V:** **Miscellaneous foods**:

**a.Beverages-** Definition, classification, types of fruit beverages

**b.Ready-to-eat or convenience foods-** Advantages and disadvantages, types of convenience foods available in the market.

**c. Food Labelling**

**PRACTICALS**

1. Preparations with cereals and millets.
2. Preparations with legumes.
3. Preparations with fruits.
4. Preparations with vegetables.
5. Preparations with Milk
6. Preparations with Egg
7. Preparations with Flesh foods
8. Preparation of Beverages
9. Experimental cookery on:

Cereals, Pulses, Fruits, Vegetables, Green leafy vegetables, Milk , Eggs.

**Course Outcomes:**

* Students will learn different methods of food preservation, cooking methods composition of various food stuffs, convenience foods, labeling etc.
* Students get equipped with skills required for working in Community canning centers, Beverage units and other food processing industries

**SECOND YEAR**

**Semester-III**

**HSc-302 Textile Fibers**

Theory: 4hrs/week

Practicals: 2 hrs./week

**THEORY**

**Objectives:**

* + To understand about fiber- staple, filament
	+ Yarn-simple and compound
	+ Yarn formation- its importance and kinds of natural yarns.
	+ To know about various textile fibers

**Unit I : Introduction to Textiles and Clothing:**

a.Importance of study of textiles to the consumer:

**Terminology**-Staple, filament, tenacity, abrasion resistance, heat conductivity, absorbency, dye ability, dimensional stability, drapability, and wrinkle resistance

**Properties:** Physical, thermal and chemical properties.

**Classification of textile fibers:**

(a) Based on length-Staple and filament

 (b) Based on source- Natural, manmade, synthetic

**Unit II: Detailed study of production, properties, use and care of**

1. Natural vegetable fibers-Cotton
2. Natural vegetable fibers-Linen

**Unit III: Detailed study of production, properties, use and care of**

1. Natural protein fibers-Silk
2. Natural protein fibers- Wool

**Unit IV: Detailed study of production, properties, use and care of**

 Manmade fibers-Rayon, Nylon, Polyester and Acrylic fibers

**Unit V: Yarn formation:** Definition, steps in spinning- mechanical and chemical, yarn count (denier- used for manmade fibers), yarn twist, classification of yarns-simple, novelty, texxturised yarns

 Mixtures and Blends of natural cellulose fibres, natural protein fibres and manmade fibres.

**PRACTICALS**

1. Sewing machine description, use, care and simple repairs
2. Sewing kit, sewing equipment, measuring tools, marking tools and tools used during construction
3. **Basic hand stitches**: I) Decorative stitches-stem, chain, lazy-daisy, satin, buttonhole, feather, straight, French knot, bullion stitch, etc. (any 10 stitches)

 II. constructive stitches- Temporary stitches :i.Even basting ii Uneven basting iii. Diagonal basting iv. Slip basting

Permanent stitches: Running ii.Back stitch

4.**Hem stitches**: Ordinary hemming ii.Slip hemming (**Seams and seam finishes)**

1. i. Plain ii.French iii.Run and fell

**5.Introducing fullness:**Darts: **i.**Single ii.Double pointed **:**Pleats:**i.**Box ii.Knife

Tucks:Pin tucks

1. **Neckline finishes:** Preparation of bias strip, stay stitching, facing and binding.
2. **Plackets:**
3. Two way ii. Continuous
4. **Fasteners**:
5. Buttons and buttonholes
6. Hooks and eyes
7. Zipper

10.Textiles chemistry- identification of textile fibres- microscopic examination- burning test

**Course Outcomes:**

Up on completion of this course students will be able to

* Understand the importance of textiles.
* Outline the process of cultivation of Natural fibers.
* Demonstrate knowledge of manufacturing of manmade fibers.
* Differentiate fibers based on their properties.

 **SECOND YEAR**

 **Semester-III**

**HSc-303 Housing for Better Family Living**

**THEORY** Theory: 4hrs/week

Practicals: 2hrs/week

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| **Unit-I** |  **Housing** * Functions of a house
* Housing needs in different stages of family life cycle.
* Selection of site
* Safety at Home: Pest Control, Prevention of accidents
 |
| **Unit-II** | * Orientation
* Principles of planning- aspect, prospect, privacy, grouping, circulation, sanitation Language of drafts man
* Advantages of owing and renting a house
 |
| **Unit-III** | * Planning for efficient work centers-Types of kitchens (differentiate L, U, Broken L, U, Single walled, peninsular shaped kitchen)
* Planning for storage areas in the kitchen
 |
| **Unit-IV** | * Prefabrication of buildings, Laurie baker Housing
* Components of a building
* Organisations of Housing-HUDCO,AP State Housing Corporation, NBRI,NBO
 |
| **Unit -V**  | * Household equipment- importance, classification, factors in selection of equipment
* Construction, mechanism use and care of refrigerator vacuum cleaner, washing machine, geysers, microwave, mixer, pressure cooker, dish washer &induction stove.
* Appropriate Technologies – smokeless chulah, gobar gas , solar cooker and rural refrigerator
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**PRACTICALS**

1. House plan- symbols, site plan, floor plan
2. House Plans- 1 BHK,2 BHK
3. Kitchen plans- L shape, U shape, broken, L, U Shape, peninsular, one walled
4. Market study on building material- floor finishes- wall finishes- ceiling finishes
5. Study of house hold equipment with demonstration
6. Study of cost effective appliances with demonstration
7. Field visit to observe various types of kitchens

**Course Outcomes**

* Students gain understanding in housing, components and the organizations working towards housing research and funding
* Students acquire skills in drawing functional house plans and get acquainted with the language of draftsman
* Gain knowledge on the different household equipment working principles ,functioning and care