

ST. JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS) VISAKHAPATNAM

II SEMESTER

**HOMESCIENCE**

TIME:4Hrs/Week

HS-Mi 2301 (3)

**FOOD SCIENCE**

Marks: 100

W.e.f. 2023-24 admitted batch (23AK)

**OBJECTIVES:** To enable students

1. Obtain knowledge of different food groups, their composition and role in diet.
2. To gain knowledge of different plant and animal derived foods and their nutritive values and properties.
3. Different methods of processing and cooking.

**LEARNING OUTCOMES:**

1. Demonstrate and use the different methods of cooking
2. Understand the composition and nutritive value of both animal and plant food
3. Apply the different techniques to check the stages in sugar cookery.
4. Able to identify different structures and identification of spoilage of egg
5. Interpret the importance and functions of food and its nutrients

**UNIT – I:**

**FOOD GROUPS:**

**8 hours**

1. Basic food groups in foods and nutrition. Functional and objectives of food groups-energy yielding, body building and protective foods. Food Pyramid, My Plate.
2. Study of various cooking methods - Boiling, steaming, stewing, frying, baking, roasting, broiling, cooking under pressure.
3. Solar cooking and Microwave Methods-Advantages and disadvantages
4. Cereals –Structure, composition and nutrition of rice, wheat, milling process, cooking on parboiled and raw rice, principles of starch cookery, gelatinization.

**UNIT –II:**

**10 hours**

1. Pulses and grams – Varieties of pulses & grams, composition, nutritive value, forms of pulses, effects of cooking, role of pulses in cookery, toxic constituents.
2. Vegetables - Classification, composition, nutritive value, selection and processing for cooking, methods and principles involved in cooking.
3. Fruits - Composition, nutritive value, changes during ripening, methods and effects of cooking, enzymatic browning.

**UNIT –III:**

**10 hours**

1. Spices and Condiments - Uses and abuses. Fats and Oils - Types of oils, function of fats and oils, shortening effects of oil, smoking point of oil, factors affecting absorption of oil.
2. Sugar cookery- Stages of sugar cookery, crystallization and factors affecting crystallization.

**UNIT –IV:**

**10 hours**

1. Milk - Composition, nutritive value, kinds of milk, pasteurization and homogenization of milk, changes in milk during heat processing, preparation of cheese and milk powder
2. Egg - Structure, composition, classification, nutritive value, uses of egg in cookery, methods of cooking, foam formation and factors affecting foam formation.

**UNIT –V:**

**10 hours**

1. Meat -Structure, composition, nutritive value, selection of meat, post mortem changes in meat, aging, tenderness, methods of cooking meat and their effects.
2. Poultry – types, composition, nutritive value, selection, methods of cooking.

3. Fish - Structure, composition, nutritive value, selection of fish, methods of cooking and effects.

**REFERENCE BOOKS:**

1. Food science, Chemistry and Experimental foods by M. Swaminathan.
2. Food Science by Norman.N.Potter.
3. Experimental study of Foods by Griswold R.M.
4. Food Science by Helen Charley.
5. Foundation of Food Preparation by A.G. Peckam.
6. Modern Cookery for teaching and trade, volume I&II, Thangam Philip. Orient Longmans Ltd.
7. Food Fundamentals by MacWilliams, John Willy and son's, New York.
8. Food Facts & Principles by Shakunthalamanay & Shadakhraswamy.
9. Food Science by Srilakshmi, second edition, 2002.

**CO-CIRCULAR ACTIVITIES:**

1. Student Seminars on different food groups
2. Collection of samples of different food products available in the market and study their nutrient composition and use in cookery.
3. Field visits – Visit to food processing units.
4. Field study – Survey on Food Additives used in various food products/processed foods.
5. Collection of different ready to eat foods and processed foods.
6. Celebration of Important Days (National and International)
  - World Nutrition Day - May 28<sup>th</sup>
  - Nutrition week (Sep 1<sup>st</sup> - 7<sup>th</sup>)
  - World Food Day - October 16<sup>th</sup>

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