

**SRI VENKATESWARA UNIVERSITY**  
**B.Sc. DEGREE COURSE IN CLINICAL NUTRITION & DIETETICS**  
**FIRST YEAR - SECOND SEMESTER**  
**(Revised Syllabus under CBCS w.e.f. 2020-21)**

**CN - 201 – INTRODUCTION TO FOOD SCIENCE**

**Outcomes of the course**

At the end of this course, the students will be able to

**A) Remember and explain in a systematic way of**

- About different plant and animal foods, their selection, nutritive values, composition, and storage and processing.
- Explains the principles of food preservation and causes of spoilage.

**B) Understanding and Uses**

- Planning of cereals and millets, pulses, Milk and Milk products, vegetables, fruits, nuts and oil seeds products
- Uses different foods in cookery.
- Understands application of different Processing techniques in cookery.

**C) Critically explain, judge and Solve**

- Standardisation of weights and measures of various food items.
- Analyses different processing techniques to improve nutritive quality of foods by germination, fermentation, supplementation, fortification etc.

**D) Creativity**

- Planning and preparation of nutritious recipes by using different foods

**E) Practical Skills**

- Preparation of food without losing nutritive value
- Planning, preparing and calculating nutritive values of protein rich, Calcium rich, and Iron rich recipes.

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**CN-201 – INTRODUCTION TO FOOD SCIENCE**

Theory: 4hours/week

Practicals: 2hours/week

**THEORY**

**Unit-I Introduction to Food Science**

- Foods – Definition and objectives in the study of foods, functions and classification of foods
- Cooking – Objectives of cooking, Preliminary preparations and methods of cooking – Advantages and disadvantages of each method. Effect of cooking on different nutrients.

**Unit-II Plant Foods**

- Cereals and Millets – Structure, Composition and nutritive value, processing, selection, storage and use in cookery
- Pulses and Legumes - Selection, nutritive value, processing, selection, storage and use in cookery
- Vegetables and Fruits - Classification, Selection, Nutritional aspects, Pigments, Enzymatic and non-enzymatic browning.
- Nuts and oil seeds - Nutritive value , use in cookery

**Unit-III Animal Foods**

- Milk and milk Products - nutritive value, use in cookery
- Egg - structure, nutritive value, methods to assess quality of eggs, changes during storage and use in cookery
- Meat, Poultry, Fish - nutritive value, use in cookery
- Spices and condiments- nutritive value, use in cookery

**Unit-IV Food Processing**

- Food Preservation-Methods, principles and their applications - high temperature, low temperature, removal of moisture, irradiation and preservatives
- Food additives - types and their role in food processing
- Nutrient Enrichment - Germination, fermentation, fortification etc.
- Multipurpose foods, Convenience and Ready to eat foods -Advantages and disadvantages

**Unit - V Food Microbiology**

- Food Spoilage – Microorganisms causing spoilage – Factors responsible for spoilage and changes brought about in food by microorganisms
- Microorganisms that bring about useful changes in food.
- Microbiology of different foods – Contamination and spoilage of milk, egg, meat, fish, vegetables and fruits
- Food Sanitation and Hygiene – Safe food practices during preparation, storage and serving of food.

## **PRACTICALS**

1. Standardization of weights and measures of various food items.
2. Cereals, pulse and vegetable preparations and calculation of nutritive values of recipes.
3. Milk, meat, egg preparations and calculation of nutritive values of recipes.
4. Demonstration of Drying, Fermentation and germination processing techniques.

## **REFERENCES**

1. Bamji MS, Krishnaswamy K, Brahmam GNV. (2016). Textbook of Human Nutrition, 4<sup>th</sup> edition, Oxford and IBH Publishing Co. Pvt. Ltd.
2. Manay N.Shakuntala & ShadaksharaSwamy.(2008). Foods, Facts and Principles, 3<sup>rd</sup> edition, New Age International Publishers. .
3. Reddy,S.M.(2015). Basic Food Science & Technology, 1<sup>st</sup> edition, New Age International Publishers.
4. Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra, S. (2010). Basic FoodPreparation: A Complete Manual, Fourth Edition, Orient Black Swan Ltd.
5. Sumati R. Mudambi, M.V. Rajagopal. (2006). Food Science, 2<sup>nd</sup> edition, New Age International Publishers.
6. Srilakshmi, B.(2018). Food Science, 7<sup>th</sup> edition, New Age International Publishers.
7. Wardlaw MG, Insel PM. (2004). Perspectives in Nutrition, Sixth Edition, Mosby Publishers.

## **CO- CURRICULAR ACTIVITIES**

1. Student Seminars on different food groups
2. Collection of samples of different food products available in the market and study theirnutrient 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 - October16th

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**CN-201 INTRODUCTION TO FOOD SCIENCE**  
**MODEL QUESTION PAPER**

**Time: 3 hrs.**

**Max. Marks: 75**

**Part – A**

**Answer any five Questions. Each question carries 5 Marks** **(5x5 = 25 marks)**

1. What are the functions of food?
2. Draw the structure of a cereal grain and explain.
3. Discuss the advantages of germinating seeds.
4. What are the changes that occur during the storage of eggs?
5. What is the significance of spices in cooking?
6. Write about convenience foods.
7. Define food spoilage. What are the changes occur in food by microorganisms.
8. Write about pigments present in vegetables and fruits.

**Part – B**

**Answer five Questions. Each Question carries 10 marks** **(5x10 = 50 marks)**

9. a) What is cooking? What are the objectives of cooking?  
(OR)  
b) Classify methods of cooking and explain any five methods.
10. a) Discuss the nutritive value of pulses and legumes.  
(OR)  
b) Write briefly about different millets.
11. a) Discuss various fermented and non-fermented milk products.  
(OR)  
b) Explain the nutritive value of meat and fish.
12. a) Define food preservation. Write in detail about any three methods of food preservation.  
(OR)  
b) List out food additive and discuss their role in food processing.
13. a) Write an essay on micro-organisms that bring about useful changes in food.  
(OR)  
b) Define food sanitation and hygiene. Write about safe food practices to prevent the contamination of food.