

SRI VENKATESWARA UNIVERSITY - TIRUPATI
B.S.c., (Honours) in **FOOD SCIENCE AND TECHNOLOGY**
FIRST YEAR – I SEMESTER
(W.E.F. Academic Year 2023 - 24)
COURSE 1: INTRODUCTION TO FOOD SCIENCE AND NUTRITION

Theory

Credits: 4

5 hrs/week

Objectives

- ▮ Understanding the role of foods in our daily life
- ▮ To gain knowledge of different plant and animal derived foods and their nutritive values and properties
- ▮ Understand the vital link between nutrition and health.

**Course Outcome: On completion of the course, the students shall display ability to/
knowledge about**

- ▮ Design food products that meet the various food regulations and laws.
- ▮ Comprehend the idea of food safety of the product and preserving it in good condition
- ▮ Plan adequate meals for different stages of life cycle to maintain health.
- ▮ Principles of diet therapy and different therapeutic diets.

UNIT – I

- ▮ Introduction to nutrition – Definition of nutrition, nutrients, and Food.
- ▮ Functions Of Food – Physiological, Social, Psychological and Emotional.
- ▮ Food Groups-- Sources and functions of Basic five food groups.

UNIT- II

- ▮ Classification of Nutrients- Macronutrients and Micronutrients- Sources and functions.
- ▮ My Plate, Food Pyramid and portion size- Definition and Illustration
- ▮ Inter relationship between Food , nutrition and health.

UNIT-III

- ▮ Nutrition during Life cycle- Nutritional requirement for all age groups.

- ▮ Nutritional requirement during – Pregnancy, Lactation.
- ▮ Nutritional requirement during Childhood – Infancy (weaning) and school going.
- ▮ Nutritional requirements of youngsters- Adolescents and Adults.
- ▮ Geriatric Nutrition- Physiological changes and nutritional requirement.

UNIT- IV

- ▮ Nutrition During Disease- Classification of Diseases- Communicable and Non-Communicable, mode of transmission.
- ▮ Communicable diseases- Types, Diet and lifestyle modifications.
- ▮ Non-Communicable diseases- Types, Diet and lifestyle modifications.
- ▮ Relation Between Immunity, Health and Nutrition.

Unit -V

Research and standards organization of Food Science and Food Technology-

- ▮ Role and Function of the organizations.
- ▮ Nutritional research organization- ICMR-NIN, NNMB.
- ▮ Food Technology research organization- AFSTI, CFTRI, DFRL, NIFTEM.
- ▮ Food Standards- FSSAI, AMARK, FPO, MMPO.

References:

1. Food Facts & Principles by Shakunthala manay & Shadakhraswamy.
2. Food Science by Srilakshmi , second edition,2002
3. Food science, Chemistry and Experimental foods by M. Swaminathan.
4. Food Science by Norman.N.Potter.
5. Experimental study of Foods by Griswold R.M.
6. Food Science by Helen Charley.
7. Vijaya Khader, Text book of food science and technology, Indian council of Agricultural research New Delhi, 2001.
8. Stanley Sacharous. Roger C Griffin. Principles of food packaging 2nd Ed. Avi pub Co. Westport.
9. F.A. & Paine. H.Y. Leonard hill. A hand book of food packaging. Blackie Sons Ltd

London.

Recommended Activities

- ▮ Visits to food industries
- ▮ Market survey of preserved fruits and vegetable products.
- ▮ Visit to food testing lab or any agency of food standards.

SRI VENKATESWARA UNIVERSITY - TIRUPATI

B.S.c., (Honours) in **HOME SCIENCE**

FIRST YEAR – I SEMESTER

(W.E.F. Academic Year 2023 - 24)

COURSE 2: HEALTH, HYGIENE & WELLNESS

Theory

Credits: 4

5 hrs/week

Learning Outcome: On completion of the course a student shall

- Possess an understanding of the concept of good health and means to achieve it.
- Display the ability to identify the morphology, growth and reproductive features of various microorganisms
- Acquire the skills in various sterilization techniques

Theory

Unit I Health & wellness – Definition & meaning

- Dimension/ Elements of health and wellness – Physical, Social, Emotional, Intellectual, and Spiritual.
- Factors affecting Health and Wellness
- Indicators of health- concept of Mortality, Morbidity, Disability

Unit II Classification & Study of Microorganisms- in terms of morphology, growth, Nutrition and Reproduction

- Bacteria, Virus, Yeasts, Algae and Mould
- Beneficial Applications of Microorganisms in Food Industry, Agriculture and other areas.

Unit III Mode of infection

- Infection- sources, mode of transmission.
- Diseases caused by microorganisms-Symptoms, aetiology, mode of transmission of
 - a. Bacterial diseases- Typhoid, Tuberculosis, Jaundice, Dysentery;
 - b. Viral Diseases: Influenza, Measles, Poliomyelitis, AIDS
 - c. Parasite transmitted diseases- Malaria, Dengue, Filariasis.

Unit IV Prevention & Control

- Control of Micro-organisms – Sanitation, Sterilization & Disinfection- Physical and chemical method.
- Immunity- definition & types, Immunization schedule
- Hygiene - Meaning and importance of personal hygiene
- Standard precautions to prevent infections

Unit V Management of Health & Wellness

- Modern lifestyle and hypo-kinetic diseases; prevention and management through Physical exercise
- Stress, anxiety, and depression- Definition and concept
- Role of Yoga, asanas and meditation in maintaining health and wellness.
- Role of sleep-in maintenance of physical and mental health.

Suggested Activities

1. Demonstration of the use and care of Microscope
2. Demonstration of the Microscopic observation of different Microorganism
3. Visit to Diagnostic Laboratory
4. Demonstration of Slide Preparation & staining of molds.
5. Study of permanent slides of parasites.
6. Visit to Water treatment plant/Milk factories to assess sanitation
7. Hanging drop preparation to observe true motility of bacteria
8. First aid during cut, fractures, burns, accidents, shocks, unconscious, convulsions, Poisoning, foreign bodies in the eyes

References:

1. Frazier, W. Candwestnoff, D.C (1997) Food Microbiology, Tata McGraw Hill
2. A.S. Rao 2001 Introduction to microbiology, Prentice Hall of India
3. Anna k. Joshua, Microbiology, popular book depot, Madras
4. R. Ananthanarayanan, C.K.J. Paniker, 2001, Orient Longman Private Limited.
5. General Microbiology , 1982, power &Daginawala, Himalaya Publishing House
6. Stanier R. Y., Adelberg, E.A. and Ingraham, J.L. (1989) General Microbiology.
7. Atlas R. M. (1988) Microbiology, fundamentals and application. Micmillon N. Y.