

Department of Zoology(B. Sc. I)

1. TITLE: **Food Science and Nutrition**

2. YEAR OF IMPLEMENTATION:**2018**

3. PREAMBLE:

1. To impart knowledge about importance of nutrition in their life.
2. To develop their understanding about the role of food in health.
3. To make them apply this knowledge about food and nutrition for betterment of family as well as society.
4. To know about function, deficiency of nutrient as well as hygiene and sanitation of food.

4. GENERAL OBJECTIVES OF THE COURSE:

1. To increase the nutrition knowledge and awareness.
2. To promote desirable food behaviour and nutritional practices.
3. To know the methods and principles involved in nutritional cooking.
4. To know about various adulterants and the methods of detecting them.
5. To standardize different recipes based on portion size.

5. DURATION: **One Year**

6. PATTERN: **Annual**

7. MEDIUM OF INSTRUCTION: **English**

8. STRUCTURE OF COURSE:

Paper No. and Name
CZT101 : Food science and Nutrition
CZL102 : Practical
CZP103 : Project

A) LIBRARY: Reference and Textbooks, Journals and Periodicals, Reference Books for Advanced Books for Advanced studies. – List Attached

B) SPECIFIC EQUIPMENTS: Computer, LCD, Projector, Visualizer, Smart board

C) Laboratory Equipments:

1. Weighing equipments
2. Microscope
3. Karada scan machine
4. Sphygmomanometer
5. Hemoglobinometer

Theory: Paper: **Food Science and Nutrition**

Learning Objectives:

- 1) Learn the role of nutrients in foods and deficiency diseases.
- 2) Understand the metabolism of nutrients in health and diseases.
- 3) Different systems of the body and their functions with special reference to the digestion, absorption, transport and uptake of nutrients and elimination of waste products.
- 4) Physiological changes at different stages of life.
- 5) Know the importance of therapeutic diet.
- 6) Knowledge about dietary control of different diseases.

CZT101: Nutrition Science

Total Hrs- 48

Unit 1– Food and Food Acceptance

12 HRS

Objectives, Introduction & definition, socio-cultural aspects of food , factors determining food acceptance.,

Functions of food –

Introduction, physiological function, psychological function, social function.

Learning Outcomes

1. Student will be able to understand various aspects of food.
2. Student will be able to define and learn different functions of food.

Unit 2- Macronutrients & their function –

12 Hrs

Introduction ,Carbohydrates, Fats ,Protein ,water .

Micronutrients &their functions-

Introduction, Vitamins (water soluble and fat soluble), Minerals and their deficiency.

Learning Outcomes

1. Student will be able to know functions and deficiency of vitamins, carbohydrate, fats, etc.
2. Student will be able to know about minerals.

Unit 3 - Basic food groups

12 Hrs

Objectives, Introduction, basic food groups –Energy giving, body building and protective food groups, choice of right food .

Meal patterns –

Food commonly consumed in our country, our meal patterns-Veg-nonveg, Nutritional adequacy of our diets.

Learning Outcomes

1. Student will be able to know about basic food groups.
2. Student will be able to know about meal pattern according to states.

Unit 4- Major deficiency diseases –

12

Hrs

Protein energy malnutrition (PEM), Anemia and Iodine deficiency disorders -nature, causes, treatment and prevention.

Learning Outcomes

1. Student will be able to know about different deficiencies related to Protein, blood and iodine.
2. Student will be able to learn preventive measures to avoid deficiency.

Practicals–CZL102:

Total Hrs-96 hrs

1. Weights and measures
2. Finding calorific and nutritive values of food stuffs
3. Generating nutritive recipes with proper calorific value
4. Methods and medium of cooking
Various methods of cooking (with examples of recipes)
Advantages/disadvantages of various methods, temperature and medium of cooking.
5. Food Guide and RDA
6. Introduction of food guide, its uses, RDA, Reference Man and Reference Woman.
Standardization of recipes and principles involved in recipe preparation (one serving)
7. Identification food items
8. Study of criteria for selection of fresh food
9. Identification of food adulteration ,
10. Regional meal patterns
11. Food preparation and classifying recipes as good, moderate or poor,
12. sources of specific nutrients,

13. Demonstration of seasonal foods ,locally available foods ,
14. Inexpensive quality food ,
15. Study of foodstuffs rich in more than one nutrient
16. Combination of foods
17. Qualitative tests for sugars - glucose,
18. Fructose,
19. Lactose,
20. Maltose, Lipid
21. Qualitative tests for proteins.
22. Quantitative estimation of calcium
23. Quantitative estimation of vitamin C.
24. Qualitative tests for vitamin A
25. Estimation of one's own Hemoglobin and blood group

Learning outcomes

1. Student will be able to learn to weigh food ingredients.
2. Student will be able to introduce various means of measurement,
3. Student will be able to measure fruits/vegetables.
4. Student will be able to analyses his own Hb.
5. Student will be able to know about different meal pattern as per region.
6. Student will be able to test different sugars, protein, calcium and vitamins.

CZP103- Project Work related to subject

24hrs

Recommended Books:

- B. Srilakshmi: Dietetics, New Age International Publishers.
- B. Srilakshmi: Nutrition Science , New Age International Publishers
- B. Srilakshmi: Food Science , New Age International Publishers
- Dr.Jyotisingh ,Handbook of Nutrition & Dietetics ,Lotus press publishers .New delhi -02
- Dominic W.S.Wong, Mechanism and Theory in food chemistry ,CBS Publishers Pvt Ltd.
- Gopalan, C. etal : Nutritive value of Indian Foods, Indian Council of Medical Research
- Guyton. A.C. Hall, J.E. : Text Book of Medical Physiology – 9 Ed/ Prism Books (Pvt.) Ltd. Bangalore
- Norman N.Potter ,Joseph H.Hotchkiss ,;Food Science, Fifth edition ,CBS Publishers Pvt Ltd
- Swaminathan, M. : Essentials of Foods and Nutrition, Vols -1 and II. Ganesh and Co. Madras.
- SunetraRoday : Food Hygiene and sanitation with case studies ,Second edition ,McGraw Hill Education (India) Pvt Ltd .
- Shubhangi A. Joshi, Nutrition& Dietetics, fourth edition, McGraw Hill Education (India) Pvt Ltd .