

FOOD AND NUTRITION (HSC-201)

Focus: This course will make student aware regarding various basic concept and principles of foods and nutrition.

Objectives:

- To make them understand the function of food and the role of various nutrients their requirement and effect of excess and deficiency of nutrients.
- To help them learn about the structure, composition and nutritional value of selected foodstuff.
- To teach them about different method of cooking along with its advantages and disadvantages.
- To develop the ability about improving the nutritional quality of food.

COURSE CONTENT:

BLOCK I: BASIC CONCEPTS OF FOODS AND NUTRITION

UNIT 1: FOOD & NUTRITION

- 1.1 Nutrition and health (definition and interrelationship),
- 1.2 nutrition related terminologies,
 - 1.1.2 Food- definition,
- 1.3 Chemical composition of food,

UNIT2: BASIC FOOD GROUP

- 2.1 Function of food,
- 2.2 basic food group,
- 2.3 importance of basic food group in the diet
- 2.4 balanced diet.

UNIT3: MEAL PLANNING

- 3.1 Factors to be considered when planning meal for the family,
- 3.2 formulation of balanced diet during
 - 3.2.1 infancy,
 - 3.2.2 childhood,
 - 3.3 adolescence,
 - 3.3.4 adulthood (including pregnancy and lactation)
 - 3.3.5 old age.

UNIT4: ENERGY VALUE AND CALORIEMETRY

- 4.1 Energy value of the food,
- 4.2 calorimetry,
 - 4.2.2 bomb calorimeter,
- 4.3 Nutrient Requirement
 - 4.3.1 factor affecting the nutritional requirement,
 - 4.3.2 minimum nutritional requirement and
- 4.4 RDA,
 - 4.4.1 formulation of RDA and
 - 4.4.1.2 dietary guidelines- reference man and reference women.

BLOCKII: NUTRIENTS AND ITS DEFECIENCY DISODERS

UNIT 5: MACRO NUTRIENTS

5.1Macronutrientsmicronutrients, their sources classification, functions.

UNIT 6: MICRONUTRIENTS

6.1Micronutrients, their sources classification, functions.

UNIT7: NUTRIENT DEFICIENCY DISODERS

7.1Nutritional deficiency disorders its etiology,

7.2.1macro nutrient deficiencies.

7.2.2 vitamin deficiencies

7.2.3. mineral deficiencies,

7.2.4water deficiencies

BLOCKIII: COMPOSITION OF DIFFERENT FOOD STUFFS

UNIT 8: COMPOSITION OF CEREAL AND PULSES

8.1Brief discussion on the structure,

8.2 nutritional composition and function of various foods like-

8.2.1Cereals,

8.2.2Pulses

8.2.3legumes

UNIT 9: COMPOSITION OF VARIOUS FOOD STUFF

9.1Brief discussion on the structure, nutritional composition and function of

9.1.1Milk and milk product,

9.1.2fruits and vegetables,

9.1.3eggs and meat & meat products,

9.1.4 fats and oils,

9.1.5 tea, cocoa and coffee, spices and condiments.

UNIT 10: IMPROVING NUTRITIONAL QUALITY OF FOODS

10.1Various methods to enhance the nutritional quality of food

10.1.1 germination,

10.1.2fermentation,

10.1.3 supplementation,

10.1.4fortification, enrichment and substitution.

10.2 Methods to retain the nutritive value of food products during pre-preparation and cooking.

UNIT11: COOKING METHODS

11.1Various cooking method based on medium of cooking.

11.2 Traditional cooking methods like

11.2.1boiling,

- 11.2.2 frying,
- 11.2.3 roasting,
- 11.2.4 poaching,
- 11.2.5 parboiling etc.

11.3 Advanced cooking method like steaming, pressure-cooking, grilling, baking, microwave cooking, solar cooking and etc.

BLOCK IV: ENSURING FOOD QUALITY

UNIT 12: FOOD ADULTRATION

- 12.1 Meaning,
- 12.2 Common food adulterants.
- 12.3 Ways to identify them at household level and various laws and government policies made to eradicate it.

UNIT 13: FOOD HYGEINE AND SANITATION

- 13.1 Sources of contamination of water,
 - 13.1.1 treatment of water, food handling,
 - 13.1.2 food contamination,
 - 13.1.3 control of insect and rodents,
- 13.2 Practical rules for food sanitation, maintenance of hygiene while cooking, environment and personal hygiene and sanitation.

Suggested Reading

1. Robinson Ch Garwick Ae. Normal and Therapeutic Nutrition. Mac Millian Publishing Company.
2. Bamji MS. Rao NP. Reddy. V. 1996. Text Book of Human Nutrition. Oxford and IBH publishing Co. Pvt. Ltd.
3. Swaminathan M. Essentials of Foods and Nutrition. Vol. 1 & 2.
4. Khanna K., Gupta S., Passi S.J. Seth R. Mahana R. Puri s. 1997, Textbook of Nutrition and Dietetics. Department of Foods and Nutrition. IHE University of Delhi Phoenix Publishers.
5. Nutritive Value of Indian Foods, NIN ICMR.
6. Hughes O. Bennion M. Introductory Foods. Mac Millan Publishing Company.
7. Manay NS. Shadaksharaswamy M. Food Facts and Principles. Wiley Eastern Ltd.
8. Norman N Potter, Joseph H Hotchkiss, Food Science. Ed.