ST.JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

II SEMESTER **HOMESCIENCE** TIME: 4HRS/WEEK

HS 2103 (3)  **BASIC NUTRITION**  MAX.MARKS:100

w.e.f. 2020 – 2021 (“20AH”) **SYLLABUS**

**OBJECTIVES:**

**OUTCOMES OF THE COURSE :**

At the end of the course the student will be able to demonstrate the following:-

**A) REMEMBERS AND EXPLAINS IN A SYSTEMIC WAY :**

● Understanding the concepts of nutrition and food and its relation to health.

● Acquiring knowledge about macro and micro nutrients and their functions.

● Knowing the consequences of deficiency of taking nutrients.

● Understanding importance of non nutrients in human nutrition

**B) UNDERSTANDS AND USES :**

● Planning recipes by selecting appropriate foods based on the macro and micro nutrient composition.

● Selection of foods based on the nutrient composition for healthy and disease people.

**C) CRITICALLY EXPLAINS, JUDGES AND SOLVES :**

● Planning and calculating nutritive values for the foods and recipes.

● Identification of signs and symptoms of different nutrient disorders.

● Practical knowledge on availability of seasonal and other foods by doing market survey.

● Listing out the common foods and their names in scientific and local languages.

**D) WORKING IN OUT OF PRESCRIBED AREA UNDER A CO-CURRICULAR ACTIVITY :**

● Selection of foods based on seasonal availability and planning recipes on the nutrient composition to healthy and diseased conditions.

**E) PRACTICAL SKILLS :**

● Market survey on different foods available and learning local and scientific names.

● Learn to identify different food samples and to know their nutrient composition.

● Planning of recipes according to nutrient components.

**THEORY :**

**UNIT-I: INTRODUCTION TO NUTRITION AND MACRO NUTRIENTS**

• Introduction and scope of Nutrition, definitions, relationship between Food, Nutrition, Health and Disease

• Macro Nutrients – Classification, functions, digestion, absorption, dietary sources, RDA, clinical manifestations of deficiency and excess and storage of the following in the body.

➢ Carbohydrates

➢ Lipids

➢ Proteins

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**UNIT – II: MICRO NUTRIENTS- VITAMINS**

• Vitamins – Classification, functions, dietary sources, RDA, clinical manifestations of deficiency and excess of the following

• ➢ Fat soluble vitamins – A, D, E and K

• ➢ Water soluble vitamins – B Complex Vitamins - Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyanocobalamin and Vitamin C.

**UNIT – III: MINERALS**

• Minerals – classification, functions ,dietary sources, RDA, clinical manifestations of deficiency and excess of the following

• ➢ Macro minerals – Calcium, Phosphorous, Magnesium, Sodium and Potassium

• ➢ Micro minerals or Trace elements – Iron, Iodine, Fluorine and Zinc

**UNIT – IV: ENERGY**

• Energy value of foods – Determination of gross energy value of foods using Bomb calorimeter and Oxy calorimeter. Physiological energy value of foods.

• Basal Metabolism – Factors affecting Basal Metabolic Rate, Measurement of BMR by Direct and Indirect Calorimetry. Formulas for calculating BMR.

• Computing Total Energy Requirement of the body based on Basal metabolic rate, Physical activity and Thermic effect of food. RDA and sources of energy.

**UNIT – V: WATER AND NON NUTRIENT CONSTITUENTS OF FOOD**

• Water – Functions, sources, requirement and regulation of water balance, Effect of deficiency and excess – Dehydration and over hydration; Electrolyte balance.

• Non nutrient constituents of foods and their importance

➢ Phytochemicals – Curcumin, Lycopene, Flavonoids

➢ Antioxidants – Vitamin C, E and Carotenoids •

➢ Detoxifying agents – Anthocyanins, Chlorophylls Beneficial effects of non- nutrient constituents of food on Health.

**REFERENCE BOOKS:**

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ST.JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

II SEMESTER **HOMESCIENCE** TIME:2HRS/WEEK

HS 2153 (2)  **BASIC NUTRITION**  MAX.MARKS:50

w.e.f. 2020 – 2021 (“20AH”) **PRACTICAL** **SYLLABUS**

**UNIT – I:** Techniques of weighing and measuring foods

**UNIT – II:** METHODS OF COOKING: Recipes based on different methods of cooking.

**UNIT – III:** PREPARATION & SERVICE of recipes –

a. based on i. cereals and pulses

ii. Fruits and Vegetables

iii. Egg, meat and fish

iv. milk

- as main ingredient and in combination with other food groups.

Calculation of cost and nutritive value of one serving.

**a.** Suited for different meals i.e., breakfast, lunch/dinner and snacks at different

cost levels .

**UNIT – IV:** Critical analysis of (a) recipes from two sources.

(b) Any video presentation of cooking demonstration

**REFERENCES:**

1. Bamji MS, Krishnaswamy K, Brahmam, (2016) Textbook of Human Nutrition, 4th

edition. Oxford and IBH Publishing Co. Pvt. Ltd.

2. Longvah, T., Ananthan, R., Bhaskarachary, K. and Venkaiah, K. (2017). Indian Food Composition Tables, Published by NIN

3. Raheena Begum, (2013). Textbook of Food, Nutrition and Dietetics, 3rd edition,

Sterling Publishers Pvt. Ltd.

4. RavinderChada and PulkitMathur, (2015). Nutrition – A Life Cycle Approach, 1st

edition, Orient Black Swan Private Limited

5. Shubhangini A. Joshi, (2002). Nutrition and Dietetics, 2nd edition, Tata McGraw-Hill

Publishing Company Ltd.

6. Srilakshmi, B., (2018). Nutrition Science, 6th edition, New Age International

Publishers.

7. Swaminadhan S, (2005). Advanced Text book on foods & nutrition, Vol. I&II (2nd

revised and enlarged) Bappco.

8. VijayaKhader, (2000). Food, nutrition & health, Kalyani Publishers.

**CO-CURRICULAR ACTIVITIES:**

1. Student seminars on different nutrients.

2. Preparation of posters, charts, flashcards etc. related to different nutrients – Functions, RDA dietary sources, nutrient content of foods and deficiency symptoms.

3. Collections of food samples rich in particular vitamins and minerals like calcium, iron etc.

4. Visit to food stores, vegetable and fruit markets to study locally available foods.

5. Study projects to collect the data from people. Eg. Foods avoided or given in specific

conditions.

6. Celebration of Important Days (National and International)

➢ World’s Breast Feeding Week(August 1st - 7th )

➢ Nutrition Week – September 1st - 7th

➢ Nutrition Month – September month

➢ Hand Washing Day – October 15th

➢ World Food Day – October 16th

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