

**Semester-1**  
**Minor from Discipline-1**  
**Human Nutrition (Theory)**

**Course Code-** MN-1A

**Full Marks-**75

**End Sem.UniversityExam-**60

**Pass Marks-**30

**Internal Examination-**15

**Credit- (Theory-03, Practical-01)**

**Paper Name-** Human Nutrition

**Course Objective:**

Students will be able to assess nutritional status of individuals in various life-cycle stages and determine nutrition-related conditions and diseases by applying knowledge of metabolism and nutrient functions, food sources, and physiologic systems.

**Learning Outcomes:**

- Utilize knowledge from foundational sciences as a basis for understanding the role of food and nutrients in health and disease.
- Integrate scientific information, research, and critical thinking into evidence based practice.
- Provide culturally competent nutrition services for diverse individuals and communities using a variety of communication strategies.

<b>Course Content: Theory</b>		<b>45Hrs</b>
<b>1. Basic Concepts in Nutrition</b>	<ul style="list-style-type: none"><li>• Relationship between food, nutrition and health.</li><li>• Functions of food- Physiological, psychological and social.</li></ul>	5hrs
<b>2. Nutrients</b>	<ul style="list-style-type: none"><li>• Functions, Recommended Dietary Allowances, dietary sources, effects of deficiency and/ or excess consumption on health of the following nutrients:-<ul style="list-style-type: none"><li>(1) Carbohydrates,</li><li>(2) Lipids</li><li>(3) Proteins</li><li>(4) Minerals</li><li>(5) Vitamins.</li></ul></li></ul>	35hrs
<b>3. Nutrition during Lifecycle</b>	<ul style="list-style-type: none"><li>• Physiological considerations and nutritional concerns for the following life stage:-<ul style="list-style-type: none"><li>(1) Adult man / woman.</li><li>(2) Preschool children</li></ul></li></ul>	5hrs

### **PRACTICAL: Human Nutrition**

**Credit 1**  
**Full Marks 25**

**Teaching Hours 30**  
**Passing Marks 10**

<b>Course Content: Practical</b>		<b>30Hrs</b>
<b>1. Identifying Rich Sources of the following Nutrients</b>	Protein, Iron, Calcium, Fiber, Vitamin A & C	15hrs
<b>2. Planning Nutritious Diets</b>	Preparing nutritious diets /Snacks for Pre-school children	15hrs

**Note for Assessment: Final Examination 15 Marks+5 Marks Viva-Voce+5 Marks Practical note Book=25 Marks**

#### **References: -**

- पोषण विज्ञान डॉ. वृदा सिंह
- आहार एवं पोषण विज्ञान डॉ. आशा कुमारी, अग्रवाल पब्लिकेशन, आगरा
- पोषण स्थिति का मूल्यांकन डॉ. प्रभा बिस्ट डॉ. प्रीति बोरा
- Sri Lakshmi B (2012). Nutrition Science.4th Revised Edition, New Age International Publishers.
- Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.

## Semester-1

### UG Major Home Science

#### Basics of Food Science Nutrition (Theory)

**Course Code-** MJ-1

**Full Marks-**75

**End Sem.UniversityExam-**60

**Pass Marks-**30

**Internal Examination -**15

**Credit- (Theory-03, Practical-01)**

**Paper Name-** Basics of Food Science Nutrition

#### Course Objective:

To enable student to learn about the discipline of Home Science as a holistic Field study covering multiple knowledge about food science and nutrition Personal development, need and use of family resources, access to adequate Nutrition for wholesome development.

#### Learning Outcomes:

- Obtain Knowledge of different food groups, their composition and nutrients present in the foods.
- Use current information Technologies to locate and apply evidence- based guidelines and protocol and able with critical thinking to take leadership roles in the field of health, diet special nutritional needs and nutritional counseling.
- Equipped Home Scientist with knowledge to face new challenges, cope with knowledge, technological advancement, new developments and growing needs of individual at both national and global scenario.

<b>Course Content: Theory</b>		<b>45Hrs</b>
<b>1. Introduction to Nutrition</b>	<ul style="list-style-type: none"><li>• Introduction and definition of Food Science and Nutrition, Health and Malnutrition. Various classifications of Food groups, Need and application of food groups in planning adequate/ Balance diet.</li></ul>	12hrs
<b>2. Nutrients</b>	<ul style="list-style-type: none"><li>• About Macro and Micro nutrients – Classification, Sources, functions and deficiency.</li><li>• Water- Function, sources and water balance.</li><li>• Fiber- Functions and sources.</li><li>• Energy- Factors affecting BMR</li></ul>	20hrs
<b>3. Method of Cooking</b>	<ul style="list-style-type: none"><li>• Methods of cooking – Advantages and disadvantages<ul style="list-style-type: none"><li>a. Water medium – Boiling, Steaming, Pressure cooking</li><li>b. Oil/Fat medium – Shallow frying, deep frying</li><li>c. Air – Baking, Broiling, Grilling</li></ul></li></ul>	05hrs
<b>4. Food Preservation</b>	<ul style="list-style-type: none"><li>• Food Preservation- Objectives and principles – Methods:- Dehydration, temperature regulation, using preservatives like salt and sugar</li><li>• Food Handling and storage</li></ul>	08hrs

### **PRACTICAL: Basics of Food Science Nutrition**

**Credit 1**  
**Full Marks 25**

**Teaching Hours 30**  
**Passing Marks 10**

<b>Course Content: Practical</b>		<b>30Hrs</b>
<b>1. Methods of Cooking and Food Preparation</b>	<ul style="list-style-type: none"><li>• Boiling, Steaming</li><li>• Pressure cooking, shallow and deep fat Frying</li><li>• Dry heat – baking</li></ul>	15hrs
<b>2. Food Preservation</b>	<ul style="list-style-type: none"><li>• By using Salt, Sugar and dehydration.</li></ul>	15hrs

**Note for Assessment: Final Examination 15 Marks+5 Marks Viva-Voce+5 Marks Practical note Book=25 Marks**

#### **References: -**

1. प्रो० कुमारी आशा आहार एवं पोषण विज्ञान (2015), अग्रवाल पब्लिकेशन आगरा
2. डॉ० जी. पी. शैरी, पोषण एवं आहार विज्ञान (2014 / 15) अग्रवाल पब्लिकेशन, आगरा
3. डॉ० रीना खनूजा, आहार एवं पोषण विज्ञान, अग्रवाल पब्लिकेशन, आगरा
4. एम स्वामीनाथन, आहार एवं पोषण विज्ञान
5. प्रो० कुमारी आशा, शरीर क्रिया विज्ञान, मोतीलाल पब्लिकेशन, पटना
6. Srilakshmi B, (2007), Dietetics. New Age International publishers. New Delhi
7. Srilakshmi B, (2002), Nutrition Science. New Age International publishers. New Delhi
8. Swaminathan M. (2002), Advanced text book on food and Nutrition. Volume I. Bappco
9. Gopalan. C. Ramasastry B.V and S.C Balasubramannian (2009), Nutritive Value of Indian Foods. NIN. ICMR. Hyderabad.
10. Mudambi S R and Rajagopal M V, (2008), Fundamentals of Foods, Nutrition & diet therapy By New Age International publishers. New Delhi.
11. Swaminathan M "Essentials of Food and Nutrition Vol I and II