

FOODS AND NUTRITION (THEORY)

Max Marks: - 100 marks

Teaching workload: 4 hours/week

Total teaching workload: 60 hours/Semester

Examination scheme:

Duration : 3 hours

The theory examination paper will consist of four Sections:

1. Section I (20marks) – will comprise of 20 MCQs/fill in the blanks type questions of 1 mark each.
 2. Section II (20 marks) - will comprise of 10 short answer questions of 2 marks each with word limit of 20-30 words.
 3. Section III (20 marks) - will comprise of 4 questions with word limit (100-150 words) of 5 marks each. Candidate will need to attempt only 4 questions out of 6.
 4. Section IV (40 marks) - will comprise of 2 long answer questions (essay type) of 20 marks each with internal choice in each question.
- **It will be necessary for a candidate to pass in theory as well as practical part of a subject paper, wherever prescribed, separately. Classification of successful candidates shall be as follows:**
 - **First Division 60% of the aggregate marks prescribed.**
 - **Second Division 48% of the aggregate marks prescribed in**
 - **All the rest will be declared to have passed the examination if they obtain the minimum pass marks viz. 36% in each paper.**

Objectives :

- The definition, concept and functions of Foods and Nutrition.
- The nutritional composition of various foods products.
- To give knowledge about basics of nutrition, nutrients
- Increase the availability of food by preventing spoilage and through preservation.
- Understand food adulteration and various food laws and labelling rules for food safety.

Learning outcome:

- The students will develop understanding of importance of food.
- Understand the nutritional composition of raw and processed food in various food groups which will help in correct selection of food for healthy living.
- Develop understanding of various nutrients with regards to their functions, sources, deficiencies and requirements.
- Develop understanding about food spoilage and various preservation techniques to enhance the shelf life of food.
- Develop understanding of adulteration, its ill effects on health and laws and standards for prevention of food adulteration.

Unit – I

Hours

1.	<p>Definition and concept of foods and nutrition</p> <ul style="list-style-type: none"> ➤ Definition of foods and nutrition, ➤ Function of food: <ul style="list-style-type: none"> • Physiological – hunger, appetite, satiety • Psychological • Social, economic, cultural 	2
2	<p>Study of following Energy giving food groups and their products with respect to their nutritional composition, effect of heat, acid and alkali</p> <ul style="list-style-type: none"> • Cereals and millets, • Sugar • Fats & oil seeds 	6
3.	<p>Study of following body building food groups and their products with respect to their nutritional composition, effect of heat, acid and alkali</p> <ul style="list-style-type: none"> • Pulses and soya products • Milk & milk products • Meat, fish, egg & poultry 	6
4	<p>Study of following Protective food groups, their products and others with respect to their nutritional composition effect of heat, acid and alkali</p> <ul style="list-style-type: none"> • Fruits and vegetables & processed products • Condiments and spices • Tea, coffee and cocoa 	6
Unit –II		
5.	<p>Functions, sources, daily allowances and deficiency of following macronutrients::</p> <ul style="list-style-type: none"> • Carbohydrates • Proteins • Fats • Water 	7
6	<p>Functions, sources, daily allowances and deficiency of following micronutrients::</p> <ul style="list-style-type: none"> • Minerals – calcium, iron, iodine, fluorine • Vitamins– B complex vitamins, vitamin C • Fat Soluble vitamins– A, D, E & K 	9
7.	<p>Energy metabolism: Factors affecting energy requirements</p> <ul style="list-style-type: none"> • BMR and factors affecting BMR • Physical activity • Specific Dynamic action of food 	4
Unit – III		
8.	<p>Food Spoilage and Preservation</p> <ul style="list-style-type: none"> • Causes of food spoilage 	10

	<ul style="list-style-type: none"> • Principles & methods based on principles • High temperature – Pasteurization, canning • Low temperature – refrigeration , cold storage , freezing • Preservatives – chemical • High osmotic pressure – salt • Dehydration – solar , spray & drum • Radiation 	
9.	Food Adulteration – definition, common adulterants and their health hazards, food laws, FASSI and labelling.	6
10	Food additives	4

References:

1. Srilakshmi, B. Food Science , new Age International (P) Ltd. Publishers, New Delhi,
2. Manay, N.S and Shadaksharaswamy M. (2001) Food Facts and Principles. Second edition, New Age International Publisher, New Delhi
3. Potter, N.N. (1987) Food Science, 3rd Ed CBS Publishers and Distributors, Delhi 1987
4. Swaminathan M. (1990), Food Science Chemistry and Experimental Foods, The Bangalore Printing & Publishing Co. Ltd. , Mysore, Bangalore
5. Meyer, L.H. (1987) Food Science, 3rd Ed CBS Publishers and Distribution, Delhi
6. Frazier, W.C. (2006), 26th Reprint ,Food Microbiology. Tata McGraw Hill Publishing Co., New Delhi
7. Swaminathan M(2010) Aahar evam Poshan, NR Brothers,MY Hospital Marg, Indore,