SYLLABUS FOR THREE YEAR B.A/B.Sc MULTI DISCIPLINARY COURSE (MDC) OF STUDIES in FOOD and NUTRITION UNDER CCF, 2022

Semester	Course	Topic	Faculty	No of Classes
FIRST SEMESTER	MINOR -1-TH: BASIC FOOD SCIENCE-I(semester I /semester III)	Basic concept on Food, Nutrition and Nutrients. Classification of Food, Classification of Nutrients.	Sohini Roy	2
		Carbohydrates - Definition, Classification, Structure and properties. Monosaccharides - glucose, fructose, galactose. Disaccharides - Maltose, lactose, sucrose Polysaccharides - Dextrin, starch, glycogen, resistant starch. Carbohydrates - Sources, daily requirements, functions. Effects of too high and too Low carbohydrates on health. Digestion and absorption of carbohydrate.	Sohini Roy	12
		Lipids -Definition, Classification & Properties. Fatty acids-composition, properties, types. Lipids - sources, daily requirements, functions. Digestion & Absorption of nutrients. Role & nutritional significances of PUFA, MUFA, SFA, W-3 fatty acid.	Sohini Roy	8
		Proteins- Definition, Classification, Structure & properties. Amino acids, Classification, types, functions. Proteins - Sources, daily requirements, functions. Effect of too high - too low proteins on health. Digestion & absorption. Assessment of Protein quality (BV, PER, NPU). Factors affecting protein bio-availability including anti-nutritional factors.	Arpita Srimani	8
		Dietary Fibre- Classification, sources, composition, properties & nutritional significance	Arpita Srimani	3
		Continuous Internal Evaluation (VIVA- VOCE)	Sohini Roy	2
	MINOR 1-P: BASICFOODSCIENCE -I (PRACTICAL)	Identification of Mono, Di and polysaccharides	Debarati Mukherjee	10
		Identification of Proteins		6
		Identification of glycerol		4
SECOND SEMESTER	MINOR 2- TH : BASIC FOOD SCIENCE-II	Dietary Fibre-Classification, sources, composition, properties & nutritional significance	Sohini Roy	5
		Minerals & Trace Elements, Bio-Chemical and Physiological Role, bio-availability & requirements, sources, deficiency & excess (Calcium, Sodium, Potassium Phosphorus, Iron, Fluoride, Zinc, Selenium, Iodine, Chromium)	Arpita Srimani	10
		Vitamins - Bio-Chemical and Physiological Role Physiological role, bio-availability and requirements, sources, deficiency & excess.	Sohini Roy	10
		Water - Functions, daily requirements, Water balance	Arpita Srimani	5
		Continuous Internal Evaluation (QUIZ)	Arpita Srimani	2
	MINOR 2- P: BASIC FOOD SCIENCCE-II (PRACTICAL)	Determination of Ash content in food	Debarati Mukherjee	4
		Determination of Moisture content in food	Debarati Mukherjee	4
		Determination of calcium, iron, and Vitamin C content in foods	Sukla Ghosh (Chem)	12
THIRD SEMESTER	DSC/Core(Major)C-3-TH: HUMAN NUTRITION-I	Concept and definition of terms-Nutrition, Malnutrition and Health: Scope of Nutrition	Sohini Roy	3
		Minimum Nutritional Requirement and RDA: formulation of RDA and Dietary Guidelines Reference Man and Reference Woman, Adult consumption unit		6
		Energy in Human Nutrition: Idea of Energy and its unit, Energy Balance, Assessment of Energy Requirements—deficiency and excess, Determination of Energy in food, B.M.R. and its regulation, S.D.A.		8
		Growth & Development from infancy to adulthood: Somatic, physical, brain and mental development, puberty, menarch, pre-pubertal and pubertal changes, Factors affecting growth and development. Importance of Nutrition for ensuring adequate development.	Arpita Srimani	8
		Growth monitoring and promotion: Use of growth charts and standards, Prevention of growth faltering		5
		Continuous Internal Evaluation (VIVA- VOCE)	Arpita Srimani	**2**
	DSC/Core(Major)C-3-P: HUMAN NUTRITION-I (PRACTICAL)	Process involved in cooking: pressure cooking, microwave ,steaming, grilling ,deep fat frying	Arpita Srimani	4
		General concepts of weights and measures. Eye estimation of raw and cooked foods		2
		Preparation of food from different food groups and their significance in relation to health		6
		Preparation of supplementary food for different age group and their nutritional significance		6
		Planning and preparation of low cost diet for Grade I and Grade II malnourished child		4
SEC Offered (Students can opt SEC in First/Second/Third Semester)	SEC : FOOD SAFETY AND QUALITY CONTROL	1. Food Quality: Meaning and definition of food quality, Quality factors in foods,indicators of food quality, importance and ways of Food Quality Assessment	Maumita Ghosh	**2**
		2. Introduction to Food Hazards: Definition, types of hazard-physical, chemical (naturally occurring, environmental and intentionally added) and biological, factors affecting (food borne pathogensbacteria, viruses and eukaryotes; sea food and shellfish poisoning and mycotoxins)		6
		3. Hygiene and Sanitation : Principles of food hygiene, personal hygiene, kitchen hygiene and sanitation. water quality assessment, insect and pest control, waste treatment and disposal, food vending and packaging standards, employees' health		6
		4. Food Safety Management Tools: Basic concept, prerequisites-GHPs, GMPs. HACCP, ISO series. National Food Standards (BIS, AGMARK) and Food Laws (PFA and FSSAI).		6
	SEC : FOOD SAFETY AND QUALITY CONTROL (PRACTICAL)	Detection of adulterants in the following Foods- Milk, Edible Oil, Sugar, Spices, honey, Flours, Ghee, Beverages (one method of detection for each food item). 1. To detect the adulterants like dyes and argemone in the fats, oils and ghee. 2. To detect the presence of adulterants like water, urea, formalin, detergent, sugar and starch in the milk. 3. To detect the adulteration of insoluble substance, chalk powder and washing soda in sugar. 4. To detect the adulteration of brick powder in chilli powder, Metanil yellow in turmeric. 5. To detect colouring agents in fruit juices and sweets.	Arpita Srimani	20