ACADEMIC PLAN FOR THE SESSION 2022-2023

DEPARTMENT OF FOOD AND NUTRITION

TIME PERIOD: JULY, 2022 – DECEMBER. 2022

SYSTEM : CBCS

SEMESTER- 1

(HONOURS)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC1 (Theory) Basic Food Science-I (**Total marks:** 50)	Carbohydrates • Definition, classification, structure and properties • Monosaccharides • Disaccharides • Polysaccharides • Sources, daily requirements, functions, effect of too high and too low carbohydrates on health, digestion and absorption	SEPTEMBER	Dr. Bidisha Maity	8 (8 hours)
	Lipids • Definition, classification and properties. Fatty acids- composition, properties, type • Sources, daily requirements functions. Digestion and absorption, PUFA, MUFA, SFA, W-3 fatty acids	OCTOBER	Dr. Bidisha Maity	5 (5 hours)
	Proteins • Definition, classification, sources and properties, amino acids	NOVEMBER	Dr. Bidisha Maity	3 (3hours)
	1. Proteins • Effect of too high and too low proteins on health. Digestion and absorption. Protein quality (BV, PER, NPU). Factors affecting protein bio-availability 2. REVISION 3. Class test 4. Internal assessment	DECEMBER	Dr. Bidisha Maity	8 (8 hours)
CC1 (Practical) Basic Food Science-1	Identification of mono, Di and Polly saccharides	SEPTEMBER	Dr. Bidisha Maity	8 (16 hours)
	Identification of proteins	OCTOBER	Dr. Bidisha Maity	4 (8hours)
Total marks: 30	1. Identification of glycerol 2. Practice	NOVEMBER	Dr. Bidisha Maity	8 (16 hours)
	Class test	DECEMBER	Dr. Bidisha Maity	2 (4 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC 2 (Th, P) **Human Physiology-I** (Theory) **(Total marks:** 50) **Human Physiology-I** (Practical) **(Total marks:** 30**)**	**1. Unit of Life:** Structure and functions of cell with special reference to Plasma membrane (Fluid Mosaic Model), Mitochondria, Ribosome, Endoplasmic Reticulum**.** Nucleus (nuclear membrane, nuclear chromatin and nucleolus). Nucleotide, Homeostasis, Positive and negative feed back **Practical:** a) Determination of pulse rate in Resting condition and after exercise (30 beats/10 beats method) b) Determination of blood pressure by Sphygmomanometer (Auscultatory method).	AUGUST	Ishita Bhattachajee	6 (6 hours) 3 (6 hours)
	2. Circulatory and Cardiovascular system: Blood and its composition, formed elements, Blood groups, Mechanism of blood coagulation, Introduction to immune system, Erythropoiesis and anaemia, Structure and functions of heart, Cardiac cycle, cardiac output, blood pressure and its regulation. **Practical:** c) Measurement of Peak Expiratory flow rate. (By spirometer) d) Determination of Bleeding Time (BT) and Clotting Time (CT).	SEPTEMBER	Ishita Bhattacharjee	6 (6 hours) 3 (6 hours)
	3. Digestive System: Structure and functions of G.I. tract, Process of digestion and absorption of food**,** Structure and functions of liver, gallbladder and pancreas. **Practical:** e) Detection of Blood group (Slide method). f) Measurement of Haemoglobin level (Sahli`s or Drabkin method).	OCTOBER	Ishita Bhattacharjee	6 (6 hours) 3 (6 hours)
	4. Respiratory System: Structure of Lungs and gaseous exchange (oxygen and carbon dioxid**e** transport).	NOVEMBER	Ishita Bhattacharjee	4 (4 hours)
	5. Musculoskeletal System: Formation and functions of muscles, bones and teeth. Muscle energetic, Isometric and isotonic muscle contraction.	DECEMBER	Ishita Bhattacharjee	4 (4 hours)

SEMESTER- 1

(GENERAL)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC/GE 1 (Theory) Elementary Chemistry **(Total marks:** 50**)**	1. Law of conservation of mass, chemical and physical changes, mechanical mixture and chemical compounds 2. Common laboratory process 3. Symbol, valency, formula, equation, naming of compounds and radicals 4. General concept of acid, bases, salts. 5. Buffer solution, acid base indicators 6. Normal solutions and formula solutions	SEPTEMBER	Dr. Bidisha Maity	6 (6 hours)
	1. Diffusion and osmosis 2. Colloids	OCTOBER	Dr. Bidisha Maity	3 (3 hours)
	1. Structure of atom 2. Chemistry of carbon compounds: Classification, functional groups, isomerism, General methods of preparations, properties and reactions of saturated and unsaturated hydrocarbons	NOVEMBER	Dr. Bidisha Maity	4 (4 hours)
	1. Alcohols, aldehydes, ketones 2. Class test 3. Internal assessment	DECEMBER	Dr. Bidisha Maity	6 (6 hours)
CC/GE 1 (Practical)) Elementary Chemistry	Filtration, crystallization, separation of mixture	SEPTEMBER	Dr. Bidisha Maity	2 (4 hours)
	Simple chemical tests for carbohydrate	OCTOBER	Dr. Bidisha Maity	2 (4 hours)
(Total marks: 30)	1. Test for carbohydrate 2. Qualitative tests for proteins	NOVEMBER	Dr. Bidisha Maity	6 (12 hours)
	Practice	DECEMBER	Dr. Bidisha Maity	4 (8 hours)

SEMESTER-3

(Honours)

Paper	Time Frame	Topic	Teacher's name	**TOTAL NUMBER OF CLASSESS/ MONTH**
CC5 (Human Nutrition – 1) Theory & Practical	July	Exam.	Paramita Chatterjee	
	August	Concept & Definitions.		1 (1 hour)
(Total marks: 50 + 30)	September	RDA, Dietary guidelines, Indian reference man & woman, ACU. Energy – Unit, balance, requirement, assessment, deficiency & excess, BMR, SDA. **Practical** – Weight & measurement, cooking processes.		4 (4 hours) 3 (6 hours)
	October	Growth & development, importance of nutrition for ensuring adequate development. **Practical** – Food Groups, supplementary foods.		4 (4 hours) 2 (4 hours)
	November	Growth & development, Growth monitoring. **Practical** – Grade I & II malnutrition – Preparation of low cost diets.		2 (2 hours) 2 (4 hours)
	December	Class Assessment. Internal Assessment.		

PAPER	**TOPIC**	**MONTH**	**NAME OF THE TEACHER**	**TOTAL NUMBER OF CLASSESS/ MONTH**
CC6 Th Community Nutrition Theory **(Total marks: 50)**	Introduction to the topic	AUGUST	Malay Mitra	1 (1 hour)
	Types of community, factors affecting community health	AUGUST	Malay Mitra	1 (1 hour)
	Assessment of Nutritional status	SEPTEMBER	Malay Mitra	1 (1 hour)
	Anthropometry	SEPTEMBER	Malay Mitra	2 (2 hours)
	Diet survey	SEPTEMBER	Malay Mitra	2 (2 hours)
	Clinical	SEPTEMBER	Malay Mitra	1 (1 hour)
	Biochemical	SEPTEMBER	Malay Mitra	1 (1 hour)
	Nutritional surveillance	SEPTEMBER	Malay Mitra	1 (1 hour)
	Nutritional Monitoring	SEPTEMBER	Malay Mitra	1 (1 hour)
	Common Nutritional deficiencies in India	SEPTEMBER	Malay Mitra	1 (1 hour)
	NNMB	OCTOBER	Malay Mitra	1 (1 hour)
	ICDS	OCTOBER	Malay Mitra	1 (1 hour)
	MDM	OCTOBER	Malay Mitra	1 (1 hour)
	Inter National Agencies	NOVEMBER	Malay Mitra	1 (1 hour)
	National Agencies	NOVEMBER	Malay Mitra	1 (1 hour)
	Nutritional intervention programme in India	NOVEMBER	Malay Mitra	1 (1 hour)
	Revision	DECEMBER	Malay Mitra	2 (2 hours)
	Class test	DECEMBER	Malay Mitra	2 (2 hours)
CC6P **(Total marks: 30)**	Anthropometric assessment of the students	AUGUST	Malay Mitra	2 (4 hours)
	Diet survey by recall method	AUGUST	Malay Mitra	4 (8 hours)

	BMR, Waist-Hip Ratio calculation of the students	SEPTEMBER	Malay Mitra	1 (2 hours)
	Assessment of nutritional status of the children (Visit)	SEPTEMBER	Malay Mitra	1 (2 hours)
	Clinical Assessment of primary school children (Visit)	OCTOBER	Malay Mitra	1 (2 hours)
	Growth Chart	NOVEMBER	Malay Mitra	1 (2 hours)
	Revision	DECEMBER	Malay Mitra	1 (2 hours)

PAPER	**MONTH**	**TOPIC**	**NAME OF THE TEACHER**	**TOTAL NUMBER OF CLASSESS/ MONTH**
CC7 (Food Commodities – Theory)	July	Exam.	Paramita Chatterjee	
	August	Cereals & Millets.	Paramita Chatterjee	4 (4 hours)
(Total marks: 50)	September	Pulses & Legumes, egg, flesh foods, Fruits & vegetables.	Paramita Chatterjee	8 (8 hours)
	October	Sugar, fat, salt, leavening agents.	Paramita Chatterjee	3 (3 hours)
	November	Spices,Convenience foods, beverages.	Paramita Chatterjee	4 (4 hours)
	December	Class assessment. Internal assessment.	Paramita Chatterjee	
CC7 (Food commodities) practical	September	Detection of starch, sucrose, formalin, boric acid and urea in milk	Paramita Chatterjee Dr. Bidisha Maity	2 (4 hours)
(Total marks: 30)	October	Detection of urea in puffed rice, detection of vanaspati in ghee/butter, detection of khesari flour in besan	Paramita Chatterjee Dr. Bidisha Maity	2 (4 hours)
	November	Detection of metanil yellow in turmeric/coloured sweet products, detection of argemone in edible oil, detection of artificially colour/ foreign matter in tea	Paramita Chatterjee Dr. Bidisha Maity	4 (16 hours)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
SEC A1 (Th) (Sports nutrition)	July	Class Assessment Internal Assessment		
(Total marks: 80)	August	1. Definition of physical activity, exercise, physical fitness, sports physiology and sports nutrition.	Ishita Bhattacherjee	4 (4 hours)
	September	2. Benefits of physical activity and exercise.	Ishita Bhattacherjee	3 (3 hours)
	October	Classification of Sports activities.	Ishita Bhattacherjee	2 (2 hours)
	November	4. Nutritional requirements of sports person. 5. Pre- event meal.	Ishita Bhattacherjee	4 (4 hours)
	December	Class Assessment Internal Assessment	Ishita Bhattacherjee	3 (3 hours)

SEMESTER-3
GENERAL

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	**TOTAL NUMBER OF CLASSESS/ MONTH**
CC/GE 3 (Th, P)	July	Class Assessment Internal Assessment		
(Total marks: 50 + 30)	August	**1. Animal cell:** Structure and function. **Practical:** Demonstration for determination of blood pressure of humans being- (a) systolic and b) diastolic.	Ishita Bhattacherjee	4 (4 hours) 1 (2 hours)

FNTG	Septemb er	**2. Tissue:** Definition, structure and functions of different types of tissue, e.g. epithelial, connective, nervous and muscular tissue (special emphasis on blood and bone). **Practical:** Identification of slides (Blood cells, Stomach, Small intestine, large intestine, Liver, pancreas).	Ishita Bhattacherjee	4 (4 hours) 2 (4 hours)
	October	**3. Digestive system:** Structure involve in digestive system (mouth, esophagus, stomach, small intestine, large intestine, liver, pancreas, gall bladder) and their functions. Digestion and absorption of Carbohydrate, protein and fat. **Practical:** a) Determination of Bleeding Time (BT) and Clotting Time (CT).	Ishita Bhattacherjee	4 (4 hours0 2 (4 hours)
	Nov	**4. Elementary idea of metabolism, enzymes and hormones:** name and their important functions. Metabolism in brief (Glycolysis, Glycogenesis, Gluconeogenesis, Cori's cycle, Kreb's cycle, Deamination, Transamination. Role of hormones in carbohydrate metabolism. **Practical:** a) Detection of Blood group.	Ishita Bhattacherjee	3 (3 hours)
	Dec	Class Assessment Internal Assessment	Ishita Bhattacherjee	2 (2 hours)

SEMESTER- V

(HONOURS)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC11 (Diet Therapy – II, Theory & Practical)	July	Exam		
	August	Definition, classification, etiology, assessment, management, prevention and complication – Obesity.	Paramita Chatterjee	2 (2 hours)
(Total marks: 50 + 30)	September	Definition, classification, etiology, assessment, management, prevention and complication – Obesity, Underweight, Diabetes Mellitus. **Practical** – Planning and preparation of diets for obesity and underweight, DM.	Paramita Chatterjee	4 (4 hours) 3 (6 hours)
	October	Definition, classification, etiology, assessment, management, prevention and complication – CVD. **Practical** – Planning and preparation of diets for HTN, atherosclerosis.	Paramita Chatterjee	4 (4 hours) 2 (4 hours)
	November	Definition, classification, etiology, assessment, management, prevention and complication – renal diseases. **Practical** – Planning and preparation of diets for acute & chronic glomerulonephritis.	Paramita Chatterjee	5 (5 hours) 2 (4 hours)
	December	Class assessment. Internal assessment.	Paramita Chatterjee	

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC12 Theory (Nutritional biochemistry-II	• Brief introduction to biological membranes to understand transport • Biological transport -- different aspects	AUGUST	Dr. Bidisha Maity	5 (5 hours)
	• Introduction to nucleic acids: structure, replication, transcription, genetic code, biosynthesis of proteins	SEPTEMBER	Dr. Bidisha Maity	8 (8hours)
Total marks: 50	• Proteins- amino acid metabolism, urea cycle, lipoproteins	OCTOBER	Dr. Bidisha Maity	6 (6 hours)

	• Vitamins- Chemistry and biochemical role of fat and water soluble vitamins	NOVEMBER	Dr. Bidisha Maity	8 (8 hours)
	• Minerals- biochemical role of inorganic elements • Class test • Internal assessment	DECEMBER	Dr. Bidisha Maity	8 (8 hours)
CC12 practical (Nutritional biochemistry-II	• Qualitative analysis of amino acids • Qualitative analysis of proteins • Estimation of serum Protein	SEPTEMBER	Dr. Bidisha Maity	8 (16 hours)
CC12 practical (Nutritional biochemistry-II	• Estimation of serum creatinine • Estimation of serum urea	OCTOBER	Dr. Bidisha Maity	3 (6 hours)
	• Estimation of serum iron, calcium, phosphorus	NOVEMBER	Dr. Bidisha Maity	8 (16 hours)
Total marks: 30	• Practice • Class test	DECEMBER	Dr. Bidisha Maity	6 (12 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSEA1 Th (Public Health Theory) **(Total marks: 50)**	Introduction	AUGUST	Malay Mitra	1 (1 hours)
	Defintion of health, Concept of public health	AUGUST	Malay Mitra	1 (1 hours)
	Diemntions of Health	AUGUST	Malay Mitra	1 (1 hours)
	Determinatants of public health	AUGUST	Malay Mitra	1 (1 hours)
	Epidemiology	SEPTEMBER	Malay Mitra	1 (1 hours)
	Observational studies	SEPTEMBER	Malay Mitra	1 (1 hours)
	Experiemental studies	SEPTEMBER	Malay Mitra	1 (1 hours)
	ODD ratio, RR, AR	SEPTEMBER	Malay Mitra	1 (1 hours)
	Immunity	SEPTEMBER	Malay Mitra	1 (1 hours)
	Immunization	SEPTEMBER	Malay Mitra	1 (1 hours)
	Waste water management	OCTOBER	Malay Mitra	1 (1 hours)
	Solid waste management	OCTOBER	Malay Mitra	1 (1 hours)
	Communicable diseases	NOVEMBER	Malay Mitra	1 (1 hours)
	Health hazards	DECEMBER	Malay Mitra	1 (1 hours)
	Food borne infection	DECEMBER	Malay Mitra	2 (2 hours)
	Revision	DECEMBER	Malay Mitra	2 (2 hours)
	Class Test	DECEMBER	Malay Mitra	2 (2 hours)
DSEA1 P Public Health Practical **(Total marks:30)**	Preparation of low cost supplementary foods	SEPTEMBER	Malay Mitra	2 (4 hours)
	Preparation of Medium cost supplementary food	SEPTEMBER	Malay Mitra	2 (4 hours)
	Preparation of audio visual aids	NOVEMBER	Malay Mitra	4 (8 hours)
	Field visit to a health center	DECEMBER	Malay Mitra	2 (4 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSE- B1 Theory (Food safety and quality control)	1. Introduction to food safety 2. Food hazards 3. Management of food hazards	AUGUST	Dr. Bidisha Maity	6 (6 hours)
	1.Hygiene and sanitation 2. Food safety management tools	SEPTEMBER	Dr. Bidisha Maity	6 (6 hours)
(Total marks: 50)	• Revision • Class test	OCTOBER	Dr. Bidisha Maity	3 (3 hours)
	Food laws and standards	NOVEMBER	Dr. Bidisha Maity	3 (3 hours)
Practical Total marks: 30	• Class test • Internal assessment	DECEMBER	Dr. Bidisha Maity	3 (3 hours)
DSE- B1 Practical (Food safety and quality control)	Project	August - December	Dr. Bidisha Maity	20 (40 hours)

SEMSESTER-5

(GENERAL)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSEA1 Th Community Nutrition Theory **(Total marks: 50)**	Introduction to the topic	AUGUST	Malay Mitra	1 (1 hour)
	Types of community, factors affecting community health	AUGUST	Malay Mitra	1 (1 hour)
	Assessment of Nutritional status	SEPTEMBER	Malay Mitra	1 (1 hour)
	Anthropometry	SEPTEMBER	Malay Mitra	1 (1 hour)
	Diet survey	SEPTEMBER	Malay Mitra	2 (2 hours)
	Clinical	SEPTEMBER	Malay Mitra	1 (1 hour)
	Biochemical	SEPTEMBER	Malay Mitra	1 (1 hour)
	Food fortification	SEPTEMBER	Malay Mitra	1 (1 hour)
	Food enrichment	SEPTEMBER	Malay Mitra	1 (1 hour)
	Common Nutritional deficiencies in India	SEPTEMBER	Malay Mitra	1 (1 hour)
	Nutrition Education	OCTOBER	Malay Mitra	1 (1 hour)
	ICDS	OCTOBER	Malay Mitra	1 (1 hour)
	MDM	OCTOBER	Malay Mitra	1 (1 hour)
	Inter National Agencies	NOVEMBER	Malay Mitra	1 (1 hour)
	National Agencies	NOVEMBER	Malay Mitra	1 (1 hour)
	Nutritional intervention programme in India	NOVEMBER	Malay Mitra	1 (1 hour)
	Revision	DECEMBER	Malay Mitra	2 (2 hours)
	Class test	DECEMBER	Malay Mitra	2 (2 hours)
DSEA1P **(Total marks: 30)**	Preparation of home made ORS	SEPTEMBER	Malay Mitra	1 (2 hours)
	Preparation of weaning food	OCTOBER	Malay Mitra	2 (4 hours)
	Preparation of Medium cost school tiffin	NOVEMBER	Malay Mitra	2 (4 hours)
	Preparation of low cost school tiffin	NOVEMBER	Malay Mitra	2 (4 hours)
	Diet survey by recall method	DECEMBER	Malay Mitra	4 (8 hours)

ACADEMIC PLAN FOR THE SESSION 2022-2023

DEPARTMENT OF FOOD AND NUTRITION

TIME PERIOD: January, 2023 – June. 2022

SYSTEM : CBCS

SEMESTER-2

(HONOURS)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC3 (Theory) Basic Food Science-II **(Total marks: 50)**	1. Dietary fibre • Classification, sources, properties and nutritional significance 2. Minerales and trace elements • Bio-chemical and physiological role, sources, deficiency and excess	MARCH	Dr. Bidisha Maity	10 (10 hours)
	Vitamins • Bio-chemical and physiological roles • Sources, daily requirements, deficiency and excess	APRIL	Dr. Bidisha Maity	10 (10 hours)
	Water • Functions, daily requirements, water balance	MAY	Dr. Bidisha Maity	4 (4 hours)
	1. REVISION 2. Class test 3. Internal assessment	JUNE	Dr. Bidisha Maity	6 (6 hours)
CC3 (Practical) Basic Food Science-II	1. Determination in moisture content in food 2. Determination of calcium in food 3. Determination of iron content in food	APRIL	Dr. Bidisha Maity	6 (12 hours)
	Determination of vitamin-C content in food	MAY	Dr. Bidisha Maity	2 (4 hours)
	1. Practice 2. Class test	JUNE	Dr. Bidisha Maity	6 (12 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
FNTA CC 4 (Th, P) **Human Physiology-II** (Theory) (**Total marks:** 50) **Human Physiology-II** (Practical) **(Total marks:** 30)	**1. Excretory system:** Structure and function of skin, Regulation of temperature of the body, Structure and functions of kidney in special reference to nephron, Physiology of urine formation. **2. Reproductive system:** Structure and functions of gonads, concept on menstrual cycle, Brief idea of pregnancy, parturition, lactation and menopause, Brief concept on spermatogenesis and Oogenesis process. **Practical:** a) Harvard Step test b) Identification with reasons of histological slides (Lung, Liver, Kidney, Small intestine, Stomach, Thyroid, Adrenal, Pancreas, Testis, Ovary and Muscle of mammals).	MARCH	Ishita Bhattacherjee	8 (8 hours) 3 (6 hours)
	3. Nervous System: Concept on sympathetic and parasympathetic nervous system, Brief anatomy and functions of cerebrum, cerebellum, hypothalamus and neuron, Concept on synapse and synaptic transmission. Reflexes, Special senses. **Practical:** Blood film staining and identification of different types of blood cells.	APRIL	Ishita Bhattacherjee	4 (4 hours) 2 (4 hours)
	4. Endocrine system: Structure and functions of pituitary, thyroid, parathyroid and adrenal gland, Structure and functions of pancreas. **Practical:** Qualitative determination of glucose acetone in urine.	MAY	Ishita Bhattacherjee	4 (4 hours) 2 (4 hours)
	Class Assessment Internal Assessment	JUNE	Ishita Bhattacherjee	3 (3 hours)

SEMESTER-2

(GENERAL)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC/GE2 Th Elementary Physics Theory **Total marks:** 50	Introduction	MARCH	Malay Mitra	1 (1 hour)
	Units CGS, FPS	MARCH	Malay Mitra	1 (1 hour)
	Laws of motion	MARCH	Malay Mitra	1 (1 hour)
	Gravity	MARCH	Malay Mitra	1 (1 hour)
	Thermodynamics	MARCH	Malay Mitra	1 (1 hour)
	Transmission of heat	MARCH	Malay Mitra	1 (1 hour)
	Different state of matter	APRIL	Malay Mitra	1 (1 hour)
	Electricity	APRIL	Malay Mitra	1 (1 hour)
	Primary storage cell	APRIL	Malay Mitra	1 (1 hour)
	Electroplating	APRIL	Malay Mitra	1 (1 hour)
	AC DC current	APRIL	Malay Mitra	1 (1 hour)
	Electric appliances	APRIL	Malay Mitra	1 (1 hour)
	Hydrostatistics	MAY	Malay Mitra	1 (1 hour)
	Caloriemetry	MAY	Malay Mitra	1 (1 hour)
	Revision	JUNE	Malay Mitra	2 (2 hours)
	Class test	JUNE	Malay Mitra	2 (2 hours)
CC/GE2P Elementary Physics Practical **Total marks:** 30	Weighing balance	APRIL	Malay Mitra	1 (2 hours)
	Specific gravity of solid	APRIL	Malay Mitra	1 (2 hours)
	Specific gravity of liquid	MAY	Malay Mitra	1 (2 hours)
	Reading of barometer	MAY	Malay Mitra	1 (2 hours)
	Lower and upper fixed point of thermometer	MAY	Malay Mitra	1 (2 hours)
	Revision	MAY	Malay Mitra	2 (4 hours)

SEMESTER-4

(HONOURS)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC8 (Human Nutrition II – Theory & Practical)	January	Exam.	Paramita Chatterjee	
	February	Exam.	Paramita Chatterjee	
	March	Concept,chances,management,modificationsof Pregnancy.	Paramita Chatterjee	3 (3 hours)
Total marks: (50+30)	April	Concept,chances,management,modificationsof Lactation, Infancy, Toddler, Pre-school. **Practical** – Planning & meal preparation for pregnancy, lactation, infancy.	Paramita Chatterjee	6 (6 hours) 3 (6 hours)
	May	Concept,chances,management,modificationsof School going children, Adolescent. **Practical** – Planning & meal preparation for pre-schoolers,	Paramita Chatterjee	4 (4 hours)

		school children, adolescent & old age.		4 (8 hours)
	June	Class assessment. Internal assessment.	Paramita Chatterjee	
PAPER	**MONTH**	**Topic**	**NAME OF THE TEACHER**	**TOTAL NUMBER OF CLASSESS/ MONTH**
CC9 (Diet Therapy – I)	January	Exam.		
	February	Exam.		
Total marks: 50 + 30	March	Concept of diet therapy, modification of normal diet, assessment of patients needs, routine hospital diets.	Paramita Chatterjee	3 (3 hours)
	April	Diet for febrile conditions, diseases of upper and lower GI tract. **Practical** – Preparation of normal, fluid, soft/semi solid diets.	Paramita Chatterjee	6 (6 hours) 2 (4 hours)
	May	Diseases of liver and gall bladder, Anaemias. **Practical** – Diet for peptic ulcer, viral hepatitis and anaemias.	Paramita Chatterjee	6 (6 hours) 3 (6 hours)
	June	Class assessment. Internal assessment.	Paramita Chatterjee	

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC10 (Theory) Nutritional Biochemistry-I **Total marks:** 50	1. Introduction to biochemistry--Definition, objectives. Scope and inter relationship between biochemistry and other biological science. 2. Enzymes	MARCH	Dr. Bidisha Maity	8 (8 hours)
	Carbohydrate metabolism- Glycolysis, TCA cycle and energy generation, HMP shunt pathway, gluconeogenesis, glycogenesis, blood sugar regulation	APRIL	Dr. Bidisha Maity	8 (8 hours)
	Lipids- Oxidation and biosynthesis of fatty acids, synthesis and utilization of ketone bodies, ketosis, fatty livers, essential fatty acids, cholesterol and its clinical significance	MAY	Dr. Bidisha Maity	8 (8 hours)
	1. REVISION 2. Class test 3. Internal assessment	JUNE	Dr. Bidisha Maity	6 (6 hours)
CC10(Practical) Nutritional Biochemistry-I	1. Quantitative estimation of sugars-glucose, lactose, starch 2. estimation of acid value	APRIL	Dr. Bidisha Maity	8 (16 hours)
Total marks: 30	1. Estimation of saponification value of fats and oils 2. Estimation of blood glucose 3. Estimation of serum cholesterol	MAY	Dr. Bidisha Maity	7 (14 hours)
	1. Practice 2. Class test	JUNE	Dr. Bidisha Maity	6 (12 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
SEC B1 Th (Theory) Nutrition and Health Education **Total marks:**80	Introduction	MARCH	Malay Mitra	1 (1 hour)
	Concept of health education	MARCH	Malay Mitra	1 (1 hour)
	Health promotion	MARCH	Malay Mitra	1 (1 hour)
	Types of communication	APRIL	Malay Mitra	2 (2 hours)
	Principles of health education	APRIL	Malay Mitra	1 (1 hour)
	Models of communication	APRIL	Malay Mitra	2 (2 hours)
	Methods of communication	APRIL	Malay Mitra	2 (2 hours)
	Aids used in health and nutrition education	APRIL	Malay Mitra	2 (2 hours)
	Evaluation	MAY	Malay Mitra	2 (2 hours)
	KAP	MAY	Malay Mitra	1 (1 hour)
	Nutrition propaganda	MAY	Malay Mitra	1 (1 hour)
	Barriers of effective communication	MAY	Malay Mitra	1 (1 hour)
	Steps of planning nutrition education programme	MAY	Malay Mitra	2 (2 hours)
	Revision	May	Malay Mitra	2 (2 hours)
	Class test	May	Malay Mitra	2 (2 hours)

SEMESTER-4

(GENERAL)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC/GE4 - Basic Nutrition & food science (Theory & Practical)	January	Exam.		
	February	Exam.		
	March	Definitions, carbohydrate.	Paramita Chatterjee & Ishita Bhattacharjee	2 (2 hours)
(Total marks: 50+30)	April	Protein, fat, vitamins, minerals. **Practical** – Elementary idea of weight & measure, preparation of different food groups, demonstration of jam jelly squash pickle preparation.	Paramita Chatterjee & Ishita Bhattacharjee	4 (4 hours) 3 (6 hours)
	May	BMR, basic five food groups, meal planning for different age groups. **Practical –** Planning and preparation of diet for adult male female, pregnancy & lactation.	Paramita Chatterjee & Ishita Bhattacharjee	4 (4 hours) 3 (6 hours)
	June	Class assessment. Internal assessment.	Paramita Chatterjee & Ishita Bhattacharjee	3 (3 hours)

SEMESTER-6

(HONOURS)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC13 Theory Food Microbiology **(Total marks: 50)**	Introduction to the topic	MARCH	Malay Mitra	1 (1 hour)
	History of microbiology	MARCH	Malay Mitra	1 (1 hour)
	Different types of microorganisms	MARCH	Malay Mitra	1 (1 hour)
	Morphology of bacteria	MARCH	Malay Mitra	2 (2 hours)
	Culture media	APRIL	Malay Mitra	2 (2 hours)
	Cultivation of microorganisms	APRIL	Malay Mitra	2 (2 hours)
	Virus	APRIL	Malay Mitra	1 (1 hour)
	Fungi	APRIL	Malay Mitra	1 (1 hour)
	Parasites	APRIL	Malay Mitra	1 (1 hour)
	Techniques of destruction of microorganisms	APRIL	Malay Mitra	2 (2 hours)
	Sources of microorganisms in foods	MAY	Malay Mitra	2 (2 hours)
	Spoilage of different kinds of foods	MAY	Malay Mitra	2 (2 hours)
	Control of microorganisms in food	MAY	Malay Mitra	2 (2 hours)
	Revision	JUNE	Malay Mitra	2 (2 hours)
	Class test	JUNE	Malay Mitra	2 (2 hours)
CC13Practical Food microbiology **(Total marks: 30)**	Microscope	MARCH	Malay Mitra	1 (2 hours)
	Autoclave	MARCH	Malay Mitra	1 (2 hours)
	Incubator	MARCH	Malay Mitra	1 (2 hours)
	Introduction to other different equipment in microbiology laboratory	APRIL	Malay Mitra	1 (2 hours)
	Gram staining	APRIL	Malay Mitra	1 (2 hours)
	Staining with methyl violet	APRIL	Malay Mitra	1 (2 hours)
	Microscopic idenfication of microorganisms	APRIL	Malay Mitra	
	Preparation of different culture media	APRIL/MAY	Malay Mitra	1 (2 hours)
	Pure culture technique-spread plate	MAY	Malay Mitra	1 (2 hours)
	Pore plate	MAY	Malay Mitra	1 (2 hours)
	Revision	MAY	Malay Mitra	4 (8 hours)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
CC14 (Food Preservation – Theory & Practical)	January	Exam.		
	February	Exam.		
	March	Concept, definition, principles, methods of food preservation;	Paramita Chatterjee	3 (3 hours)
	April	Composition, uses, nutritional aspects etc. of different preserved products. **Practical** – Methods of preservation, drying, freezing, canning etc. aseptic handling.	Paramita Chatterjee	4 (4 hours) 2 (4 hours)
	May	Food standards – ISI, AGMARK, FPO, MPO, PFA, FSSAI. **Practical** – Preparation of pickles, sauces, jam jelly, squashes etc.	Paramita Chatterjee	2 (2 hours) 4 (8 hours)
	June	Class assessment. Internal assessment.	Paramita Chatterjee	3 (3 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSE A4 (Theory) Geriatric nutrition **Total marks:** 50	Definition of ageing, senescence, old age, gerontology, geriatrics and geriatric nutrition. Classification of old population	MARCH	Dr. Bidisha Maity	4 (4 hours)
	1. Physiological and biochemical changes during old age 2. Assessment of nutritional status of older adults	APRIL	Dr. Bidisha Maity	8 (8 hours)
	1. Nutritional requirements and general dietary guidelines 2. Major nutritional and health problems during old age	MAY	Dr. Bidisha Maity	8 (8 hours)
	1. REVISION 2. Class test 3. Internal assessment	JUNE	Dr. Bidisha Maity	8 (8 hours)
DSE A4 (Practical) Geriatric nutrition	Assessment of nutritional status	APRIL	Dr. Bidisha Maity	4 (8 hours)
Total marks: 30	Preparation of dishes suitable for older person	MAY	Dr. Bidisha Maity	4 (8 hours)
	1. Practice 2. Class test	JUNE	Dr. Bidisha Maity	4 (8 hours)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSE B3 (Food fermentation) Theory and practical **Total marks: 50 + 30**	March	1. **1. Food Fermentation** – Definitions, microorganisms used for food fermentation, and advantages of fermentation. 2. **2. Batch, Fed batch and Continuous culture.** Open and closed system, growth phases. Product formation in microbial cultures, factors affecting product formation. **Practical:** Demontration of hygienic handling of equipment and utensils during food fermentation process,	Ishita Bhattacherjee	6 (6 hours) 2 (4 hours)
	April	**3. Study of a biofermentor** – its design and operation, Down Stream Processing and Product recovery. **4. Starter cultures**, fermentation starters used in different cereal products **5. Production of Baker's Yeast** **Practical:** a) Preparation of fermented food – Dahi and yogurt b) Preparation of fermented vegetable pickles.	Ishita Bhattacherjee	4 (4 hours) 6 (12 hours)
	May	3. **6. Production and nutritional significance of fermented milk products and vinegar** 4. 5. **7. Development of a fermented soya products** – tofu, natto, miso, tempeh, soy sauce and vegetable products – sauerkraut and kimchi. Nutritional significance of the above products. **Practical:** Preparation of different food items from fermented products.	Ishita Bhattacharjee	4 (4 hours) 6 (12 hours)
	June	Class Assessment Internal Assessment	Ishita bhattacharjee	3 (3 hours)

SEMESTER-6

(GENERAL)

PAPER	MONTH	TOPIC	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSE-B-1 Clinical Nutrition (Theory & Practical).	January	Exam.	Paramita Chatterjee	
	February	Exam.		
Total marks: 50+30	March	Diet Therapy – definition, objectives, adaptations, routine hospital diet, therapeutic diets. Obesity & underweight - cause, risk factor & dietary management.		3 (3 hours)
	April	Cause, risk factor & dietary management – Diarrhoea, constipation, jaundice, nutritional anaemia.		4 (4 hours)
	May	Cause, risk factor & dietary management – HTM, atherosclerosis, DM, fever. Practical – Preparation & planning of diets for DM, hepatitis, HTN, obesity.		4 (4 hours) 4 (8 hours)
	June	Class assessment. Internal assessment.		3 (3 hours)

ACADEMIC PLAN FOR THE SESSION 2022-2023

DEPARTMENT OF FOOD AND NUTRITION

TIME PERIOD: JULY, 2023 – DECEMBER. 2024

SYSTEM : CCF, 2022

SEMESTER – 1 (MAJOR)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
DSCC1 (Theory) The Basic Food Science-I (**Total marks:** 75)	Carbohydrates • Definition, classification, structure and properties • Monosaccharides • Disaccharides • Polysaccharides • Sources, daily requirements, functions, effect of too high and too low carbohydrates on health, digestion and absorption	SEPTEMBER	Dr. Bidisha Maity	8 (8 hours)
	Lipids • Definition, classification and properties. Fatty acids-composition, properties, type • Sources, daily requirements functions. Digestion and absorption, PUFA, MUFA, SFA, W-3 fatty acids	OCTOBER	Dr. Bidisha Maity	5 (5 hours)
	Proteins • Definition, classification, sources and properties, amino acids	NOVEMBER	Dr. Bidisha Maity	3 (3hours)
	1. Proteins • Effect of too high and too low proteins on health. Digestion and absorption. Protein quality (BV, PER, NPU). Factors affecting protein bio-availability 2. Dietary fibre 3. Class test 4. Internal assessment	DECEMBER	Dr. Bidisha Maity	12 (12 hours)
DSCC1 (Practical) The Basic Food Science-1	Identification of mono, Di and Polly saccharides	SEPTEMBER	Dr. Bidisha Maity	8 (16 hours)
	Identification of proteins	OCTOBER	Dr. Bidisha Maity	4 (8hours)
Total marks: 25	1. Identification of glycerol 2. Practice	NOVEMBER	Dr. Bidisha Maity	8 (16 hours)
	Class test	DECEMBER	Dr. Bidisha Maity	2 (4 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
SEC B1 Th (Theory) Nutrition and Health Education **Total marks:**100	Introduction	SEPTEMBER	Malay Mitra	1 (hour)
	Concept of health education	SEPTEMBER	Malay Mitra	1 (hour)
	Health promotion	SEPTEMBER	Malay Mitra	1 (hour)
	Types of communication	OCTOBER	Malay Mitra	2 (2 hours)
	Principles of health education	OCTOBER	Malay Mitra	1 (hour)
	Models of communication	OCTOBER	Malay Mitra	2 (2 hours)
	Methods of communication	NOVEMBER	Malay Mitra	2 (2 hours)
	Aids used in health and nutrition education	NOVEMBER	Malay Mitra	2 (2 hours)
	Evaluation	DECEMBER	Malay Mitra	2 (2 hours)
	KAP	DECEMBER	Malay Mitra	1 (hour)
	Nutrition propaganda	DECEMBER	Malay Mitra	1 (hour)
	Barriers of effective communication	DECEMBER	Malay Mitra	1 (hour)
	Steps of planning nutrition education programme	DECEMBER	Malay Mitra	2 (2 hours)
	Revision	DECEMBER	Malay Mitra	2 (2 hours)
	Class test	DECEMBER	Malay Mitra	2 (2 hours)

PAPER	TOPIC	MONTH	NAME OF THE TEACHER	TOTAL NUMBER OF CLASSESS/ MONTH
IDC-1(Theory) Basic Nutrition and Food Science (**Total marks:** 50)	Definition of food, nutrition, nutrients, nutritional status, dietetics, balanced diet, malnutrition, energy	SEPTEMBER	Dr. Bidisha Maity	4 (4 hours)
	Carbohydrate, protein, fat	OCTOBER	Dr. Bidisha Maity	5 (5 hours)
	Vitamins, minerals	NOVEMBER	Dr. Bidisha Maity	8 (3hours)
	1. Basic food groups 2. Dietary fibre 3. Class test 4. Internal assessment	DECEMBER	Dr. Bidisha Maity	4(4 hours)
	Introduction & Basic Definitions	AUGUST	Paramita Chatterjee	1 (1 hour)
	Meal planning, principles & objectives, balanced diet, diet for pregnant woman & lactating mother. **Practical** – Elementary idea of Weight & measure	SEPTEMBER	Paramita Chatterjee	4 (4 hours) 1 (2 hours)
	Diet for infant.	OCTOBER	Paramita Chatterjee	2 (2 hours)
	Diet for pre-schoolers, school child. **Practical** – Planning and preparation of balanced diet for an adult, nutritious tiffin for pre-schooler & school going children.	NOVEMBER	Paramita Chatterjee	4 (4 hours) 4 (8 hours)
1DC -1(Practical) Basic Nutrition and Food Science	Diet for normal male & female of different occupation.		Paramita Chatterjee	2 (4 hours)