Academic Calendar

Department of Food & Nutrition(H&G)
2020 1ST , 3rd, 5thsem , CBCS

Semester/ Year	Syllabus Module/ Unit	Teachers	Tentative period of completion
3rd H	**FNTACOR05T: NUTRIENTS METABOLISM(THEORY)**		September
	1.Carbohydrate Metabolism: Glycolysis & its regulation. Glycogen metabolism. Metabolism of pyruvate. Outline ofpentose phosphate pathway. Anaplerotic reactions. Importance of gluconeogenesis.	Debasish mazumdar	
	2. Lipid Metabolism : Fatty acid synthase and de novo biosynthesis of fatty acid; regulation and mechanism of chain elongation. Metabolism of cholesterol, its control and pathophysiological importance. β-oxidation of fatty acids.	Debasish mazumdar	Septemb er- October
	3. Amino acid Metabolism : Essential amino acids. Transamination. Deamination. Transmethylation. Decarboxylation.glucogenicandketogenicaminoacids.Outl ineof urea cycle. Inborn errors of Metabolism.	Debasish mazumdar	Novemb er
	4. Biologicaloxidation Mitochondrial electron transport chain. High energy phosphate bond.Formation of ATP.	Debasish mazumdar	
	5. Nucleic acid metabolism Chemical structure of purine and pyrimidine, Catabolism and anabolism of pyrimidines. Gout - occurrence, prognosis, progression and therapy.	DP	Novembe r- Decembe r
	6.Vitamins Classification, charcateristics and chemical properties of fat and water soluble vitamins. Functions of fat and watersolublevitamins.Hypervitaminosis.RoleofvitaminsA ,D,C, B1, B2B6, B12 and folic acid inmetabolism.	DP	December
	7.Mineral Metabolism Role of minerals in physiology. Trace elements. Sodium potassium balance. Role of calcium, iron and zinc in human body -metabolism, functions, deficiency and toxicity.	DP	January
	Internal exam Scripts will be checked by :- SRI DEBASISH MAZUMDAR& DP		

	Fntacor05p: Nutrients Metabolism(Practical) 1. Estimation Of Vitamin C In Citrus Fruits. 2. Estimation Calcium In Blood (Using Kit) And Drinking water (Complexometry). 3.Estimationofsodiumandpotassiumi Blood (Usingkit). 4.Estimation of iron in vegetablesspectrophotometry. 5.Estimation ofDNA (PDAmethod)and RNA(Orcinolmethod) in tissues by spectrophotometry. INTERNAL PRACTICAL MARKS WILL BE GIVEN BY : DP	DP	September -November

	FNTACOR06T: NUTRITION THROUGH LIFE SPAN(THEORY)		
	1. Basics of Meal Planning Principles of meal planning, Food groups and Food exchange list,Factors affecting meal planning and food related behaviour	MS	
	2. Nutrition in Adults and Elderly Physiological changes in elderly. RDA and nutritional guidelines, nutritional concerns and healthy foodchoice for: Adultman and woman, Elderly.	**MS**	September
	3. Nutrition during Pregnancy Nutrition During Pregnancy: Factors (non-nutritional) affecting pregnancy outcome, importance of adequate weight gain during pregnancy, antenatal care and its schedule, Nutritional requirements during pregnancy and modification of existing diet and supplementation, Deficiency of nutrients, specially energy, iron folic acid, protein, calcium, iodine. Common problems of pregnancy and their managements, specially - nausea, vomiting, pica, food aversions, pregnancy induced hypertension, obesity, diabetes. Adolescent pregnancy.	SS	September September-er
	4.Nutrition during Lactation Nutrition during Lactation: Nutritional requirements during lactation, dietary management, food supplements, galactogogues, preparation for lactation. Care and preparation of nipples during breastfeeding.	SS	
	5.Nutrition during Infancy Nutrition during Infancy: Infant physiology relevant to feeding and care, Breastfeeding, colostrum, its composition and importance in feeding, Initiations of breast feeding. Advantages of exclusive breastfeeding. Basic principles of breastfeeding. Introduction of supplementary foods, initiation and management of weaning, Baby-led weaning. Bottle feeding- circumstances under which bottle feeding is to be given. Care & sterilization of bottles. Preparation of formula. Mixed feeding, breast feeding and artificial feeding, Management of preterm and low birth	M.SINHA M.SINHA	October October

	weight babies. **6. Nutrition for Children and Adolescents** **Growth and development in children, RDA, nutritional guidelines, nutritional concerns and healthy food choices for :Preschoolchildren, School children, Adolescents** **INTERNAL SCRIPTS WILL BE CHEKED BY: SS AND MS**		

	FNTACOR06P: NUTRITION THROUGH LIFE SPAN(PRACTICAL) TOTAL HOURS: 60 2 CREDITS Meal planning and preparation of adequate meal for different agegroupswithspecialreferencetodifferentphysiological conditions: infants, pre-schooler, school children, adolescents, adults, pregnancy, lactation andelderly. **INTERNAL PRACTICAL MARKS WILL BE GIVEN BY: SS AND MS**	MS & SS	**September-November**
	FNTACOR07T: ELEMENTARY DIETETICS AND MENU PLANNING (THEORY)		
	1. DieteticsandDietician Definition and objective of dietetics, Dieticians-Definition, Classification andResponsibility	BG	**September**
	2.Foodgroups Four food groups (Caribbean Food Guide; Canadian Food Guide; USA Food Pyramid; British Food Guide; Recommended Nutrient Intake (RNI); Dietary Value Intake; Dietary Reference Value, Five food group system of ICMR. Structure and composition of cereals. Wheat- structure and composition, types (hard, soft/ strong, weak) ,Diagrammatic representation of longitudinal structure of wheat grain. Malting, gelatinization of starch, types of browning- Maillard&caramelization. Rice- structure and composition, parboiling of rice- advantages and disadvantages. Structure and composition of pulses, toxic constituents in pulses, Milk andMilk Products- composition, classification and processing, Eggs- com[position, Meat, fish & poultry- Types, composition, Sugar& Sugar products-Types and composition, Fats & Oils-Types & sources, Food adjuncts- spices, condiments, herbs, extracts;concentratesessences,foodcolours,origin,classification, convenience foods, Bevarages-Tea, Coffee, Chocolate , cocoa poeder-composition	BG	**September -November**
	3.Dietaryguidelines Nutritive values as a basis for classificationof food, Recommended Daily Allowances (RDA), Dietary guidelines for Indians and foodpyramids.	GC	September

	4.MenuPlanning Menu Planning: Rationale for menu planning, Factors affecting food choice, Nutritional factors,other factors; Exchange list and food composition tables for menu planning, Steps in the development of exchange list, Factors tobe considered when planning the regular balanced diet: adequacy, balance caloric control, moderation, variety andaesthetics.	SS	**September**

Academic Calendar

DepartmentofFood&Nutrition(Honours)

2020-21 1ST ,3rd , 5th sem , CBCS

	5. Basics ofdiettherapy Basic concepts of diet therapy: Therapeutic adaptations of normal diet, principles and classification of the therapeutic diets, Nutrientmodifications.	GC	**September**
	6. Diet forhealth care Team approach to health care. Assessment of Patient'sneeds.	GC	October
	7. RoutineHospitalDiet Routine Hospital Diets: Regular,light, soft, fluid, parenteral and enteral feeding. **INTERNAL SCRIPTS WILL BE CHEKED BY: BG AND GC**	GC	October
	FNTACOR07P: ELEMENTARY DIETETICS AND MENU PLANNING (PRACTICAL) TOTAL HOURS: 60 4 CREDITS 1. Planning and preparation of normaldiets. 2. Planning and preparation of different □uiddiets. 3. Planning and preparation of different soft/semi solid diets. 4. Planning and preparation of different nutrientmodi□eddiet.	BG GC	September-November
	INTERNAL PRACTICAL MARKS WILL BE GIVEN BY :-BG AND GC		
	SEC SYLLABUS		
	FNTSSEC01M: INSTRUMENTATION **1.Microscopy Brightfield and darkfield microscopy, Optical Microscopy, Phase contrast Microscopy, Inverted Microscopy**	M.SINHA	Septembe r
	2. Chromatography Principles and applications of paper chromatography (including Descending and 2-D), Thin layer chromatography, HPLC. Separation of mixtures by paper / thin layer chromatography	DP	September
	3. Spectrophotometry Principle and use of study of absorption spectra of biomolecules, Analysis of biomolecules using UV and visible range, Colorimetry. Protein concentration of spectrophotometer/ colorimeter.	**DP**	October
	4. Electrophoresis Principle and applications of native polyacrylamide gel electrophoresis	BG	November
	5.Centrifugation Preparative and analytical centrifugation, densitygradientcentrifugationandultracentrifugationSeparation	GC	October

	of components of a given mixture using a laboratory scale centrifuge		
	6. ECG and EEG Principles of ECG and EEG, application of ECG and EEG	**M.SINHA**	**November**
	7. ELISA Principle and applications of ELISA test	SS	September
	INTERNAL SCRIPTS WILL BE CHEKED BY: GC		
			September
	3RD SEM G (DSC) **FNTGCOR03T: COMMUNITY, NUTRITION AND HEALTH ASSESSMENT (THEORY)** **1. Concept on Community Concept and types of Community. Concept of community nutrition, Community health, Factors affecting community health.**	MS	
	2. Nutritional AssessmentNutritional Assessment: Meaning, need, objectives and importance. Method of assessment of nutritional status – Anthropometry, Clinical, Biochemical, Dietary surveys, Vital healthstatistics.	SS	**September**
	3. Concept of surveillance system Elementary idea of health agencies - FAO, WHO, ICMR, ICDS, ICAR, CSIR, ANP, VHAI, NIN and CFTRI. Role of voluntary health organisation in the improvement of Community health.	M.SINHA	October
	4. Nutrition InterventionProgrammes Current National Nutrition Intervention Programmes in India- SNP, ANP, Midday meal,	SS	October
	NIDDCP, NPPNB, NNAPP. ICDS,	M SINHA	November
	5. Nutrition Education Nutrition Education: Definition, objectives of nutrition education. Methods of imparting nutrition education.	SS	November
	INTERNAL SCRIPTS WILL BE CHEKED BY: BG AND MS		
	FNTGCOR03P: COMMUNITY, NUTRITION AND HEALTH ASSESSMENT(PRACTICAL) TOTAL HOURS: 60CREDITS: 2 1. Anthropometric Measurement of infant - Height,	GC	September - November

	weight, circumference of chest, mid - upper arm circumference. Calculation of BMI. 2. Clinical assessment and signs of nutrientde□ciencies. 3. Diet survey by 24 hours recallmethod. 4. Preparation of homemade ORS. 5. Preparation of low cost and medium cost schooltif□n. **INTERNAL PRACTICAL MARKS WILL BE GIVEN BY :GC** **5TH SEM H** **FNTACOR11T: CLINICAL NUTRITION AND DIET FOR SPECIAL SITUATIONS IN LIFE (THEORY)**		
	1. Nutritional management of physiological stress Nutrition in wound healing, Surgery: Pre and post surgical dietary management, Burns, Classification, Complication, Dietary management, Trauma: Dietary management, Sepsis: Dietary management.	BG	September
	2. Dietary Modification in febrile Condition Acute, chronic and recurrent fevers, typhoid, rheumatic fever, tuberculosis, malaria, H1N1, dengue fever and chikunguinea.	BG	September
	3. Nutritional management of GI diseases Diseases of Esophagus and stomach: Esophagitis(GERD), Dyspepsia, Peptic ulcer, Gastritis, Gastrectomy, Dumping syndrome . Intestinal diseases: Flatulence, Diarrhea, Constipation, Hemorrhoids, Diverticular disease, Duodenal ulcer, Inflammatory Diseases of Bowl: Crohn's disease and ulcerative colitis, IrritablebowlSyndrome, Colostomy,Ileostomy	BG	October-November
	4.Malabsorption syndrome Celiac disease (Tropical sprue),Steatorrhoea, Intestinal Brush border diseases,Protein losing enteropathy	SS	September
	5. Diseases of Gall bladder andpancreas Pathophysiologic changes, etiology and dietary management -(Biliary dyskinesia , Cholelithiasis, Cholecystitis, Cholecystectomy ,Pancreatitis)	SS	October
	6. Liver diseases Pathophysiology,Progression of liver disease, Role of specific nutrients and alcohol in liver diseases. Nutritional care in liver disease in the context of results of specific liver function tests, Viral hepatitis , cirrhosis of Liver, Hepatic encephalopathy, Wilsons disease.	SS	November

			September
	7. Nutrition Management of Renal Disease Etiology and pathogenesis, Clinical and metabolic manifestations Diagnostic tests, Acute and chronic nephritis, Nephrotic syndrome, Renal Failure: Acute and chronic, Nnephroletheasis,ESRD	GC	
	8. Nutritional management in Allergy Definition, symptoms mechanism of food allergy, Biochemical and immune testing (short), Elimination diets, Food selection, Food allergy in infancy: Milk sensitive enteropathy, intolerance to breast milk, Prevention of food allergy.	GC	September
	9.Neurological diseases Alzheimer's, Parkinson's disease and Epilepsy, Anorexia nervosa andbulimia.	GC	September
	INTERNAL SCRIPTS WILL BE CHEKED BY: SS AND MS		
	FNTACOR11P: CLINICAL NUTRITION ANDDIET FOR SPECIAL SITUATIONS IN LIFE(PRACTICAL) TOTAL HOURS: 60 2 CREDITS Planning and preparation of Diets for the following diseases:i)Pepticulcerii)Viralhepatitisiii)Feveriv)Acute and chronic renal failure **INTERNAL PRACTICAL MARKS WILL BE GIVEN BY : BG AND GC**	MSINHA BG	September-November
	FNTACOR12T: FOOD MICROBIOLOGY AND IMMUNOLOGY(THEORY)		
	1.GeneralIntroductiontomicrobes(Bacteria,Fungus,andAlgae) Classification, Nomenclature and Morphology (external and internal features). Principles of staining.	SS	September
	2. Growth kineticsofbacteria Growth kinetics, Factors affecting growth, different nutritional media for growth, methods of media sterilization.	DP	September
	3. Microbiology of food Microbes commonly present in food and the diseases caused by them, microflora present in milk, cereals, vegetables, flesh food. Seafood and Shell fish poisoning. Mycotoxins, Foodborne Diseases, Prions.	DP	October
	4.Microbial Food Spoilage Sources of Microorganisms infoods, Someimportantfoodspoilagemicroorganisms,Spoilageofspecific food groups - Milk and dairy products, Meat, poultryand	SS	October

Academic Calendar

Department of Food & Nutrition (Honours)

2020-21 1ST ,3rd, 5thsem , CBCS

	seafoods, Cereal and cereal products, Fruits and vegetables and Canned products.		November
	5.FoodFermentations Fermentation –definition and types, Microorganisms used in food fermentations, Dairy Fermentations starter cultures and their types , concept of probiotics, Fermentated Foods-types, methods of manufacture for vinegar, sauerkraut, tempeh, miso , soya sauce, beer, wine and traditional Indian foods.	SS	
	6.Immunesystem Cells & Organs of the immune system, Innate and Acquired, Primary and secondary immune response, Active and Passive, Antigen, Antibody, Haptens, Adjuvants, Immunoglobulin- classification, polyclonal and monoclonal, basic structure and function, antigen and antibody reactions- RIA, ELISA, Immunoblot. Antibody production -processing and presentation of antigen, MHC, Humoral immune response. Cell mediated immunity, Formation, maturation and activation of B and T cells, Immune effectors system- cytokines complement system, K cells and NK cells, Cell mediated effectors response, Interferons, Immunopathology - basic principles of auto immune disease , Vaccine, toxins, toxoids, antiserum. Basic principles of immunological detection of pregnancy and immunohistochemistry.	DP	November
	INTERNAL SCRIPTS WILL BE CHEKED BY: DP		
	FNTACOR12P: FOOD MICROBIOLOGY AND IMMUNOLOGY (PRACTICAL) TOTAL HOURS: 60 4 CREDITS 1. Introduction to microbiology: Use of equipments Understanding and use of compound microscope Use of Autoclave Use of Incubator and Inoculation chamber 2. Preparation of different types of media (complex, differential and selective) 3. Preparation of slant, stab and plates using nutrient agar 4. Morphological study of bacteria and fungi using permanent slides 5. Gram staining 6. Bacteriological Analysis of Water by MPN method 7. Ouchterlony double diffusion test in agar-gel. **INTERNAL PRACTICAL MARKS WILL BE GIVEN BY : DP**	DEBOSMITA PATHAK	September-December
5th Semester DSE FOR FNTA HONS	**FNTADSE02T: ENTREPRENEURSHIP IN FOOD INDUSTRY (THEORY)** **1.EntrepreneurialDevelopmentCASESTUDIESofSUCCESSFULentrepreneURS, EXERCISESonwaysofSENSINGopportunities–SOURCESofidea,creating efforts,SWOT49Analysis,Entrepreneurialskillassessmenttest,**	GC , REDP0RTION PS	September-December

	TechniquesofdevelopmentofentrepreneurialSkills,positiveSelfimageandlocusofcontrol.		
	2.FoodBusinessmanagementCasestudiesofFoodProcessingBusinessanditsaspects,BusinessopportunityIdentificationandAssessment techniques,BusinessIdeaGenerationandevaluationexercise,Market AssessmentstudyAnalysisofcompetitivesituation,	GC	Septembe r- December
	SWOTAnalysisforbusinessandforcompetitors,PreparationofbusinessS plan,Preparationofprojectreport,MethodsofArrangementofinputs– financeandmaterial,Taxplanning.	MS	Do
	3.Personalitydevelopmentandcommunicationskills No.ofHours20 CommunicationskillsandPersonalityDevelopment,Intrapersonal communicationandBodyLanguage,InterpersonalCommunicationand Relationships,LeadershipSkills,TeamBuildingandpublicspeaking, CorporateGrooming,DressingEtique†e,PreparingforInterview, EmotionalQuotient. **INTERNAL SCRIPTS WILL BE CHEKED BY: GC AND MS**	MS	Do
	FNTADSE02P: ENTREPRENEURSHIP IN FOOD INDUSTRY(PRACTICAL) TOTAL HOURS: 60 CREDITS: 2 1. Preparation of business plan. 2. Preparation of project report. 3. Tax Planning under the head Salary. 4. Visit to a food industry **INTERNAL PRACTICAL MARKS :- POULAMI SINHA COMMERCE**	PS COMMERCE	September- December
	FNTADSE03T: FOOD BORNE DISEASES AND FOOD TOXICOLOGY(THEORY)		

	1. Food borne DISEASES Definition related to food borne DISEASES, types of DISEASES with example (Pandemic, Endemic and Epidemic). Infection, contamination, decontamination, DISINFECTION, TRANSMISSION (direct and indirect). Brief idea about different vector borne DISEASES, mode of TRANSMISSION prevention and control of following DISEASES: Salmonella, Shigella,Typhoid,Botulism,Cholera,E.colifoodpoISONing,Staphylococcal food POISONing, Clostridium infection, Bacillaryinfection.	DP	September October
	2. LactoSE intolerance LactoSE intolerance-iTS mechaniSM and enzyme deficiency.	DP	November
	3. MechaNISMoffoodborneDISEASESMolecularmechaNISMoffoodborne DISEASES.	BG	
	4. Food SAFety Definition: Food SAFety, TYPES of hazards (Biological, chemical and pHYSICal haZARDS), impact on health, control meaSURES, factors affecting foodSAFety.	GC	September-November September-November
	5. HygieneandSANitationHygieneandSANitation:Contamination,control methoDSUsing phYSICAl and chemical agents, USE of preservatives, pest control management, personalhygiene.	BG	December
	6. FoodsafetymanagementFoodsafetymanagement:ConceptofSAFety management,prereQUISITES-GHPs,GMP,HACCPetc.		

	7.ToxicagentsinfoodToxicagentsinfood:Botulism,lathyrism, Ciguatoxins,Tetrodotoxins,Saxotoxins,conotoxins,Antivita mins, Haemagglutins,Cyanogenicglycosides,Strychnine,Solanine,atropine, Muscarine. **INTERNAL SCRIPTS WILL BE CHEKED BY: DP**	GC	September - November
	FNTADSE03P:FOODBORNEDISEASESANDFOODTOXICOLOGY(PRACTICAL) TOTAL HOURS: 60 CREDITS: 2 1. Assessment of surface sanitation by swab and rinse method. 2. Assessment of personal hygiene. 3. Designing of various food processing systems and food service areas. 4. Design and layout of cold storage and ware house. 5. Assessment of physico chemical properties of waste water. 6. Isolation and enumeration of bacteria from rottenfoodbreadandvegetables.7.Testingofsanitizersanddisinfectants. 8. Study of phenol coefficient of sanitizers. 9. Visit to Food industry and preparation of report. **INTERNAL PRACTICAL MARKS WILL BE GIVEN BY :- DP**	DP	September-December
	5TH SEM G (DSE 1 SYLLABUS FOR FNTG [ONLY FOR DSC]) **FNTGDSE02T- FOOD SAFETY AND FOOD PROCESSING** **1.Foodadditiveandfoodsafety:Conceptoffoodsafety,factorsaffecting foodsafety,Foodadditives-varioustypesandtheireffectsonhealth.**	BG	September
	2.Foodspoilage:Cereals,Pulses,Vegetables&Fruits,Milk&milk products,Fleshyfoods,Fats&oils.Foodborneinfections&infestation.	BG	October
	3.FoodadulterantsPFAdefinitionoffoodadulteration,Common adulterantsinfoodandtheireffectsonhealth,Commonhousehold methodstodetectadulterantsinfood.	M.SINHA	September
	4.Foodlawsandregulatoryauthority No.ofHours10PreventionofFood Adulteration(PFA)Act,Regulatingauthority-CodexAlimentarius,ISI, Agmark,FruitProductsOrder(FPO),MeatProductsOrder(MPO),Bureau ofIndianStandards(BIS),MMPO,FSSAI.	SS :	September
	5.FoodPreservationNo.ofHours10FoodPreservation–Definition, Objectives,Methods–mainprinciple,procedure,commonexamples.16	M.SINHA	October
	6.Foodadjunctsandpreservedproducts No.ofHours8Spices(Chilies, Turmeric,GarlicandGinger),useandnutritionalaspect.Jams,Jellies, Squashes–usesandnutritionalaspects. **INTERNAL SCRIPTS WILL BE CHEKED BY: BG**	SS	October
	FNTGDSE02P- FOOD SAFETY AND FOOD PROCESSING(PRACTICAL) TOTAL HOURS: 60 CREDITS: 2 1. Detection of common adulterant in food i) Khesari flour in besan ii) Vanaspati in Ghee/Butter iii) Dried papaya seeds in black pepper iv) Metanil yellow in turmeric or coloured sweet products.v)	GC	September

Academic Calendar
Department of Food & Nutrition(Honours)
2020-21 1ST ,3rd , 5th sem , CBCS

	Artificially foreign matter in tea (dust/leaves). 2. Prepa ration of Jam, Jelly, Pickle and Sauce **INTERNAL PRACTICAL MARKS WILL BE GIVEN BY :- GC**		
1ST SEMESTER	CORE COURSE (CC) FNTACOR01T: HUMAN NUTRITION (THEORY) TOTAL HOURS: 60 4 CREDITS 1.IntroductiontoFoodandNutritionNo.ofHours10Foods:Energygiving, bodybuildingandprotective.Nutrients:macroandmicronutrients,Dieta nd balanceddiet,Menu.Healthandnutritionalstatus.Malnutrition,functio nal food, prebiotics, probiotics, 8 phytochemicals, nutraceuticals. Fibre. Functions of foods: physiological, psychological, social. Food groups,food pyramid,Relationbetweenfoodandnutrition,healthanddiseases.	GC	September-November
	2. Foods, Nutrients and cooking of food No. of Hours 10 Foods and their nutrientcontents:Nutrientspresentincerealsandmillets,pulses,nutsan d oil seeds, fruits and vegetables, milk and milk products, flesh food, eggs, Condiment and spices, salt. Nonnutrient components of foods: phytate, tannins,oxalate,trypsininhibitor,goitrogensandothertoxicagentsinfoo d. Cooking: Beneficial and adverse effects of cooking. Different methods of cooking-dry, moist, frying, and micro wave cooking-advantage, disadvantageandtheeffectofvariousmethodsofcookingonfoods,Solar cooking.	BG	September-November
	3.FoodenergyandenergyrequirementsNo.ofHours15Theenergyvalue of foods: Physical and physiological calories. Bomb calorimeter Energy requirement of an individual: Basal metabolic rate (BMR) and physical activity..BMR:Measurement(directandindirect),factorsaffectingBMR, SDAoffoods.physicalactivityratio(PAR).Classificationofactivitiesbased on occupations.Nutritional requirements and Recommended dietary allowances(RDA):factorsaffectingRDA,ApplicationofRDA,Referencem an andwoman..	MS	September-November

	4.DigestionofFoodsNo.ofHours25Componentsofgastrointestinaltract. Structure of different segments of GI tract. Digestive glands: structure of salivary glands, gastric glands and intestinal glands. Structure of pancreas andliver.,Digestivesecretions:salivaryjuice,gastricjuice,pancreaticjuices and intestinal juices. Bile and bile secretion. Digestion and absorptions of carbohydrate, protein,lipid, fat soluble vitamins, water soluble vitamins(thiamine, riboflavin, niacin, pyridoxine, folate, vit B12, vit C), minerals (Ca, Fe, I, F, Cu, Zn) **INTERNAL SCRIPTS WILL BE CHEKED BY: SS**	SS Ritwick Acharjee	September-October November

Academic Calendar
Department of Food & Nutrition(Honours)
2020-21 1ST ,3rd , 5th sem , CBCS

	FNTACOR01P: HUMAN NUTRITION (PRACTICAL) TOTAL HOURS: 60 2 CREDITS 1. Process involved in cooking, microwave, steaming, grilling, deep fat frying.	GC	September
	2.Generalconceptsofweightsandmeasures,Eyeestimationofrawcooked foods	BG	September
	3. Preparation of food from different food groups and their significance in relation to health	GC	October
	4. Preparation of supplementary food from different age group and their nutritional significance	BG	September
	5. Planning and preparation of low cost diet for Grade I and Grade II malnourished child	BG	October-November
	INTERNAL PRACTICAL MARKS :- BG AND GC		
	FNTACOR02T: PHYSIOLOGY IN NUTRITION (THEORY) TOTAL HOURS: 60 4 CREDITS 1.Unit of Life: Cell and Tissue Structure No. of Hours 12 Differencebetweenprokaryoticandeukaryoticcells&plantandanimalcells, Structure and basic functions of animal cell organelles, Structure and functions of plasma membrane, Role of membrane in transport and communications, Importance of cell junction- tight, gap and desmosome, Types of human tissue- location, structure and functions. Structure of muscles, bones, teeth andjoints.	SS+ RIT WIC K ACH ARY EE	September-October
	2.Blood and body fluids No.ofHours12 Blood and its composition, Morphology, formation and functions of formed elements, Blood groups and its importance in transfusion, hazards of mismatch blood transfusion. Mechanism of blood coagulation, Haemoglobin- structure and function.Extracellular fluid, lymph.	MS	September-October
	3.CardiovascularsystemNo.ofHours12Structureofheart,artery,veinand capillary, Properties of cardiac muscle, Cardiac cycle, cardiac output, heart rate, heart sounds, ECG- normal and abnormal. Systemic and pulmonary circulation.Bloodpressure,pulsepressureRadialpulse,coronarycirculation	BG	September-December
	4. Respiratory system No. of Hours 12 Structure of lungs: alveoli and airways. Respiratory volumes and capacities,Mechanics of breathing. Oxygen and carbon dioxide transport, Neural and chemical control of breathing.	MSET H	September-November
	5. Renal Physiology, skin and body temperature No. of Hours 12 Anatomy of renal system: kidney, ureter, urethra and urinary bladder, Nephron: structure, JuxtaglomeralarapparatusGFR and GFI, Tubular functions,Urine formation: Counter current exchanger and multiplier. Role of kidneyin	GC AN D M	Septemb er-Decemb er

		SE TH	

Academic Calendar
Department of Food & Nutrition(Honours)
2020-21 1ST ,3rd , 5th sem , CBCS

	water and electrolyte balance. pHregulation by kidney. Structure of skin. Sweatandsweatglands.Sebum.Corebodytemperature,heatlossandheat gain, Regulation of bodytemperature. **INTERNAL SCRIPTS WILL BE CHEKED BY: SS, BG.GCMS** FNTACOR02P:PHYSIOLOGYINNUTRITION(PRACTICAL)TOTALHOURS:602 CREDITS 1. Determination of pulse rate in Resting condition and aGer exercise (30 beats/10 beats method) 2. DeterminationofbloodpressurebySphygmomanometer(Auscultatory method). 3. InterpretetationognormalECGcurve with6chestleads. 4. MeasumementofPeakExpiratoryflow rate.(Byspirometer) 5. DeterminationofBleedingTime(BT)andClottingTime(CT). 6. Detection of Blood group (Slidemethod). 7. HAEMOGLOBINESTIMATION **INTERNAL SCRIPTS WILL BE CHEKED BY: SS AND MS** FNTGCOR01T:FOODANDNUTRITION(THEORY)TOTALHOURS:60CREDITS: 4 1. Introduction to Food and Nutrition No. of Hours 4 Definition of Food, Nutrition,Nutrient,Nutritionalstatus,Dietetics,Balancediet,Malnutrition, Energy (Unit of energy – Joule,Kilocalorie). 2. FoodandNutrientsNo.ofHours8Carbohydrate,Protein,Fat,Vitamins and Minerals (calcium, phosphorus,	MS MS MSET H MSET H SS SS M SETH BG BG	September September October November January September October-January

	sodium, potassium, iron, iodine, fluorine)- sources,classification,functions,deficiencies ofthesenutrients. Functions of water and dietaryfibre.		
	3. FivefoodgroupsNo.ofHours10Basic5 foodgroups:Types,composition, nutritional significance, role of cookery of cereals, pulses, milk & milk products,meat,fish,egg,vegetables&fruits,nuts,oil&sugar.	GC	September-November
	4. FoodChemistryNo.ofHours10Chemistryofcarbohydrate,proteinsand fats. Vitamins andminerals	GC	December-January
	5. Nutrients Metabolism No. of Hours 15 Elementary idea of metabolism, enzymesandhormones- nameandtheirimportantfunctions.Metabolism inbrief(Glycolysis,Glycogenesis,Gluconeogenesis,Cori'scycle,Kreb'scycle, Deamination, Transamination. Role of hormones in carbohydrate metabolism.	GC	December-January

Academic Calendar
Department of Food & Nutrition(Honours)
2020-21 1ST ,3rd , 5th sem , CBCS

	6.BasicMetabolismRate(B.M.R)No.ofHours6B.M.R:Definition,factors affecting B.M.R. and Total Energy Requirement (Calculation of energy of individuals).8	BG	December
	7. Deficiency diseases No. of Hours 7 Deficiency diseases (Nutritional anaemia, PEM, IDD, VAD)- Aetiology, Prevalence, Clinical findings, Prevention & Treatment. **INTERNAL SCRIPTS WILL BE CHEKED BY: BG AND GC**	BG & GC	January
	FNTGCOR01P: FOOD AND NUTRITION (PRACTICAL) TOTAL HOURS: 60 CREDITS: 2 1. Elementary idea of weights & measures.	SS	September
	2. Preparation of cereals, pulses, vegetable, egg, milk, fish, nuts dishes.	SS	October
	3. Planning and preparation of diet of an adult male/female.	MS	November
	4. Planning of a day's diet for pregnant & lactating mother.	MS	December
	5. Preparations of supplementary foods for infants.	SS	January
	INTERNAL PRACTICAL :- SS **NOTE:-** **ALLTHESYLLABUSMUSTBECOMPLETEDTENTETIVELYWITHIN:-** **FEBRUARY2021**		

Academic Calendar

Department of Food & Nutrition(Honours)

2020-21 1ST ,3rd , 5th sem , CBCS

Academic Calendar

Department of Food & Nutrition (Honours)

2020-21 1ST ,3rd , 5th sem , CBCS

Academic Calendar

Department of Food & Nutrition (Honours)

2020-21 1ST ,3rd , 5th sem , CBCS
