ACADEMIC CALENDAR 2018-19

1ST SEMESTER	Topic	Teacher	Time to complete
	CORE COURSE (CC) FNTACOR01T: HUMAN NUTRITION (THEORY) TOTAL HOURS: 60 4 CREDITS 1.IntroductiontoFoodandNutritionNo.ofHours10Foods:Energygiving, bodybuildingandprotective.Nutrients:macroandmicronutrients,Dietand balanceddiet,Menu.Healthandnutritionalstatus.Malnutrition,functional food, prebiotics, probiotics, 8 phytochemicals, nutraceuticals. Fibre. Functions of foods: physiological, psychological, social. Food groups,foodpyramid,Relationbetweenfoodandnutrition,healthanddiseases.	SS	JULY
	2. Foods, Nutrients and cooking of food No. of Hours 10 Foods and their nutrientcontents:Nutrientspresentincerealsandmillets,pulses,nutsand oil seeds, fruits and vegetables, milk and milk products, flesh food, eggs, Condiment and spices, salt. Nonnutrient components of foods: phytate, tannins,oxalate,trypsininhibitor,goitrogensandothertoxicagentsinfood. Cooking: Beneficial and adverse effects of cooking. Different methods of cooking-dry, moist, frying, and micro wave cooking-advantage, disadvantageandtheeffectofvariousmethodsofcookingonfoods,Solar cooking.	BG	JULY-SEPTEMBER
	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,Referencemanandwoman..	MS	JULY-SEPTEMBER
	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.,	BM	JULY-SEPTEMBER
	5.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		
	FNTACOR01P: HUMAN NUTRITION (PRACTICAL) TOTAL HOURS: 60 2 CREDITS 1. Process involved in cooking, microwave, steaming, grilling, deep fat frying.	SS	SEPTEMBER-OCTOBER
	2.Generalconceptsofweightsandmeasures,Eyeestimationofrawcooked foods	SS	SEPTEMBER-OCTOBER
	3. Preparation of food from different food groups and their significance in relation to health	GC	OCTOBER-NOVEMBER

	4. Preparation of supplementary food from different age group and their nutritional significance	BG	OCTOBER-NOVEMBER
	5. Planning and preparation of low cost diet for Grade I and Grade II malnourished child	GC	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.	BM	JULY
	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.	BM	AUGUST
	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	BM	SEPTEMBER
	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.	BM	OCTOBER
	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 water and electrolyte balance. pHregulation by kidney. Structure of skin. Sweatandsweatglands.Sebum.Corebodytemperature,heatlossand heat gain, Regulation of bodytemperature.	BM	NOVEMBER
	INTERNAL SCRIPTS WILL BE CHEKED BY: SS, BG.GCMS		
	FNTACOR02P:PHYSIOLOGYINNUTRITION(PRACTICAL)TOTALHOURS :602 CREDITS 1. Determination of pulse rate in Resting condition and after exercise (30 beats/10 beats method)	MS	September
	2. DeterminationofbloodpressurebySphygmomanometer(Auscultatory method).	MS	September
	3. InterpretetationognormalECGcurvewith6chestleads.		October
	4. MeasumementofPeakExpiratoryflowrate.(Byspirometer)		November
	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, sodium, potassium, iron, iodine, fluorine)-sources,classification,functions,deficienciesofthesenutrients. Functions of water and dietaryfibre. 3. FivefoodgroupsNo.ofHours10Basic5foodgroups:Types,composition, nutritional significance, role of cookery of cereals, pulses, milk & milk products,meat,fish,egg,vegetables&fruits,nuts,oil&sugar. 4. FoodChemistryNo.ofHours10Chemistryofcarbohydrate,protein sand fats. Vitamins andminerals 5. Nutrients Metabolism No. of Hours 15 Elementary idea of metabolism, enzymesandhormones-nameandtheirimportantfunctions.Metabolisminbrief(Glycolysis,Glycogenesis,Gluconeogenesis,Cori'scycle,Kreb'scycle, Deamination, Transamination. Role of hormones in carbohydrate metabolism.	BM MS MS BG GC	NOVEMBER JULY AUGUST-SEPTEMBER JULY-AUGUST JULY-SEPTEMBER

	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 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** FNTGCOR01P: FOOD AND NUTRITION (PRACTICAL) TOTAL HOURS: 60 CREDITS: 2 1. Elementary idea of weights & measures.	BG GC BG	OCTOBER OCTOBER-EMBER AUGUST

	2. Preparation of cereals, pulses, vegetable, egg, milk, fish, nuts dishes. 3. Planning and preparation of diet of an adult male/female. 4. Planning of a day's diet for pregnant & lactating mother. 5. Preparations of supplementary foods for infants. **INTERNAL PRACTICAL :- SS** **NOTE:- ALLTHESYLLABUSMUSTBECOMPLETEDTENTETIVELYWITHIN:- FEBRUARY2021**	SS GC BG BG	October November OCTOBER-EMBER SEPTEMBER

ACADEMIC CALENDER

DEPARTMENT – FOOD AND NUTRITION

SESSION – 2018-2019

PART – II

PAPER - III (Unit – I & II)

FULL MARKS-50+50

SESSION	TOPIC	TEACHER
Term 1, Half 1, (September-October)	**COMMUNITY NUTRITION** **(UNIT-I)** 1. **Introduction to community nutrition**. Concept of community. Characteristics of community, Types of community. Different factors affecting health of the community (like social, cultural, economic, political and	SS,MS,GT

	environmental factors). 9. **Nutritional intervention program** to combat malnutrition. 10. **Nutrition Education**: (elementary idea) Reason for Nutrition Education, objectives. **PUBLIC HEALTH & EPIDEMIOLOGY** **(UNIT-II)** 1**. Health & its dimensions:** definition of health, different dimension of health. Positive health versus absence of disease. 2**. Secondary sources of community health data:** Sources of relevant vital statistics of infant. Child & maternal mortality rate. Brief idea about epidemiology of nutritionally related diseases (amoebiasis, hyperlipidaemia, clotting disorder, beriberi, rotaviruus infection). 7. **Communityfoodprotection:** Epidemiology of food borne diseases. Mode of transmission. Prevention & control (Salmonellosis, Shigellosis, typhoid, botulism, Cholera, E.coli food poisoning, Staphylococcal food	

	poisoning).	
Term 1, Half 2 (November-December)	**<u>COMMUNITY NUTRITION</u>** 2**. Direct nutritional assessment of human**: Nutritional anthropometry, Clinical signs, Biochemical and Biophysical methods. 3. **Nutritional Anthropometry**: its need and importance in brief. Parameters of nutritional anthropometry and techniques of measurement. Growth chart and its usage. 4. **Clinical Signs**: its need and importance in brief. Clinical signs of PEM, vitamin A deficiency, IDD, Anemia. 5. **Diet Survey**: its need and importance in brief. Important factors for diet survey in brief (like trained personnel, sampling, method etc).	SS,MS,GT

	Different methods for conducting diet survey. Concept of consumption unit. Adequacy of diet with respect to RDA. Food security. 7. **Concept of surveillance**: food and nutrition surveillance, need for surveillance, objectives of surveillance, indicators of nutritional surveillance, importance and use of surveillance. **PUBLIC HEALTH & EPIDEMIOLOGY** 3**. Public health & epidemiology:-** definitions, Components of epidemiology and aims, different tools & measurements of epidemiology. Brief idea about epidemics. Epidemiological methods: analytical epidemiology - case control & cohort study, epidemics and its types, vital statistics, epidemiological triad, demography and life expectancy. 4**. Communicable & infective disease control:** definitions related to communicable diseases. Infection, contamination, decontamination, disinfection, transmission (direct & indirect) brief idea about different vector borne diseases- brief idea about AIDS, malaria, poliomyelitis, dengue,	

	tuberculosis, MMR, chicken pox, pertussis, chikungunya, epidemiological principles of disease prevention and control	
Term 2, Half 1 (January-February)	**COMMUNITY NUTRITION** 6**.** **Malnutrition**: its sociological factors. Food production and availability, socio-economic factor, cultural influence, food consumption, population problem with respect to food production and availability, medical and educational services, psychological factor, emergency and disaster condition. Prevention of malnutrition. 8. **International, national, regional Agencies and Organizations** : WHO, FAO, CARE,UNICEF, International Red Cross, NIN, ICMR, ICAR,CFTRI, FNB, NNMB, Indian Red Cross, CSWB, Nutrition Foundation of India. **PUBLIC HEALTH & EPIDEMIOLOGY** **5. Immunization:-** Definition**.** Host defenses and immunity. Immunizing	SS,MS.GT

	agents: its types. National immunization schedule- its importance. Immunization for adults & foreign travelers. Hazards of immunization. Health advice to the foreign travelers. **6. Community water & waste management:** Importance of water to the community. Sources of water. Concept of water pollution. Purification of water in small & large scale. Drinking water handling & safe drinking water. Water borne diseases (diarrhea, dysentery, arsenic toxicity). **Waste-**Types and methods of disposal, sewage disposal and treatment, Treatment and disposal technologies of health care wastes.	
Term 2, Half 2 (March)	Revision Classes are held (Theory and Practical)	2nd year Test Exam

ACADEMIC CALENDER

DEPARTMENT – FOOD AND NUTRITION

SUBJECT- FNTA

SESSION – 2018-2019

PART – II

PAPER - IV (Unit – I & II)

FULL MARKS (50+50)

SESSION	TOPIC	TEACHER
Term 1,Half 1, (September-October)	**FOOD COMMODITIES** **UNIT-I** 1. **Cereals & their products**: Structure, nutritive value of cereals. Rice - composition, processing, Brief idea about different fermented rice products. Wheat: - composition, processing. Brief idea about different wheat products - millet like Jowar, Ragi, Bajra. Role of cereals in cookery. Gelatinization, Gluten formation. Breakfast cereal. 2. **Pluses**: composition, nutritive value, processing (soaking, germination, fermentation). Toxic constituent present in pulses. Pulse cookery. Factors affecting cooking quality. Role of pulses in cookery.	DP,BG

	3. **Milk and milk products**: composition of milk. Nutritive value of milk. Physical properties of milk. Pasteurization of milk. Microbial spoilage of milk. Effect of enzyme, acid and heat on milk. Role of milk in cookery. Different fermented milk products like cheese, butter, curd. Brief idea about different non fermented milk products like ice cream, skimmed milk, toned milk, double toned milk, sweetened condensed milk, recombined milk etc. 4. **Egg:** Structure, nutritive value, composition. Effect of heat on egg, and factors affecting coagulation of egg protein. Hard and soft egg. Egg foaming and factors affecting egg foaming. Preservation of egg, Role of egg in cookery. **Community Nutrition (Practical)** **(UNIT – II)** 1.Anthropometric Measurement of infant- Length, Weight, Circumference, Chest, Mid- upper arm circumference, precautions to be taken. Comparison with norms and interpretation of the nutritional assessment date and its significance. Weight for age, height for age, weight for	

	height, Z scores body Mass Index (BMI), Waist-Hip Ratio (WHR).	
Term 1,Half 2 (November-December)	**FOOD COMMODITIES** 5. **Meat, Fish, Poultry:** classification of meat. Nutritive value of meat. Ageing, tenderization, artificial tenderization, curing of meat. Smoking of meat Fish:-composition, nutritive value, selection .spoilage of fish.Poultry:-processing, classification, composition. 6. **Vegetables and Fruits:** classification of Vegetables. Nutritive value, composition of vegetables. Vegetable cookery. Effect of cooking on pigments present in vegetables. Loss of nutrient during cooking. Prevention of loss of nutrient. Storage of Vegetables. Classification of Fruits. Nutritive value, composition of Fruits. Pigments present in fruit. Bitterness in fruit. Ripening of fruits: Browning reaction. 7. **Sugar and its products:** Properties of sugar. Different sugar and their product. Crystallization of sugar. Factors affecting crystallization. Brief idea about different crystalline and non-crystalline	DP,BG

	candies. Caramelization. Role of sugar in cookery. Different natural and artificial sweeteners. 8. F**ats and Oils:** Classification & Nutritive value of fatsandOils. Different fatty acids. Structure of fat. Composition of fat. Chemical properties. Analysis of fats & oils. Degradation of fat, factors affecting it & its prevention. Smoking temperature of fat. 9. **Food Preservation:** Objectives of preservation in brief. Different methods of preservation. Basic idea of food spoilage. Preparation of preserved products like jam, jelly, squash, pickles etc. **Community Nutrition (Practical)** 2.Growth charts-plotting of growth charts, growth monitoring and promotion. 3.Clinical assessment and signs of nutrient deficiencies, Anaemia, Rickets, B-Complex deficiencies. 4.Estimation of food and nutrient intake-Household food consumption data, per consumption unit, 24 hours dietary recall, 24 hours record. Weighment method, food diaries, food frequency data, use of each of the above, information available through each individual, collection of data, estimation	

	of intakes.	
Term 2, Half 1 (January-February)	**FOOD COMMODITIES** 10. **Food Additives:** Brief idea about food additives. 11. **Leavening agent:** Brief idea about different leavening agent like baking powder, egg etc. 12. **Food adulteration & Food Standards:** Different food standards: BIS, Agmark, FPO, PFA, MPO etc. basic idea about food adulteration, quality. Factors responsible for food adulteration. 13. **Convenience Food:** Basic idea, types, role of convenience food. 14. **Spices:** Different spices, their composition, medicinal value & use. Basic idea about herbs. 15. **Beverages:** Classification Tea: nutritional aspect, classification, processing of tea, different types of tea. Coffee: composition, processing, nutritional aspect of coffee. Bitter substances present in coffee, different coffee products. Chocolate & cocoa: processing, composition & nutritional	DP,BG

	aspect. Alcoholic beverages: beer, rum, wine- their processing. Carbonated beverages. **Community Nutrition (Practical)** 5.Community field survey.	

ACADEMIC CALENDER

DEPARTMENT – FOOD AND NUTRITION

SUBJECT- FNTA

SESSION – 2018-2019

PART – III

PAPER - V

SESSION	TOPIC	TEACHER
Term 1,Half 1, (July-October)	**Unit I:- Nutritional Biochemistry (50)** **1.ENZYMES & COENZYMES:ENZYMES:** Definition & Classification, Kinetics (Gibbs free energy change, Reaction initiation energy), Michalies-Menten equation, Reciprocal plot & its significance, Vmax & Km, substrate specificity, enzyme inhibition (irreversible- Penicillin inhibition, reversible explained from Reciprocal plot, allotter-ribonucleotide reductase inhibition by nucleotides), isozymes-ex. LDH. **COENZYMES:** Definition, Biochemical Functions of: NAD, NADP, FAD, CoA, Tetrahydrofolate, TPP. Names of the Vitamines present in those coenzymes,	MRS,DP

	2.CARBOHYDRATES: Glycolysis, Citric acid cycle, Electron transport chain (brief idea), glycogenesis, glycogenolysis, gluconeogenesis.HMP Shunt. **3.LIPID:** Beta-Oxidation, (alpha and omega oxidation-definition only), Synthesis & utilization of ketone bodies, Ketosis, Causes of fatty liver. **Unit II:Food Microbiology**(50) **1.Microscope: -** Different parts of microscope and its functions. **2.Cultivation of Bacteria**:-Nutritional requirements of micro-organisms, types of growth media (selective, differential, enrich media-definition with example), Pure culture methods (streak pl spread plate pour plate, slant culture), Anaerobic cultivation of bacteria. **3.Growth of Bacteria**:-Definition, growth phase, direct and ind measurement of growth, Factors affecting growth (pH, temp and oxygen).	
Term 1,Half 2 (November-December)	**NUTRITIONAL BIOCHEMISTRY- UNIT-I** **4.PROTEIN:** Tertiary & Quaternary structures of protein with Haemoglobin & Collagen as examples, Deamination & Transamination, amino acid metabolism. **5.NUCLEIC ACID :** Structure of Purines & Pyrimidines, Nucleosides & Nucleotides, Formation of Nucleic Acid	MRS,DP

	Chain from Nucleotides, Importance of Thymine in DNA structure, Types of RNA & their functions (in brief), Structure of t-RNA, Codons, Definition of Central Dogma(Replication, Transcription, Translation - elementary idea only) & Machineries needed in each step(only names of the enzymes and coenzymes). **FOOD MICROBIOLOGY UNIT-II** **4.Stain and staining techniqu**- dye (Chromophore, auxochrome-definition with example). Classification of stains, principles of staining, simple staining, negative staining, differential staining (Gram staining and acid fast staining). **5. Morphology of Bacteria**:- slime layer, capsule, cell wall, flagella, pili, fimbriae, cell membrane, ribosome, cytoplasmic inclusions(inorganic), endospore (structure, formation and germination).. **6.Control of microbes**:-Sterilization, Disinfection, Antiseptics, detergents, Methods of sterilization-Physical (heat, low temp, radiation, filtration). Chemical (alcohol, phenol, halogen, heavy metals, formaldehyde).	

Term 2, Half 1 (January-March)	**NUTRITIONAL BIOCHEMISTRY UNIT-I** **6. VITAMINES:** Structure & Biochemical roles, Deficiency disorders of Vitamin **A, D, E.K, B_1, B_2, B_6,** Folic acid, Pantothenic acid, Niacin & Vitamin C. **7.MINERALS:** Biochemical functions of Na, K, Ca, P, I, Fe, Se - Disorders related to Hyperactivity & Deficiencies of those elements. **8.CELLULAR TRANSPORT:** Preliminary idea about membrane permeability, Active & Passive transport, Facilitated transport, a brief idea about gated-channels & membrane-bound transport protein. **FOOD MICRIBIOLOGY UNIT-II** **7.FOOD MICROBIOLOGY:-** milk as a growth medium of bacteria, normal microflora in milk, undesirable microbes in milk,Pasteurisation, phosphatase test, Methylene blue reduction test.Normal microflora of vegetables & fruits, meat, fish, egg, canned food, cereal &cereal products, enumeration of microbes present in food & milk. Outline of methods for detection of microorganisms in drinking water (presumptive, confirmatory and completed test).distinction between faecal and non faecal coliforms- IMVic test.Extrinsic & intrinsic parameters affecting growth & survival of microbes.	MRS,DP

	8.<u>Food borne diseases</u>: - Food borne infection & intoxication. Different food borne diseases like Shigellosis, salmonellosis, *Clostridium Perfringens* food poisoning, Typhoid, *E.Coli* food poisoning, *Bacilluscereus* food poisoning-causative agent, symptoms, pathogenicity & preservation.	

ACADEMIC CALENDER

DEPARTMENT – FOOD & NUTRITION

SUBJECT- FNTA

SESSION – 2018-2019

PART – III

PAPER - VI (UNIT I&II)

FULL MARKS: 50+50

SESSION	TOPIC	TEACHER
Term 1,Half 1, (July-October)	**<u>DIET THERAPY UNIT-I</u>** **<u>1.Basic concept of diet therapy</u>: -** different definitions related to diet therapy. **<u>2.Routine Hospital Diet:-</u>**Modification of normal diet into therapeutic diet. Purpose of diet therapy. Different modifications. **<u>3.Diet with Energy Modification: -</u>** Energy	SS,BG,MS

	modification & nutritional care for weight management, identifying the overweight obese, aetiological factors contributing obesity, prevention & treatment of obesity. Low energy diet & balanced energy reduction. Underweight - aetiology, an assessment, high energy diets for weight gain. **DIET THERAPY UNIT II** **1. DIABETES MELLITUS:** General introduction & classification, Factors responsible for diabetes, Role of hormones, Characteristics of typeI &type II diabetes, Treatment & dietary management of diabetes, Complications associated with it. **2. FOOD ALLERGY:-** Introduction & definition related to food allergy, Predisposing factors of food allergy,Reasons for allergy, Classification of allergy, Allergic reaction (elementary idea), Symptoms of allergy, Role of food as allergen, Treatment & dietary management of food allergy, with elimination diet.	

Term 1,Half 2 (November-December)	**DIET THERAPY UNIT-I** **4.DIET FOR FEBRILE CONDITION**:- Different causes of fever, Metabolic changes during fever (elementary idea), General dietary consideration, Causes, clinical features, treatment& dietary management of- Short time fever(influenza), Chronic fever (tuberculosis), Intermittent fever (Malaria). **5.DIET DURING SURGERY:-** General introduction, Pre & post operative diet (brief idea), Dietary management. **6.DISEASES OF LIVER:-** General introduction, Symptoms of liver disease, Reasons of liver diseases, Basic idea of liver function tests, Causes, clinical features, treatment& dietary management of- Infective hepatitis & jaundice, Cirrhosis of liver, Hepatic coma, Infantile billiary cirrhosis. **DIET THERAPY UNIT II** **3.CARDIO VASCULAR DISEASES**: General information & brief idea, Causes or	SS,BG,MS

	factors of CHD in brief, Dietary management, symptoms in brief of the following: atherosclerosis, hypertension, hypercholesterolemia, IHD, Congestive cardiac failure.	
Term 2, Half 1 (January- March)	**DIET THERAPY UNIT I** **7.GALL STONE DISEASE:**General introduction, Type of stones, Dietary management. **8.PEPTIC ULCER:-**General introduction of peptic ulcer disease,Causes of peptic ulcer disease, Mechanism of ulcer formation, Symptoms of peptic ulcer disease,Treatment & dietary management. **9.INTESTINAL DISORDERS:**-General introduction and dietary management of different intestinal disorders-**Constipation**:- causes, complication, type (in brief), Dietary management.**Flatulence:-**causes, treatment, dietary management. **Diarrhoea:-**causes, physiological disturbance in the body during Diarrhoea. Different types of Diarrhoea, Symptoms, Complication. Prevention & treatment.ORS. **Steatorrhoea:** - causes, treatment, dietary management. **Ulcerative colitis**-causes, symptoms, treatment & dietary	SS,BG,MS

	management. **Irritable bowel syndrome**: - causes, symptoms, dietary management. **DIET THERAPY UNIT II** **4.RENAL DISEASES:-** General introduction. Causes, symptoms in brief & dietary management of the following: Type I or Glomerulonephritis, Type II or Nephrotic Syndrome, Acute & chronic renal failure, Renal calculi.	

ACADEMIC CALENDER

DEPARTMENT –FOOD & NUTRITION

SUBJECT- FNTA

SESSION – 2018-2019

PART – III

PAPER -VII UNIT- I& II

FULL MARKS- 50+50

SESSION	TOPIC	TEACHER
Term 1,Half 1, (July-October)	**NUTRITIONAL BIOCHEMISTRY UNIT I** GROUP A:-QUALITATIVE ESTIMATION 1. Qualitative estimation of	MRS,SS

	Carbohydrate(Mono,di and poly saccharides) Glucose, Fructose, Sucrose, Lactose, Starch, Dextrin. 2.Colour reactions of Protein GROUP B:- QUANTITATIVE ESTIMATION 1. Standard curve of Protein by Biuret method using BSA. 2. Standard curve of Protein by Folin Phenol method using BSA. 3. Estimation of unknown Protein from egg or serum protein. **FOOD PRESERVATION UNIT II** 1. Introduction to food preservation and different methods of food preservation. Purpose of food preservation. 2. Use of natural and chemical preservatives in preparation of different preserved products: Jam, Jelly, Squash, Pickles, Murabba etc.	
Term 1,Half 2 (November-December)	**NUTRITIONAL BIOCHEMISTRY UNIT I** GROUP A- QUALITATVE ESTIMATION 3.Qualitative estimation of Fat.Solubility test, Unsaturation test, Saponification test, Test with soap & acrolin layer.	MRS,SS

	GROUP B:- QUANTITATIVE ESTIMATION 4.Standard curve of PNP 5.Preparation of Buffer. 6.Quantitative estimation serum acid phosphatase. 7.Quantitative estimation serum alkaline phosphatase. **FOOD PRESERVATION UNIT II** 3.Use of sun drying for preservation of food. 4.Preparation of fermented food product.	

Term 2, Half 1 (January- March)	**NUTRITIONAL BIOCHEMISTRY UNIT I** GROUP A- QUALITATIVE ESTIMATION 4.Chromatographic separation of Amino Acids from mixture of amino acids & determination of Rf value. GROUP B:- QUALITATIVE ESTIMATION 8.Quantitative estimation of vitamin C in lemon juice. 9.Quantitative estimation of glucose using fehling solution. 10.Determination of acid value of fat. **FOOD PRESERVATION UNIT II** 5.Visit:- Milk industry visit Food testing lab visit.	MRS,SS

ACADEMIC CALENDER

DEPARTMENT – FOOD & NUTRITION

SUBJECT- FNTA

SESSION – 2018-2019

PART – III

PAPER - VIII UNIT I, II,III

FULL MARKS: 35+30+35

SESSION	TOPIC	TEACHER
Term 1,Half 1, (July-October)	**DIET THERAPY PRACTICAL UNIT I** 1.Introduction to therapeutic nutrition, its objectives. Different modification techniques (demonstration). 2. Planning and preparation of normal diet. 3.Planning and preparation of clear fluid and full fluid diet. 4. Planning and preparation of soft diet. **FOOD MICROBIOLOGY UNIT II** 1.Basic idea of process of sterilization. 2.Preparation of Nutrient agar media. **PROJECT & SEMINAR UNIT III** 1.Review and project work	GC,DP,MS,SS,MRS,GT
Term 1,Half 2 (November-December)	**DIET THERAPY UNIT I** 5.Planning and preparation of diets for the following condition :Jaundice, Peptic Ulcer, Diabetes, Fever. **FOOD MICROBIOLOGY UNIT II** 3.Inoculation of one gram positive and one gram negative bacteria 4.Gram Staining. **PROJECT & SEMINAR** 1.Review and project work	GT,MRS,DP,SS,GC,MS

Term 2, Half 1 (January- March)	**DIET THERAPY UNIT I** 6 .Planning and preparation of diets for the following condition: CHD, Gout, Renal Failure(acute or chronic),Obesity. **PROJECT & SEMINAR** 2. Seminar presentation.	GT,MRS,DP,SS,MS,GC
Term 2, Half 2 (April-June)	Revision Classes are held	1st year Test Exam

ACADEMIC CALENDER

DEPARTMENT –FOOD AND NUTRITION

SUBJECT: FOOD AND NUTRITION(GENERAL)

SESSION – 2018-2019

PART – II

PAPER -II&III

UNIT-I

SESSION	TOPIC	Teacher
Term 1,Half 1, (July-October)	**UNIT-I** FOOD SCIENCE: 1. Definition of Food, Nutrition, nutrient, health, nutritional status, balanced diet, malnutrition, energy(units) 2. Definition of BMR, Factors controlling BMR, Energy Balance, RDA 3. Basic Five Food groups: Types, Composition, Nutritional significance, role of cookery of Cereals, Pulses, Milk and milk products, Meat, Fish, Egg, Vegetables & fruits, nuts, oils and sugar. **UNIT-II** THERAPEUTIC NUTRITION 1. Basic Concept of diet therapy, Principles and classification of the therapeutic diet **PAPER-III(PRACTICAL)** 1. Elementary idea of weights and measures. 2. Processes involved in food preparations- Boiling, Roasting, Stewing, Poaching, Frying, Grilling, Pressure Cooking(one of each type) 3. Preparation of Supplementary foods for infants(minimum two)	SS,MS,BG
	UNIT-I FOOD SCIENCE:	

Term 1,Half 2 (November-December)	4. Principle and objectives of meal Planning 5. Nutritional requirement(RDA), Dietary guidelines of Pregnant and Lactating Women, Infants (Weaning, Supplementary food),Preschool children, School Children(School Lunch Programme), Adult males, females, Old age people **UNIT-II** THERAPEUTIC NUTRITION 2. Hospital diet: regular, Soft, Fluid, Special Feeding Methods-Advantages and Disadvantages. 3. Dietary management in Gastrointestinal Disease (Diarrhoea, Constipation, Gastritis, Peptic ulcer& Flatulence), Fever(short term), Diabetes Mellitus(Type II-NIDDM), Heart disease (Hypertension, Atherosclerosis, Hyperlipidaemia), Liver Disease (Infective Hepatitis, Cirrhosis of Liver), Gout, Obesity (including assessment indices), Underweight **PAPER-III(PRACTICAL)** 4. Planning and Preparation of Fluid diet, Soft and Semisolid diet(one of each type) 5. Preparation of cereals, Pulses, Vegetables, Egg, Milk, Fish, Nuts (one from each group) 6. Preparation of ORS	BG,SS,MS

Term 2, Half 1 (January- March)	**UNIT-I** FOOD SCIENCE: 6. Deficiency Diseases (Nutritional Anaemia, PEM,IDD,VAD)- Aetiology, Prevalence, Clinical findings, Prevention& treatment **UNIT-II** THERAPEUTIC NUTRITION 4. Food allergy: Definition, Sources, Symptoms, Diagnosis, Treatment, Food Intolerance **PAPER-III(PRACTICAL)** 7. Preparation of Jam, Jelly, Squash, Pickles 8. Planning of a day's diet for a pregnant and lactating mother 9. Planning and preparation of a day's diet for the following conditions- Peptic Ulcer, Fever, Hypertension, Diabetes mellitus(Type-II,NIDDM)	SS,BG,MS

ACADEMIC CALENDER

DEPARTMENT –FOOD AND NUTRITION

SUBJECT: FOOD AND NUTRITION(GENERAL)

SESSION – 2018-2019

PART – III

PAPER -IV

UNIT-I&II

SESSION	TOPIC	Teacher
Term 1,Half 1,	**UNIT-I** Group A- COMMUNITY NUTRITION	SS,MS,BG,DP

(July-October)	1. Concept of Community 2. Methods of assessment of nutritional Status- Anthropometry, Clinical, Biochemical, Diet Surveys, Vital health statistics Group B(Food Microbiology & Sanitation) 1. Elementary structure and characteristics of microbes- Bacteria, Virus, Fungi including Mold, Yeast and Protozoa. 2. Food Spoilage- Cereals, Pulses, Vegetables & Fruits, Milk and Milk Products, Fleshy Foods, Fats and oils **UNIT-II** PRACTICAL: 1. Diet Survey in a household of slum or rural area	
Term 1, Half 2 (November-December)	**UNIT-I** Group A- COMMUNITY NUTRITION 2. Role of National and International Organization in improving Community Health: WHO, FAO, UNICEF,CARE, NIN, CFTRI, ICMR 3. Nutrition Education in community- Definition, Methods, Uses Group B(Food Microbiology & Sanitation) 3. Food Borne infections and infestations- Causative Organisms, Symptoms, Mode of Transmission, Methods of Prevention 4. Food Preservation- Definition, Objectives, Methods- main principle, procedure, common examples **UNIT-II** PRACTICAL: 2. Plotting of Growth Chart	SS,MS,DP,BG

Term 2, Half 1 (January-March)	**UNIT-I** Group A- COMMUNITY NUTRITION 5. Current National Nutrition Intervention Programmes in India- SNP, ANP, ICDS, Mid Day Meal, NIDDCP, NPPNB, NNAPP Group B(Food Microbiology & Sanitation) 5. Food Adulteration- Definition, Types, Intentional adulterants & Method of detection, Food Laws and Food Standards- PFA Act, AGMARK, FPO, MPO, Codex Alimentarius, Consumer Protection Act, HACCP **UNIT-II** PRACTICAL: 3. Identification of unknown microbes(Prepared Slides)	SS,BG,MS,DP