

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore) Approved by Government of Tamil Nadu & Accredited by NAAC with 'A++' Grade (3rd Cycle-3.64 CGPA) Dr. N.G.P.-Kalapatti Road, Coimbatore-641 048, Tamil Nadu, India. Website: www.drngpasc.ac.in | Email: info@drngpasc.ac.in. | Phone: +91-422-2369100 BoS

14th

MINUTES OF THE FOURTEENTH BOARD OF STUDIES MEETING

Faculty: Bio-Sciences

Board: Food Science and Nutrition

The Meeting of Board of Studies (BoS) was held as given below:

Name of the Body	BoS	
Department	Food Science and Nutrition	
Meeting No.	14	
Date and Time	30/11/2022 at 10.00 am	
Venue	IQAC Board room	
Members Attended	The details are given in the ANNEXURE -I	

AGENDA		
1.	Discussion on UG syllabi for Part III - Core Courses in Second semester for 2022-23 Batch and onwards	
2.	Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Chemistry	
3.	Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by Language department for 2022-23 Batch and onwards	
4.	Discussion on Part II (English) offered by English department for 2022-23 Batch and onwards	
5.	Discussion on Part IV (AECC - II) Basic Tamil & Advanced Tamil offered by Tamil department and Huma Rights & Women's Rights offered by Department of Commerce with Corporate Secretaryship with C respectively for Second semester 2022-23 Batch and onwards	
6.	Discussion on credits for Part V Extension Activity for 2022-23 Batch and onwards	
7.	Discussion on PG syllabi in second semester courses for 2022-23 Batch and onwards	
8.	Discussion on PG IDC and DSE syllabi in second semester courses for 2022-23 Batch and onwards	
9.	Discussion on Value Added Certificate Courses (VACC)	
10.	Any other matter	



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MINUTES OF THE FOURTEENTH BOARD OF STUDIES MEETING

Faculty: Bio-Sciences

Board: Food Science and Nutrition

The Chairman of BoS welcomed all the Panel members for the meeting. The items listed in the agenda were taken for discussion.

The following are the minutes of the meeting:

Item - 01	Discussion on syllabus in the Second Semester for UG - 2022-23 Batch and onwards		
Discussion	The course content of I B.Sc. Food Science and Nutrition course were presented and discussed 223FN2A2CA PRINCIPLES OF NUTRITION (New Course) Dr. Sylvia Subapriya suggested to include the topics on deficiency of carbohydrate and protein Dr.Hemamalini suggested to include the topics absorption and metabolism of carbohydrate protein, fat, vitamins and minerals. These topics were included to enrich the knowledge on nutrient metabolism. 223FN2A2CP - NUTRITION PRACTICAL (New Practical Course) Dr. Sathya Moorthy suggested to include the following experiments • Estimation of yield, cooking volume and time, water holding capacity in food products • Determination of physical properties, true density, bulk density and porosity • Determination of smoking point of fat and oil absorption capacity of baked foods Under DBT star college scheme the experiments included are • Determination of starch content in food These experiments were included for the better understanding to assess the quality parameters		
Resolution	and shelf life of products.		
Item - 02	Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Chemistry		
Discussion	222CE1A2IP – IDC Applied Chemistry (New Course) The syllabus approved by the Board of Studies in Chemistry was placed for endorsement.		
Resolution	The Board unanimously approved the above syllabus		
Item - 03	Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by Language department for 2022-23 Batch and onwards		
Discussion	PartI:221TL1A2TA-Tamil- II: Ara Illakiyam 221TL1A2HA- Hindi- II: Modern literature 221TL1A2FA-French- II: Grammar, Translation and civilization 221TL1A2FA-French- II: Modern literature respectively (New Course) The unified syllabi approved by the Board of Studies in Languages were placed for endorsement.		
Resolution	The Board unanimously approved the syllabi.		
(tem -04	Discussion on Part II (English) offered by department of English for 2022-23 Batch and onwards		



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Discussion	221EL1A2EA: Part II: Professional English II (New Course) The unified syllabus approved by the Board of Studies in English was placed for endorsement.		
Resolution	The Board unanimously approved the syllabus		
Item -05	Discussion on Part IV (AECC - II) Basic Tamil & Advanced Tamil offered by Tamil Department and Human Rights & Women's Rights offered by Department of Commerce with Corporate Secretaryship with CA respectively for Second semester 2022-23 Batch and onwards		
Discussion	 221TL1A2AA:(AECC - II) Basic Tamil and 221TL1A2AB: Advanced Tamil The unified syllabus approved by the Board of Studies in Tamil Department was placed for endorsement 225CR1A2AA: (AECC - II) Human Rights & Women's Rights (New Course) The unified syllabus approved by the Board of Studies in Commerce with Corporate Secretaryship with CA was placed for endorsement 		
Resolution	The Board unanimously approved the syllabi		
Item-06	Discussion on credits for Part V Extension Activity for 2022-23 Batch and onwards		
Discussion	One credit to be awarded for participation in Extension activity like YRC/NCC/NSS/ RRC/Yoga/Sports/Clubs		
Resolution	The Board members approved one credit for each Extension activity		
Item - 07	Discussion on PG syllabi in second semester courses for 2022-23 Batch and onwards		
Discussion	The course content of I M.Sc. Foods and Nutrition course were presented and discussed 223FN2A2CA FOOD PROCESSING (New Course) Dr. Sylvia Subapriya suggested to include the topics - Importance of Food Processing, Rice - rice cake, rice paper, Wheat – popped and puffed wheat, Millets – Vermicelli and pasta, Method to eliminate anti nutritional factors, Processing of spices – Onion and garlic, Fish – Fish crackers Dr.Sathya Moorthy suggested to include the topics on Nuts and oil seeds – Lemon and moring; seed oil, preparation of hydrogenated fats, Milk – Flavored milk, toned milk, non – fermenter milk (gelato), Vegan milk - almond and soy milk, Fruits and Vegetables – Minimal processing These are the topics framed to the transformation of agricultural products into food and to counteract food spoilage by microorganisms and enzymes then to make a variety o products. Dr.Hemamalini suggested to include a course entitled 223FN2A2CB-APPLIEI PHYSIOLOGY (New Course) to investigate fundamental concepts of physiological aspects of organ system. 223FN2A2CC THERAPEUTIC NUTRITION - I (New Course) Dr. Hemamalini suggested to include the case studies for non-communicable diseases to increase the knowledge of evaluation, diagnosis and treatment of disease 223FN2A2CD MACRONUTRIENTS (New Course) Dr. Hemamalini suggested to include the topics Components of energy requirement, Basa Metabolic Rate and its measurements, Energy requirement during work, Specific dynami actions, Hormonal control of blood sugar levels. Dietary Fiber- Classification. Protein - Utilization and factors affecting, storage, assessment of quality of proteins, its Factoria		





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	antimation of the second s	
	estimation for arriving at RDA of proteins for Indians.	
	These are the topic framed to assess the requirement of macronutrients for an individual.	
**	223FN2A2CP-FOOD ANALYSIS (New Practical Course)	
1	Dr. Sathya Moorthy suggested to include the following experiments which are based on industria application.	
	appreation.	
	Determination of Carbohydrate by Anthrone method	
Resolution	Estimation of Sodium and Potassium in processed food	
	The Board unanimously approved the above syllabi	
Item – 8 Discussion on PG Inter Disciplinary Course and Discipline Specific Electiv		
	It semester courses for 2022-23 Batch and onwards	
Discussion	The course content of I M.Sc. Foods and Nutrition EDC & DSE course were presented and	
	discussed	
	223FN2A2CE - Computer Applications in Nutrition (New Course)	
	The subject experts suggested to include the above course to enable the creation of food and	
	nutrition related contents through ICT application.	
	223FN2A2DB -Food Waste and By-Product Utilization (New Course)	
	Dr. Sathya Moorthy suggested to include a course on Food Waste and By-Product Utilization	
	to convert food stuffs as nutraceutical through processes which involve other inputs like energy.	
	water and packaging.	
	Dr. Sylvia Subapriya suggested to include entitled on 223FN2A2DA -Food Biotechnology	
	(New Course)	
¥.		
	The course is framed to emphasize the advances in cross-breeding, allowing for new food	
	varieties and upgrading of traditional food processing based on fermentation which is used in food processing sector.	
	223FN2A2DC Food Toxicology	
multiple in the	Dr.Sathya Moorthy and Dr.Sylvia Subapriya suggested to incorporate the following - Scope,	
	ristory, Principles, Toxicity of Macro and Micro nutrient	
	Dr.Hemamalini suggested to include the topics to know the adverse health effects on living	
	systems of chemicals present in foods –	
	Manifestations of organ toxicity – Neurotoxicity, hepatotoxicity, nephrotoxicity, hematotoxicity	
	and immunotoxicity.	
Resolution	The Board unanimously approved the above said IDC & DSE course syllabi	
Item – 9	Discussion on Value Added Course	
Discussion		
D15Cu351011	Food Production and Quality Management Industry linked courses was included to	
	enhance the standard of the students beyond those levels specified in the academic	
D	curriculum	
Resolution	The board approved the syllabus	
Item – 10	Any other matter	
Discussion	The board members discussed the Panel of Examiners	
Resolution		
14	The Board unanimously approved the Panel of Examiners	



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The chairman of Board of Studies (BoS) thanked all the members for their active participation and cordially invited them for the next meeting.

Date: 30.11.2022

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(Dr.D.Sridevi)

BoS Chairman/HoD Contrast of Food Science & Nutrition E: N. G. P. Arts and Science College Combatore – 641 048





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Syllabus Revision B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences Board: Food Science and Nutrition Semester: II Course Code/ Name: 223FN2A2CA - Principles of Nutrition

Unit	Existing		Changes
ogalici	Energy - Definition of Energy and its unit (Calorie and Joule). Energy Metabolism- Direct and Indirect calorimetry, Dete food- Bomb calorimeter, Thermic effect of food- del Physiological fuel value of food. Basal Metabolic rate- Definition, measurement- direct and of BMR. Recommended Dietary Allowances for energy.	finition & factors affecting,	History of nutrition, Nutrition research in India
Ш	Carbohydrate, Fats and Lipids - Carbohydrates - Classification, functions, digestion, absorprequirements of carbohydrates. Glycemic index of foods-La affecting Gl. Dietary fiber – Definition, sources, Role of fiber in human h Fats and Lipids - Classification, functions, sources, requir fatty acids.	ow and High GI foods, factors ealth.	Carbohydrates – Metabolism deficiency. Fats and lipids – Digestion, Absorption Metabolism.
ш	Protein and amino acids - Proteins - Classification, functions, digestion, absorpti- requirements. Evaluation of protein quality-PER, BV and NPU Reference protein, Quality difference between animal and ve Amino acids - Essential amino acids and non-Esse supplementation of dietary protein.	J, Digestibility Coefficient,	Proteins – Metabolism and Deficiency
IV	Vitamins - Fat soluble V Vitamins - General-functions in the body and Classification of vitamins. Fat soluble V		Water soluble vitamins - Absorption and
V	Minerals and water - Minerals – General functions and Classification. Micro minerals (Iron, Zinc, Iodine, Copper, Fluorine) -Fund deficiency and toxicity. Macro minerals (Calcium, Phosphorus & Magnesium)-Fund deficiency and toxicity. Electrolytes (Sodium, Potassium & Chloride)- Function deficiency and toxicity. Water – Distribution, functions and sources of water, water water and electrolyte balance.	ctions, sources, requirements, ctions, sources, requirements, ons, sources, requirements; intoxication, maintenance of	Microminerals – Absorption and Metabolism. Macro minerals - Absorption and Metabolism.
	PERCENTAGE OF SYLLABUS REVISED COURSE FOCUSES ON:	: 20%	
	Skill Development	Entrepreneurial	Development
	☑ Employability	Gender Sensitiz	ation
	Intellectual Property Rights (IPR)	Innovations	
			I MARTINE CONTRACTOR OF A DECISION OF A DECISIONO OF A DECISION

Social awareness / Environment



Constitutional Rights/Human Values/Ethics



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Syllabus Revision – Practical Course B.Sc. Food Science and Nutrition

Faculty: Bio-SciencesBoSemester: IICourse Code/ Name: 223FN2A2CP - Nutrition Practical

Board: Food Science and Nutrition

Exp. No.	Existing	Changes
1.	a) Bomb calorimeter b) Photometry c) Centrifuge d) Weighing balancee) Incubator f) Muffle Furnace g) pH- meter h) Soxhlet apparatus	Estimation of yield, cooking volume and time, water holding capacity in food products.
2.	Determination of moisture content and mode of operation technique ofHot air Oven and microwave oven.	
3.	Determination of gluten content in wheat.	
4.	Determination of ash content in food	the first state of the second states of the
5.	Estimation of fiber content of the foods	Determination of physical properties, true density, bulk density and porosity.
6.	Estimation of iron content in food	· · · · · · · · · · · · · · · · · · ·
7.	Estimation of Phosphorous content in food.	Estimation of pH in fruit juices.
8.	Estimation of calcium in milk	Determination of smoking point of fat.
9.	Estimation of titrable acidity	
10.	Estimation of ascorbic acid in citrus fruits	-
11.	Qualitative test for Vitamin A	
12.	Demonstration on estimation of protein by Soxhlet method Determination of oil absorption cap foods.	
	Experiments Under	DBT
13.	Estimation of pectin content in food	-
14.	Identification of starch content in food	
Note:	Out of 13 – 11 mandatory. PERCENTAGE OF SYLLABUS REVISED: 50% COURSE FOCUSES ON:	

Employability
 Gender Sensitization
 Intellectual Property Rights (IPR)
 Social Awareness / Environment
 Innovations
 Constitutional Rights/Human Values/Ethics



Faculty: Bio-Sciences

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Syllabus Revision M.Sc. Food and Nutrition

Board: Food Science and Nutrition

Semester: II Course Code/ Name: 223FN2A2CA - Food Processing

Unit	Existing	*	Changes
I	Food Processing Sector – Food processing sector –vision and mission, opportunities, su processing sector. Strengths, Weakness, Opportunities and Ch operations. Role of Governmental organizations in up gradatio Food Processing: Types of processed foods, and its effect of foods.	allenges of food processing n of food industries.	Importance of Food Processing.
п	Cereals and Millets Processing – Rice – Parboiling, Milling, by products of milling and proce puffed rice, popped rice, instant rice and rice flour. Wheat - Milling, by products of milling and processed pro- refined flour, semolina, vermicelli and pasta. Millets – Milling of Millet and it's by product, Manufacture of wheat and millets-and-other fortified and enriched cereals and r	oducts -whole wheat flour,	Rice – Rice cake, rice paper. Wheat – Popped and puffed wheat. Millets – Vermicelli and pasta. Methods to eliminate antinutrition factors.
Ш	Legumes and Oil seeds – Pulses and Legumes - Modern methods of milling and its by pi the anti-nutritional factors. Processing of pulse-based products Nuts and Oil Seeds – Milling and it's by products, extract vanaspati, industrial fats, and low-fat spreads and virgin oil, F Processing of fat substitute and fat replacer. Concentration and and coconut and other fortified and enriched foods.	roduct, process to eliminate tion of oil, preparation of ortification of fats and oils.	Nuts and oil seeds – Lemon and moring seed oil, preparation of hydrogenate fats,
IV	Milk, Meat, Fish and Egg – Milk and Milk products- Processing, Types of milk, by proc ghee. Fermented (Cheese, yoghurt, temph and kefir) and non- panner and ice cream) milk products. Meat & poultry- Slaughtering, Processing and Preservation - smoked meat. Processing of meat-based products-sausage & Nu Fish- processing and by products of fish- fish liver oil, fish meat Egg- preparation of egg white and egg yolk powder.	fermented (Channa, Rabri, -chilled, frozen, cured and uggets	Milk – Flavoured milk, toned milk, non – fermented milk (gelato), Vegan milk almond and soy milk. Fish – Fish crackers.
V	Fruits and Vegetables Processing Technologies – Fruits and vegetable processing- Drying and dehydration- D drying, freeze drying, solar drying and fluidized bed drying. Th blanching, and sterilization) and non-thermal processing (I Ozone and Pulse Electric Field Technology) Mushroom - Production & Processing Processing of beverages - Coffee, coco and tea processing Corriander, cardamom, chilly, ginger and masala powder. Ex- spices-oleoresin Recent trends in packaging technology: Modified Atmospheric Atmospheric Packaging, Intelligent packing& Nano Active Pac PERCENTAGE OF SYLLABUS REVISED: 2	ermal processing (canning, High Pressure Processing, g. Processing of spices - xtraction of volatile oil in Packaging and Controlled kaging.	Fruits and Vegetables – Minim processing. Processing of spices – Onion and garlie
	COURSE FOCUSES ON:	 Entrepreneurial Description 	

Gender Sensitization

Social Awareness / Environment

Constitutional Rights/Human Values/Ethics



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Intellectual Property Rights (IPR)

Employability

Innovations





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Syllabus Revision – New Course M.Sc. Food and Nutrition

Board: Food Science and Nutrition

Faculty: Bio-Sciences Board: Food Science Semester: II Course Code/ Name: 223FN2A2CB - Applied Physiology (New Course)

New Course Unit Digestive system and circulatory System -I Digestive system - Structure and functions of salivary gland, oesophagus, stomach, small intestine, large intestine, liver, gall bladder and spleen. Circulatory System - Structure and functions of Heart and blood vessels, cardiac cycle, cardiac output, Heart beat origin, conduction and regulation, circadian rhythm - bradycardia and tachycardia, ECG. Respiratory system and excretory system -II Respiratory system - Basic anatomy of the respiratory system, types of respiration, mechanism of respiration, transport of gases - oxygen (Bohr effect) and carbon dioxide, chloride shift (Hamburger Phenomenon), respiratory volumes spirometer. Excretory system - Excretory organs - structure of kidney and components and functions of nephron, formation and composition of urine, Hormonal regulation of kidney - diuresis and micturition. III Nervous system-Nervous system - Nerve cell and nerve fibre, reflex action - nerve impulse, receptors and reflex arc, classification and functions of nervous system - central nervous system - structure and functions of brain and spinal cord, autonomic nervous system - sympathetic and parasympathetic - transmitters. Endocrine and Immune system -Endocrine glands - Structure, function, hormonal secretion and actions - pineal, pituitary, thyroid, parathyroid, thymus, IV adrenal gland, pancreas, islets of Langerhans, ovary and testis. Immune system: cells of the immune system, role of immune cells, Types of immunity - innate immunity and acquired immunity, Antigens and its functions, Immune responses - cell mediated and humoral immunity, antigen - antibody reactions, auto-immunity and hypersensitivity. Enzymes and Drug -Enzyme - Introduction, classifications and biological functions of enzymes, enzyme activation, properties of enzymes, difference between enzyme, catalyst and whole cell. Nutrient and drug interaction - Introduction, absorption, route of drug administration, excretion, basic concept, effect of nutrition on drugs, drug's effects on nutritional status, clinical significance and risk factors for drug nutrient interaction.

Skill Development	Entrepreneurial Development
🗹 Employability	Gender Sensitization
Intellectual Property Rights (IPR)	Social Awareness / Environment
Innovations	Constitutional Rights/Human Values/Ethics





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Syllabus Revision – New Course

M.Sc. Food and Nutrition

Faculty: Bio-Sciences Semester: II Course Code/Name: 22 **Board: Food Science and Nutrition**

Course Code/ Name: 223FN2A2CC - Therapeutic Nutrition - I (New Course)

Unit	New Course		
Ι	Therapeutic Diets – Therapeutic Diets – Principles, objectives and diet therapy, review of hospital diets, type of dietitians, role of dietitian in the hospital and health care setting, Nutrition Care Process (NCP), diet planning and use of exchange list in nutrient calculation, diet counseling. Enteral and Parenteral nutrition.		
Ш	Fever and Infections – Etiological factors and Dietary modifications in Fevers and infection, COVID -19 and allergy. Burns – Complications, Dietary management & mode of nutrition support and wound management of burns. Sepsis - Definition and Dietary management of Sepsis with or without Multiple Organ Dysfunction Syndrome (MODS). Dietary management for pre- and post-surgical diet. Epidemiology, transmission of HIV, pathophysiology, clinical manifestations, HIV infection and other diseases, Immunity and AIDS virus, dietary management, Prevention and Control.		
Ш	Gastro Intestinal Diseases – Diseases of Oesophagus: Esophagitis and Hiatus hernia. Disease of Stomach: Indigestion, acute and chronic gastritis and peptic ulcer, Gastroesophageal reflux disease. Disease of Intestine: constipation - atonic, spastic, and obstructive, diarrhoea - acute and chronic and steatorrhea. Inflammatory Diseases -Diverticulosis, diverticulitis, regional enteritis, ulcerative colitis, irritable bowel syndrome, malabsorption syndrome - sprue, Lactose Intolerance, Post-surgical complications and management.		
IV	Obesity and Diabetes Mellitus – Nutritional Imbalances- Obesity and underweight, types of obesity, etiological factors, assessment of obesity, grades obesity, theories - set point and fat cell theory, thermogenesis in obesity. Life style and Dietary modifications. Diabetes Mellitus (Type I and II) - Epidemiology / Incidence - Classification - symptoms. Metabolic change complications, clinical findings -diagnostic tests. Management of Diabetes - Food exchange list, Glycaemia index of foods, Carbohydrate counting and Resistant star Dietary management, Meal planning approaches - With and without Insulin and during sickness. Herbal plant remed for diabetes mellitus.		
V	Renal Diseases – Kidney – Etiology, Pathogenesis, Clinical manifestation, dietary management for kidney disease- acute and chronic glomerulonephritis, nephrosis, nephrotic syndrome, urinary calculi, acute and chronic kidney disease, End stage renal disease, renal agenesis, renal dysplasia, kidney transplant and dialysis.		

Skill Development	Entrepreneurial Development
☑ Employability	Gender Sensitization
Intellectual Property Rights (IPR)	🗹 Social Awareness / Environment
☑ Innovations	Constitutional Rights/Human Values/Ethics





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Syllabus Revision M.Sc. Food and Nutrition Board: Food Science and Nutrition

Faculty: Bio-Sciences Bo Semester: II Course Code/ Name: 223FN2A2CD - Macronutrients

Unit Existing Changes Components of energy requirement, Basal Metabolic Rate and I Energy -Definition, Units, Direct and Indirect Calorimetry, Determination of its measurements, Energy requirement during work, Specific Energy Value of Food, Total energy Requirement, Measuring Total Energy dynamic actions Requirement, Resting Energy Expenditure, Factors-Affecting-Physical Activity, Factors Affecting Basal Metabolic Rate, Factors Affecting Thermic Effect of Food, Recommended Dietary Allowances II Carbohydrates -Hormonal control of blood sugar levels. Classification, Functions, Digestion, Absorption, Glycemic Response to Dietary Fiber- Classification of Dietary Fiber earbohydrates, Metabolism, Maintenance of Blood Glucose Levels Dietary Fiber- Components of Dietary Fiber, Chemistryand Characteristics of Dietary and Functional Fiber, Physiological and Metabolic Effects, Role of Fiber in the Prevention of Disease. Recommended Dietary Allowances and Sources. III Utilization and factors affecting, storage, assessment of Proteins -Chemical Composition, Properties, Classification, Nutritional Composition quality of proteins, its Factorial estimation for arriving at of Proteins-and-Amino-Acids, Functions, Specific-Functions-of-Amino RDA of proteins for Indians Acids, Digestion and Absorption, Metabolism, quality of Proteins, Complimentary Values of Proteins, Requirements, Recommended Dietary Allowances-and Sources, Lipids -IV Classification, Chemical Components, Fats in the Body and Food, Functions, Digestion and Absorption, Transport and Metabolism, Essential Fatty Acids, Dietary Fat and Coronary Heart Disease, Brown Fat Thermogenesis, Therapeutic Inhibition of Fat Absorption, RDA and Sources. V Water -Definition, Distribution, Functions, Requirements, Water Balance, Maintenance of Fluid /Water Balance, Water Depletion, Water Excess (Water Intoxication), Distribution of Electrolytes, Maintenance of Electrolyte balance, Acid Base Balance- The Control of Hydrogen Ion Concentration, Acid Base Buffers, Respiratory Regulation of pH, Renal Regulation of pH.

PERCENTAGE OF SYLLABUS REVISED: 25 % COURSE FOCUSES ON:

☑ Skill Development	Entrepreneurial Development
🗹 Employability	Gender Sensitization
Intellectual Property Rights (IPR)	Social Awareness / Environment
Innovations	Constitutional Rights/Human Values/Ethics



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Syllabus – New Course M.Sc. Food and Nutrition

Faculty: Bio-Sciences Semester: II

Board: Food Science and Nutrition

Course Code/ Name: 223FN2A2CE - Computer Applications in Nutrition

Unit	Content		
I	Word Basics – Word Basics: Creating a new document, Formatting Text and Documents, Working with Headers and Footers, creating a simple table using the table menu, using menus and toolbars. TEXT: Copy, delete, move, spell check character & page formatting, size, font, header, footer, bordering, coloring, margins, justification and graph. Understanding the concept of mail merge. Creating an article for publication. PICTURE: Creation, editing, import and printing. Use of other available features.		
Π	PowerPoint Basics – Creating presentations - Insert, format, and modify slides. Insert and format tables, charts, and SmartArt graphics. Application of slide transitions and animations. Inserting audio, video and animating multimedia playback, recording sound. Presentation using google slides. Creating food and nutrition presentation.		
III	MS Excel – Excel Basics: Overview of Excel features, creating a new worksheet, selecting cells, moving cells, copying cells, sorting cell data, inserting rows, inserting columns, deleting parts of a worksheet, entering and editing Formulas, Creating Nutrition database using MS Access.		
IV	Multimedia – Introduction to Multimedia: Components of Multimedia, Multimedia software tools, Multimedia Applications, Multimedia and hypermedia, online applications in nutrition education, webpage creation and app development – nutrient calculation, pamphlet and brochures.		
V	Applications of computer in nutrition – Nutrition Education and Counseling, Spread sheets in Nutrient and Diet calculations, Use of statistical software - R software, SPSS, and Graph pad prism Accessing Digital Library, barcode and QR code, e-Journals in Food Science and Nutrition, Relevant Nutrition software's.		

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

☑ Skill Development	Entrepreneurial Development
 Employability 	Gender Sensitization
☑ Intellectual Property Rights (IPR)	☑ Social Awareness / Environment
Innovations	Constitutional Rights/Human Values/Ethics



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Syllabus Revision – Practical Course M.Sc. Food and Nutrition Board: Food Science and Nutrition

Faculty: Bio-Sciences H Semester: II Course Code/ Name: 223FN2A2CP - Food Analysis

Exp. No.	Existing	Changes
01	Determination of Moisture content	· ·
02	Determination of Carbohydrate	Determination of Carbohydrate by Anthrone method
03	Estimation of protein content of foods by Lowry's method	-
04	Estimation of fat content of foods by Soxhlet method	
05	Estimation of crude fiber	
06	Estimation of soluble and insoluble ash content	Estimation of Sodium and Potassium ir processed food.
07	Estimation of Iron	
08	Estimation of Phosphorus	
09	Estimation of Calcium in milk and curd	*
10	Estimation of Ascorbic Acid from Citrus Fruits	in the last set of the set of the
11	Estimation of Iodine number and acid number	The second the second second
12	Determination of Saponification value of oil	•
13	Determination of Total Antioxidant capacity	
14	Estimation of Thiamine and Riboflavin	•
15	Determination of β -Carotene and Lycopene	

Note: Out of 15 - 13 mandatory.

☑ Skill Development	Entrepreneurial Development
🗹 Employability	Gender Sensitization
☑ Intellectual Property Rights (IPR)	Social Awareness / Environment
Innovations	Constitutional Rights/Human Values/Ethics





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Syllabus – New Course M.Sc. Food and Nutrition

Faculty: Bio-Sciences Semester: II

Board: Food Science and Nutrition

Course Code/ Name: 223FN2A2DA - Food Biotechnology (New Course)

Unit	Content		
I	Food biotechnology – Biotechnology-Introduction, goals, ethical aspects of food and agricultural biotechnology, limitations, variety of changes shaping bioethics, hazardous materials used in biotechnology-handling and disposal, GMP, GLP. Food biotechnology-Introduction, methods, food production, regulatory, safety and socio-economic considerations, Safety of food biotechnology, modern food biotechnology-definition, overview, potential benefits & risks.		
П	Role of biotechnology in fermentation & Probiotics – Fermentation – Types of fermentation and fermenters, recovery and purification of products, fermentation and product recovery costs, factors affecting fermentation economics Probiotics - Features and composition, characteristics of a good probiotics, factors affecting viability in foods, probiotics product specifications, quality assurance and regulatory issues, recommendations, guidelines for the evaluation of probiotics in food.		
Ш	Genetically modified foods – Genetically modified foods- Introduction, regulation and role of government, labeling, advantages of GM foods, assessment of the impact of GM foods on human health, social & ethical concerns about GM foods. Characteristics of Genetically modified fruits-apple, citrus, cherry, guava, papaya. Characteristics of Genetically modified vegetables - tomato, soya bean, carrot, potato. Mushroom-identification, nutritional values, essentials of mushroom cultivation, opportunities and challenges.		
IV	Role of biotechnology in animal source foods – Meat- Introduction, tenderization process, enzymatic tenderization. Poultry- Introduction, slaughtering & processing, poultry nutrition impact. Fish- Introduction, genetically engineered fish, fish feed biotechnology, benefits and disadvantages. Milk-natural components, milk processing operations, key products in dairy industry.		
V	Enzymes and carbon footprint – Enzymes-Introduction, sources, purification, formulation of the final enzyme product, enzyme recovery, future of industrial enzymes. Enzymes sources, mechanism, functions -amylase, pectic, lactase, protease. Carbon footprint-Introduction, ecological footprint of the global food system-primary components of footprint, Impact on other food system.		

Entrepreneurial Development
Gender Sensitization
☑ Social Awareness / Environment
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Syllabus – New Course M.Sc. Food and Nutrition

Board: Food Science and Nutrition

Faculty: Bio-Sciences Semester: II

Course Code/ Name: 223FN2A2DB - Food Waste and By-Product Utilization (New Course)

Unit	Content
Ι	Waste Related to The Food Industry – Food waste: classification and properties, disposal and recycling in the context of change in the agricultural industry and emerging nutritional trends, origin of food waste, generated mass of the most important types of product-specific food waste. Possible mitigation measures for food processing wastes. Impact of waste disposal on environment and human health.
Ш	Cereals, Pulses and Sugar – Rice Processing Industries - Rice bran - Protein extraction method, rice hull and rice bran fiber. Soyabean - Major Soybean by-products, tofu whey and its uses, source of various enzymes and applications o important soybean products. Sugar Processing Industries – By - Products, Flavorings and Aromas, Agglomerated product production from bagasse.
III	Fruit, Vegetables and Dietary Fiber – Fruit - Phenolic Compounds as Functional foods, Fruit By-Products Sources and Value-Added Products from Fruit By Products. Vegetable - Valorization of Vegetable Wastes, Reasons and Overall Prevention of Wastes, Loss Quantification of Fruits and Vegetables after Harvest Dietary Fiber - Dietary Fiber from Fruits, vegetables, cereals and pulses, Utilization of Dietary Fiber in Different Food Industries.
IV	Dairy and Pre – Biotics – Dairy - By-Products from the Dairy Processing Industries, Proteins from Dairy Waste and advances in Milk Fractionation for Value Addition Prebiotics from food processing by-products, Oligosaccharides and Polysaccharides from food processing and agricultural by-products.
V	Meat, Poultry and Seafood – Meat - By-Products and wastes generated during meat, beef and pork processing waste - collagen, gelatin. Poultry - Proteins and peptides derived from chicken processing by-products and waste, valorization of egg waste. Seafood - Seafood Processing By-Products, Biomedicals – Fish protein hydrolysate, peptides, chitosan and chitin.

Skill Development	Entrepreneurial Development
☑ Employability	Gender Sensitization
☑ Intellectual Property Rights (IPR)	☑ Social Awareness / Environment
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Syllabus Revision M.Sc. Food and Nutrition

Board: Food Science and Nutrition

Faculty: Bio-Sciences Semester: II

Course Code/ Name: 223FN2A2DC - Food Toxicology

Unit	Existing	Changes
I	Introduction to Toxicology - Introduction to Toxicology – Definition, Classification of toxic agents, characteristicsof toxic exposure, interaction and tolerance, biotransformation. Mutagenesis, Mechanism of toxicity- Oncogenesis, Teratogenesis	Scope, History, Principles
Ш	Food Toxins - Food Toxins – Natural and Synthetic toxicants in foods, Importance of natural toxins in food, Toxicants of plant and animal origin; Microbial toxins (e.g. Algal toxins, bacterial toxins and fungal toxins). Food poisoning; Toxin determination in foods and their management.	Toxicity of Macro and Micro nutrient
Ш	Food allergies and allergens and organ toxicity - Food allergies and allergens: Natural sources and chemistry of food allergens; true/untrue food allergies; handling of food allergies. Safety of Genetically Modified food: potential toxicity and allergenicity of GM foods.	Manifestations of organ toxicity - Neurotoxicity, hepatotoxicity, nephrotoxicity, hematotocicity and immunotoxicity
IV	Contaminants in Food – Contaminants in Food – Contaminants in Food: heavy metal contamination in food (mercury, arsenic lead, cadmium and aluminum) and their health impacts. Radioactive contamination of food. Drug Residues in food: Fungicide and pesticide residues in foods, use of veterinary drugs.	Heavy metals - Chromium
V	Food Additives and Adulterants – Food Additives: Classification, functional role, limitations and toxicological effects of food additives; food processing generated toxicants: nitroso compounds, heterocyclic amines. Food adulteration and potential toxicity of food adulterants.	Agencies and statutes involved in regulation of toxic chemicals in India.

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ATTENDANCE OF FOURTEENTH BOARD OF STUDIES MEETING

Faculty: Bio Sciences Board: Food Science and Nutrition

VENUE	: IQAC Board Room
DATE	: 30/11/2022
TIME	: 10.00 am

The following members were present for the Board of Studies meeting

S.No.	Name	Designation	Signature*
1.	Dr. D. Sridevi Professor and Head Department of Food Science & Nutrition Dr. N.G.P. ASC	Chairman	D. July 30/11/22
2.	Dr. T. Poongodi Vijayakumar Professor and Head Department of Food Science & Nutrition Periyar University Salem – 11	VC Nominee	AB
3.	Dr.M.Sylvia Subapriya , Professor and Head, Department of Food Science and Nutrition, Avinashilingam University For Women, Coimbatore-641043.	Subject Expert	ONLINE
4.	Dr. A. J. Hemamalini Assistant Professor & Head Department of Clinical Nutrition and Dietetics Sri Ramachandra Institute for Higher Education and Research Chennai,	Subject Expert	A 141 30/11/22
5.	Dr.P. Sathya moorthy , Chairman,Moon Foods & Dr. Yes Aar Team, Sangagiri Main Road,No.155/10, Kollapatti, Animoor PO, Tiruchengode-637214	Industrial Expert	And

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6.	Gautham Palaniswamy Chief Innovation Officer and Manager, Sathyabama TBI, Sathyabama Institute of Science and Technology, Chennai – 600119	Alumni	AB
7.	Dr. N. Kuppuchamy Associate Professor and Head Department of Tamil Dr. N.G.P. ASC	Co-opted Member	128.00 P - 30/11/22
8	Dr. R. Vithyaprabha Professor and Head Department of English Dr. N.G.P. ASC	Co-opted Member	AB
9	Dr. M. Suganthi Associate Professor and Head (i/c) Department of Chemistry Dr. N.G.P. ASC	Co-opted Member	10 hi 30-11-2021
10	Dr. S. Gowri Professor and Head (i/c) Department of BioChemistry Dr. N.G.P. ASC	Co-opted Member	A avri 30/11/2
11	Ms. Jayashree III B. Sc Department of Food Science & Nutrition Dr. N.G.P. ASC	UG-Student Representative	Jayashree.





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12	Ms. Pavithra II M. Sc	PG-Student Representative	
	Department of Food Science & Nutrition		Powithwar.
	Dr. N.G.P. ASC		
13	Dr. Meera Raman Dean – BioScience & Applied Science Dr. N.G.P. ASC	Member	Azouir
14	Mrs. P. Kanneshwari Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	Konny
15	Mrs. C. Abinaya Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	AB
16	Mrs. Kavya Jothi Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	Lowyout 30/11
17	Ms. M. Anjali Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	M. M. M.
18	Ms. D. Jancy Rani Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	Or Jon Bernis
19	Ms. P.P Abhirami Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	Alwing 2 fulze
20	Ms. M. Rakeshwari Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	Jahren Ja

Date: 30/11/2022



T (Dr. D SRIDEVI)

BoS Chairman/HoD Department of Food Science & Nutrition Dr. N. G. P. Arts and Science College Coimbatore -- 641 048

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