	<b>Dr. N.G.P. ARTS AND SCIENCE COLLEGE</b>	<b>BoS</b>
	(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore) Approved by Government of Tamil Nadu & Accredited by NAAC with 'A++' Grade (3 <sup>rd</sup> Cycle-3.64 CGPA) Dr. N.G.P.- Kalapatti Road, Coimbatore-641 048, Tamil Nadu, India. Website: www.dmgpsc.ac.in   Email: info@dmgpsc.ac.in.   Phone: +91-422-2369100	<b>18<sup>th</sup></b>

**Department of Food Science and Nutrition**

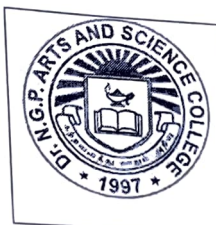
**Board of Studies Meeting**

**Academic Year: 2024-25 (Even Semester)**

The minutes of the 18<sup>th</sup> meeting of Board of Studies held on 08.11.2024 at 10.00 am at  
 B1 Block- Room No. 1512 (Department of Food Science & Nutrition).

**Members Present:**

S. No.	Name	Category
1.	Dr. D. Sridevi	Chairman
2.	Dr. T. Poongodi Vijayakumar Professor and Head Department of Food Science & Nutrition Periyar University Salem – 636011	University Nominee (Online Mode)
3.	Dr. A.J. Hemamalini Assistant Professor & Head Department of Clinical Nutrition and Dietetics Sri Ramachandra Institute for Higher Education and Research Chennai - 600116	Subject Expert (Online Mode)
4.	Dr. S. Sylvia Subapriya Professor and Head Department of Food Science and Nutrition Avinashilingam University for Women Coimbatore - 641043	Subject Expert
5.	Dr. P. Sathyamurthy Chairman – Moon Foods & Dr. Yes Aar Team Sangagiri Main Road, Kollapatti Tiruchengode - 637214	Industrial Expert (Online Mode)
6.	Dr. Meera Raman	Member (Online Mode)
7.	Ms. Anjali M	Member
8.	Dr. Jancy Rani D	Member
9.	Ms. G. Priyaalini	Member
10.	Dr. Priya A	Member
11.	Dr. N. Kuppuchamy	Co-opted Member
12.	Dr. A. Hazel Verbina	Co-opted Member
13.	Dr. R. Ravikumar	Co-opted Member
14.	Dr. S. Gowri	Co-opted Member
15.	Ms. L. Abinaya	Student Representative- UG (Online Mode)
16.	Ms. Dencily Verginia	Student Representative- PG (Online Mode)



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The HoD and Chairman of the department of Food Science & Nutrition welcomed and introduced all the members and appreciated them for their continuous support and contribution for the development of academic standard and enrichment of the syllabus.

Further, Chairman informed the inability of the following members to attend the meeting and requested to grant leave of absence.

1. Mr. K. Gowtham Palaniswamy (Meritorious Alumni)

After brief discussion the items of the agenda were taken one by one for discussion and the following resolutions were passed.

**Item 18.1:** *To review and approve the minutes of the previous meeting held on 05-04-2024.*

The chairman of the Board presented the minutes of the previous meeting held on 05-04-2024 and requested the members to approve. After brief discussion the following resolution was passed.

### Resolution:

**Resolved to approve the minutes of the previous meeting held on 05-04-2024**

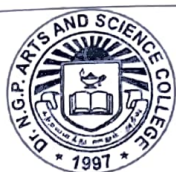
**Item 18.2:** *To consider and approve the syllabi for II semester for UG and PG students admitted during the academic year 2024-2025.*

The chairman presented the detailed scheme and Regulation for the students admitted from the academic year 2024-25 for the II semester. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

### Changes Made:

#### UG:

Course Code	Course	Reason
24FNU2CA	Core: Principles of Nutrition	Dr. T. Poongodi Vijayakumar & Dr. Sylvia Subapriya suggested to incorporate the following topics, Factors affecting absorption of iron and iodine, zinc, copper, fluorine selenium



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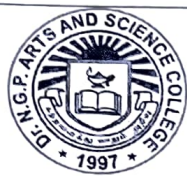
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		To learn and ensure that nutrients are absorbed completely in the human body.
24FNU2CP	<b>Core Practical:</b> Qualitative Nutrient Analysis	Dr. P. Sathyamurthy and Dr. T. Poongodi Vijayakumar recommended to include following experiments based on industrial needs. Gelatinization & Microscopic Examination of Starches. <b>Experiments Under DBT</b> <ul style="list-style-type: none"> <li>• Effect of temperature, PH, water on plant pigments</li> <li>• Estimation of rancidity and saponification value in oil</li> </ul>

PG:

Course Code	Course	Reason
24FNP2CA	<b>Core: Food Processing</b>	Dr. S. Sylvia Subapriya and Dr. P. Sathyamurthy recommended to include following contents because it is a key part of food safety and preservation. Packaging protects food from physical, chemical, and biological hazards. <ul style="list-style-type: none"> <li>• Unit 4 Condensed Milk/Skim Milk powder. Milk analogue Fermented Fish</li> <li>• Unit 5 Drying- solar drying Thermal processing - Irradiation Non-thermal processing -Hurdle Technology and Cold Plasma Technology. Edible and Smart Packaging, Single Use Plastic Packaging</li> </ul>
24FNP2CB	<b>Core: Applied Physiology</b>	Dr. S. Sylvia Subapriya and Dr. T. Poongodi Vijayakumar suggested to include the following contents to provides information about the diverse range of reactions in the human body. Unit 2 – Role of enzyme in digestion, role of prebiotic and probiotic maintenance of health of digestive system Unit 4 – Enzyme in medical diagnosis, (liver, heart, muscle, skeletal disorders & cancer) Dr. A.J. Hemamalini and Dr. S. Sylvia Subapriya suggested to learn about these interactions can impact how well the body absorbs and metabolizes nutrients and drugs. Unit 5 – Nutrient – nutrient & Nutrient –drug interaction
24FNP2CC	<b>Core: Therapeutic Nutrition - I</b>	Dr. A.J. Hemamalini & Dr. T. Poongodi Vijayakumar suggested to include the following topics:





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		Current personalized nutrition calculations and practical approaches to managing non communicable diseases ensures that students can design specific, effective interventions for each patient based on evidence-based case studies.
24FNP2CD	Core: Macronutrients	Dr. T. Poongodi Vijayakumar & Dr. Sylvia Subapriya suggested to incorporate the following topics to know the risk of macronutrient deficiencies and understand the risk that can arise from an imbalance of macronutrients in diet. <ul style="list-style-type: none"> <li>• Unit 1 – Total Energy Expenditure</li> <li>• Unit 2 - Glycemic index- factors affecting GI of foods.</li> <li>• Unit 1- 4 - Deficiency – energy, CHO, Protein &amp; Fat</li> <li>• Unit 4 - Fatty acid- types, Functions, requirements</li> </ul>
24FNP2CP	Core Practical: Food Analysis	Dr. T. Poongodi Vijayakumar recommended to include the following experiments which are based on industrial requirements, <ul style="list-style-type: none"> <li>• Estimation of amino acid by Sorensen &amp; Formaldehyde titration method</li> <li>• Qualitative analysis of phytochemical constituents</li> <li>• Estimation of Total Antioxidant Capacity</li> <li>• Estimation of lipid in egg yolk</li> <li>• Estimation of microbial growth by pure culture technique and microbial count by standard plate count method</li> </ul>
24FNP2CE	EDC: Computer Application in Nutrition	Dr. A.J. Hemamalini & Dr. T. Poongodi Vijayakumar suggested to rearrange the units and include the following contents to foster an understanding on nutrition informatics, allowing students to adapt to the evolving digital landscape in nutrition and dietetics <ul style="list-style-type: none"> <li>• Unit – 2: Dietary assessment and analysis tools</li> <li>• Unit – 4: Diet planning and nutrient tracking applications</li> <li>• Unit – 5: Ethics, privacy, and future trends in nutrition technology</li> </ul>
24FNP2DA	DSE: Food Biotechnology	Dr. T. Poongodi Vijayakumar & Dr. Sylvia Subapriya suggested to incorporate the following topics, <ul style="list-style-type: none"> <li>• Unit – 1: Agricultural Biotechnology to explore the role of biotechnology in enhancing the nutritional value, shelf life, and safety of agricultural products.</li> </ul>





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		<ul style="list-style-type: none"> <li>Unit – 3: Bio fortification of foods and its nutritional impact to provide students with a comprehensive understanding of biofortification as a strategy to improve the nutritional quality of food crops and address micronutrient deficiencies</li> </ul>
24FNP2DB	DSE: Food Waste & By-Product Utilization	Dr. Sathya Moorthi & Dr. T. Poongodi Vijayakumar recommended to include the following topics, <ul style="list-style-type: none"> <li>Valorisation of egg waste in Unit – 5, as the students will be able to explore their potential applications in various industries</li> </ul>
24FNP2DC	DSE: Food Toxicology	The board members resolved to adopt and retain the existing syllabus after discussion

After discussion the following resolution was passed.

### Resolution:

**Resolved to approve the above modification and adopt the revised syllabus for UG students admitted for the academic year 2024-25 and to retain the existing syllabus for PG students admitted for the academic year 2024-25.**

**Item 18.3:** *To consider and approve the syllabi for IV semester for the students admitted in UG and PG during the academic year 2023-2024.*

The chairman presented the detailed scheme and Regulation for the students admitted in UG and PG from the academic year 2023-2024 and syllabi for the IV semester. The members deliberated in detail about the modification required.

After discussion it is unanimously decided to adopt the following changes.

### Changes Made:

#### UG

Course Code	Course	Reason
233FN1A4CA	Core: Dietetics	Dr. T. Poongodi Vijayakumar & Dr. Sylvia Subapriya suggested to incorporate the following topics : Diabetes , Cardiovascular condition and Cancer Builds a basic foundation in dietetics. Each unit targets specific conditions, enhancement of dietary application skills.



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233FN1A4CP	<b>Core Practical:</b> Dietetics	Renal transplantation - workup diet and post-operative diet Food Intolerance - preparation of diet for lactose intolerance, celiac disease <b>Experiments Under DBT</b> <ul style="list-style-type: none"> <li>Planning and preparation of low and medium cost diet for PEM</li> <li>Planning and preparation of low and medium cost diet for Anemia</li> </ul>
233FN1A4CB	<b>Core:</b> Perspective Psychology	Dr. A.J. Hemamalini suggested to include the following topics, Unit 5 Cognitive Behavioral Therapy (CBT) in Nutrition Application of Health Psychology in Nutritional Counseling
233FN1A4SA	<b>SEC:</b> Functional Foods	Dr. Sylvia Subapriya & Dr. A.J. Hemamalini suggested to include the following topics, <ul style="list-style-type: none"> <li>Unit – 3: Functional components and its therapeutic benefits of foods from plant &amp; animal origin, to provide students an understanding of bioactive compounds in foods and their potential health benefits</li> </ul>

### PG:

Course Code	Course	Reason
233FN2A4CA	<b>Core:</b> Public Health Nutrition	Dr. T. Poongodi Vijayakumar & Dr. A.J. Hemamalini suggested to include the following programmes:  Nutritional Surveillance system Global Alliance for Improved Nutrition (GAIN) Scaling Up Nutrition (SUN) International Food Policy Research Institute (IFPRI) These organizations are at the forefront of addressing malnutrition, food security, and policy development.
233FN2A4CB	<b>Core:</b> Food Safety and Quality Management	Dr. Sathya Moorthi suggested to include the following topics, <ul style="list-style-type: none"> <li>Unit – 2: NACMCF (National Advisory Committee For Microbiological criteria for Foods) and ICMSF (International Commission For Microbiological Specification For Foods) so the students are familiar with the the roles,</li> </ul>

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		standards, and guidelines set by these influential organizations in ensuring food safety and public health
233FN2A4DP	<b>Elective Practical:</b> Food Quality Control	Dr. T. Poongodi Vijayakumar & Dr. Sylvia Subapriya suggested to include the following experiments based on the requirements of quality assurance in food industries, <ul style="list-style-type: none"> <li>• Determination of anthocyanins in fruits and vegetables</li> <li>• Estimation of peroxide value in fats and oils</li> </ul>
233FN2A4DQ	<b>Elective Practical:</b> Nutrition In Health	Menu planning for special children Menu planning for students during examination
233FN2A4DR	<b>Elective Practical:</b> Food Fermentation Techniques	Dr. A.J. Hemamalini suggested to include the following experiments as they are essential for enhancing food safety and nutritional value <ul style="list-style-type: none"> <li>• Preparation of probiotic drink using rice water</li> </ul>

After discussion the following resolution was passed.

#### Resolution:

**Resolved to approve the above modification and adopt the revised syllabus for UG students admitted for the academic year 2023-24 and to retain the existing syllabus for PG students admitted for the academic year 2023-24.**

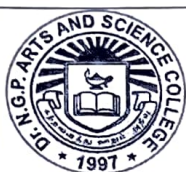
**Item 18.4: To consider and approve the syllabi for VI semester for the students admitted in UG during the academic year 2022-2023.**

The chairman presented the detailed scheme and Regulation for the students admitted in UG from the academic year 2022-2023 and syllabus for the VI semester. The members deliberated in detail about the modification required.

#### Changes Made:

Course Code	Course	Reason
223FN1A6CA	<b>Core:</b> Community Nutrition	Dr. T. Poongodi Vijayakumar, Dr. Sylvia Subapriya & Dr. A.J. Hemamalini suggested to include the following topics <ul style="list-style-type: none"> <li>• Unit-1 Food security &amp; Management of food insecurity-Food Fortification and enrichment.</li> </ul>





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		<p>Food Production- Agriculture Planning in Relation to Nutrition, Green, Blue, Pink, Red, White, Yellow, Gold, Silver. Protein and Ever green revolution.</p> <ul style="list-style-type: none"> <li>Unit – 5 Governmental Policies and Programs-Wheat Based Nutrition Program (WNP), Applied Nutrition Programs (ANP), Poshan Abhiyan and Eat Right India movement. Sustainable Development Goals and Millennium Development Goals related to Nutrition to understand the current policies taken by the government to increase the food production and reduce the nutrient deficiencies.</li> </ul>
223FN1A6CB	<b>Core:</b> Food Product Development and Marketing	<p>Dr. Sathya Moorthi &amp; Dr. T. Poongodi Vijayakumar suggested to include the following topics</p> <ul style="list-style-type: none"> <li>Sustainability, ethics, IPR, food forensics and innovation in food product development in Unit – 5 to provide students with a comprehensive framework for developing and managing food products responsibly, creatively, and legally</li> </ul>
223FN1A6CQ	<b>Core Practical:</b> Food Product Development	<p>Dr. Sathya Moorthi suggested to include the following experiments based on industrial needs,</p> <ul style="list-style-type: none"> <li>Sensory evaluation techniques</li> <li>Product stability testing</li> </ul>
223FN1A6DD	<b>DSE:</b> Entrepreneurship in Food Industry	<p>Dr. A.J. Hemamalini suggested to include the following topics,</p> <ul style="list-style-type: none"> <li>Unit – 5: Role of schemes in entrepreneurial development, so the students can understand the government and institutional schemes that support entrepreneurship, particularly in the food and agriculture sectors</li> </ul>

## New Courses Introduced:

Course Code	Course	Reason
223FN1A6CP	<b>Core Practical:</b> Community Nutrition	The course was introduced to assess about the nutritional health of a community and how to plan interventions to improve it.

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223FN1A6SA	SEC: Indigenous Foods	The course was introduced to emphasize the cultural, nutritional, and environmental significance of traditional foods from various communities
223FN1A6DA	DSE: Basics of Food Packaging	The course was introduced to gain knowledge about the fundamental principles, materials, functions of food packaging and its role in ensuring food safety, quality, and sustainability
223FN1A6DB	DSE: Health and Fitness	The course was introduced to equip students with knowledge and skills to improve physical well-being, mental health, and overall quality of life through sustainable fitness practices and healthy lifestyle choices
223FN1A6DC	DSE: Convenience Foods	The course was introduced to provide students with a thorough understanding of the development, processing, nutritional impact, and market trends of convenience foods
223FN1A6DE	DSE: Nutrition Care Process and Diet Counseling	The course was introduced to familiarize the students with the skills, knowledge, and methods necessary for providing effective, evidence-based nutrition interventions and personalized dietary guidance
223FN1A6DF	DSE: Unit Operations in Food Industry	The course was introduced to provide students with a foundational understanding of the core physical, chemical, and biological processes used in the food industry

After discussion it is unanimously decided to adopt the following changes.

**Resolution:**

**Resolved to approve the above modification and adopt the revised syllabus for students admitted for the academic year 2022-23.**

**Item 18.5:** *To consider and approve the syllabi for UG Diploma, Certificate, Skill oriented courses to be offered during the academic year 2024-25.*

The chairman presented the detailed scheme for Diploma, Certificate, Skill oriented courses to be offered the students admitted from the academic year 2024-25 onwards. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

**Resolution:**



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**Resolved to retain the existing syllabus of 2022-23 batch without any modification for the students admitted from the academic year 2024-25.**

**Item 18.6:** *To consider and approve the panel of examiners for conducting of End Semester Practical's examination, Central Valuation and Question Paper Setting.*

The chairman presented the detailed the panel of examiners for conducting of End Semester Practical's examination, Central Valuation and Question Paper Setting. The members deliberated in detail about the modification required. After discussion it is unanimously decided to adopt the following changes.

### **Resolution:**

**Resolved to retain the existing panel of 2022-23 batch without any modification for the students admitted from the academic year 2024-25.**

**Item 18.7:** *To consider and approve the syllabi of Self study paper offered in III semester for the students admitted during 2024-25.*

The chairman presented the detailed scheme and Self-study syllabi for the students admitted in UG and PG from the academic year 2024-2025. The members deliberated in detail about the modification required.

After discussion the following resolution was passed.

### **Resolution:**

**Resolved to retain the existing syllabus of 2023-24 batch without any modification for the students admitted from the academic year 2024-25.**

Finally, the Chairman thanked all the members for their cooperation and contribution in enriching the syllabus with active participation in the meeting and sought the same spirit in the future also. The meeting was closed with formal vote of thanks proposed by Dr. P. Chidambara Rajan, Head and Chairman- Biotechnology.

**Date: 08.11.2024**

**(Dr. D. SRIDEVI)**





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## ATTENDANCE OF THE EIGHTEENTH BOARD OF STUDIES MEETING

Faculty: Biosciences

Board: Food Science and Nutrition


Date : 08/11/2024

Time : 10.00 a.m.

Venue : Department of Food Science and Nutrition (Room. No: 1512)

The following members were present for the Board of Studies meeting

S. No	Name	Designation	Signature
1.	Dr. D. Sridevi Professor and Head	Chairman	PRESENT
2.	Dr. T. Poongodi Vijayakumar Professor and Head Department of Food Science & Nutrition Periyar University Salem – 636011	University Nominee	ONLINE MODE
3.	Dr. A.J. Hemamalini Assistant Professor & Head Department of Clinical Nutrition and Dietetics Sri Ramachandra Institute for Higher Education and Research Chennai - 600116	Subject Expert	ONLINE MODE
4.	Dr. S. Sylvia Subapriya Professor and Head Department of Food Science and Nutrition Avinashilingam University for Women Coimbatore - 641043	Subject Expert	PRESENT
5.	Dr. P. Sathyamurthy Chairman – Moon Foods & Dr. Yes Aar Team Sangagiri Main Road, Kollapatti Tiruchengode - 637214	Industrial expert	ONLINE MODE
6.	Mr. K. Gowtham Palaniswamy Chief Innovation Officer and Manager Sathyabama TBI Sathyabama Institute of Science and Technology Chennai - 600119	Alumni	ABSENT
7.	Ms. L. Abinaya III B.Sc. Biotechnology	Student Representatives	ONLINE MODE
	Ms. Dencily Verginia II M.Sc. Biotechnology		ONLINE MODE

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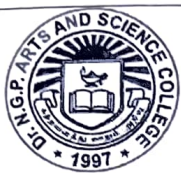
8.	Part I (Language I) Dr. N. Kuppuchamy Associate Professor and Head Department of Tamil	Co-opted member	PRESENT
9.	Part II (Language II) Dr. A. Hazel Verbina Professor and Head Department of English	Co-opted member	PRESENT
10.	Allied - IDC- Applied Chemistry Dr. R. Ravikumar Associate Professor and Head (i/c) Department of Chemistry	Co-opted member	PRESENT
11.	Allied - IDC- Biochemistry - II Dr. S. Gowri Professor and Head Department of Chemistry	Co-opted member	PRESENT
12.	Dr. Meera Raman Professor	Internal Member	ONLINE MODE
13.	Ms. Anjali M Assistant Professor	Internal Member	PRESENT
14.	Dr. D. Jancy Rani Assistant Professor	Internal Member	PRESENT
15.	Ms. M. Rakeshwari Assistant Professor	Internal Member	PRESENT
16.	Ms. G. Priyaalini Assistant Professor	Internal Member	PRESENT
17.	Dr. Priya A Assistant Professor	Internal Member	PRESENT

Date: 08.11.2024



(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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## Syllabus Revision

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: II

Course Code/ Name: 24FNU2CA - Principles of Nutrition

Unit	Existing	Changes
I	<b>Energy</b> History of nutrition, Nutrition research in India Definition of Energy and its unit (Calorie and Joule). <del>Energy Metabolism – Direct and Indirect calorimetry.</del> Determination of energy value of food- Bomb calorimeter, Thermic effect of food- definition & factors affecting. Physiological fuel value of food. Basal Metabolic rate- Definition, measurement- direct and indirect method and determinants of BMR. Recommended Dietary Allowances for energy.	-
II	<b>Carbohydrate, Fat and Lipid</b> Carbohydrates - Classification, functions, digestion, absorption, <del>metabolism</del> , utilization, deficiency, sources and requirements. Dietary fiber – Definition, Types and sources, Role of fiber in human health. Fats and Lipids - Classification, functions, digestion, absorption, <del>metabolism</del> , sources and requirements, types and sources of fatty acids.	-
III	<b>Protein and Amino acids</b> Proteins - Classification, functions, digestion, absorption, <del>metabolism</del> , utilization, deficiency, sources and requirements. Evaluation of protein quality-PER, BV and NPU, Digestibility Coefficient, Reference protein. Amino acids - Essential amino acids and non-Essential amino acids	-
IV	<b>Vitamins</b> Vitamins – Classification and functions of vitamins in the body. Fat soluble vitamins - Functions, absorption, <del>metabolism</del> , sources, requirements, deficiency and toxicity of Vitamin A, D, E and K. Water Soluble Vitamins - Functions, sources, absorption, <del>metabolism</del> , requirements, deficiency and toxicity of B Complex Vitamins (Thiamine, Riboflavin, Niacin, Pyridoxine, Folic Acid, Pantothenic acid) and Vitamin C. Amygdalin (Vitamin B17)- Sources and significance.	-
V	<b>Minerals and Water</b> Minerals – Classification and Functions Micro minerals (Iron and Iodine – absorption and <del>metabolism</del> , Zinc, Copper, Fluorine) -Functions, sources, requirements, deficiency and toxicity. Macro minerals (Calcium, Phosphorus and Magnesium)-Functions, absorption, metabolism, sources, requirements, deficiency and toxicity. Water – Distribution, functions, requirements and sources of water, water depletion and intoxication, maintenance of water and electrolyte balance. Electrolytes (Sodium, Potassium and Chloride)- Functions and sources.	-

PERCENTAGE OF SYLLABUS REVISED: 20%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
<input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics





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18<sup>th</sup>

## Syllabus Revision – Practical Course

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: II

Course Code/ Name: 24FNU2CP - Qualitative Nutrient Analysis

Exp. No.	Existing	Changes
1.	Determination of moisture content and mode of operation technique of Hot air oven and microwave oven.	
2.	Determination of <del>gluten content in wheat</del>	Gelatinization & Microscopic Examination of Starches.
3.	Determination of <del>physical properties, true density, bulk density and Porosity</del>	Estimation of pectin content in food
4.	Estimation of pH in fruit juices.	
5.	Estimation of titrable acidity.	
6.	Determination of ash content in food.	
7.	Estimation of iron and phosphorous content in food.	
8.	Estimation of ascorbic acid in citrus fruits.	
9.	Qualitative test for Vitamin A.	
10.	Determination of smoking point of fat.	
11.	Determination of oil absorption capacity of baked foods.	
12.	Demonstration on estimation of fibre.	
<b>Experiments Under DBT</b>		
1.	Effect of temperature, PH, water on plant pigments	-
2.	Estimation of rancidity and saponification value in oil	-

**Note: Out of 12 – 10 mandatory**

PERCENTAGE OF SYLLABUS REVISED: 20%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
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## Syllabus Revision – Theory Course M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: II

Course Code/ Name: 243FN2A2CA - Food Processing

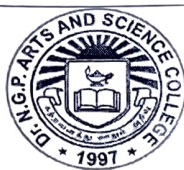
Exp. No.	Existing	Changes
1.	<b>Food Processing:</b> Importance of food processing, Types of processed foods, and its effect on nutritional properties of foods. Food processing sector –vision and mission, opportunities, strategies in the Indian food processing sector. Strengths, Weakness, Opportunities and Challenges of food processing operations. Role of Governmental organizations in up gradation of food industries.	Order reframed
2.	<b>Rice –</b> Parboiling, Milling, by products of milling and processed products-Rice flakes, puffed rice, popped rice, rice cakes, rice paper, instant rice and rice flour. <b>Wheat -</b> Milling, by products of milling and processed products -whole wheat flour, refined flour, semolina, popped and puffed wheat. <b>Millets –</b> Milling of Millet and by product of milling. Processed products - vermicelli and pasta. Methods to eliminate anti-nutritional factors, fortified and enriched cereals and millets.	-
3.	<b>Pulses and Legumes -</b> Modern methods of milling and by products, process to eliminate the anti-nutritional factors. Processing of pulse-based products. <b>Nuts and Oil Seeds –</b> Milling and it's by products, extraction of oil - Lemon and moringa seed oil, preparation of hydrogenated fats, industrial fats, and low-fat spreads and virgin oil, Fortification of fats and oils. Processing of fat substitute and fat replacer. Mayonnaise Concentration and isolation - peanut, soybean and coconut and other fortified and enriched foods.	-
4.	<b>Milk and Milk products-</b> Processing, Flavored milk, Condensed and Toned milk, by product of Cream- Butter, Buttermilk and ghee. Fermented (Cheese, yoghurt, and kefir) and non- fermented (paneer, gelato and ice cream) milk products, Skim Milk powder. Milk analogue, Vegan milk - almond and soy milk. <b>Meat &amp; poultry- Slaughtering, Processing and Preservation -</b> chilled, frozen, cured and smoked meat. Processing of meat-based products-sausage & Nuggets Fish - processing and by products of fish- fermented fish, fish liver oil, fish meal, fish protein concentrate, fish crackers. Egg- preparation of egg white and egg yolk powder.	Condensed Milk Skim Milk powder. Milk analogue fermented fish
5.	<b>Fruits and vegetable processing-</b> Drying and dehydration- Drum drying, tunnel, spray drying, freeze drying, solar drying and fluidized bed drying. Thermal processing (canning, blanching, irradiation and sterilization) and non-thermal processing (High Pressure Processing, Ozone and Pulse Electric Field Technology, Hurdle Technology and Cold Plasma Technology.), Minimal Processing. <b>Mushroom -</b> Production & Processing of beverages -Cocoa. processing of spices -Onion, garlic, ginger and masala powder. Extraction of volatile oil in spices-oleoresin. Recent trends in packaging technology: Modified Atmospheric Packaging and Controlled Atmospheric Packaging, Edible and Smart Packaging, Single Use Plastic Packaging Intelligent & Nano Active Packaging.	Drying- solar drying Thermal processing - irradiation Non-thermal processing -Hurdle Technology and Cold Plasma Technology. Edible and Smart Packaging. Single Use Plastic Packaging

PERCENTAGE OF SYLLABUS REVISED: 20%

COURSE FOCUSES ON:

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## Syllabus Revision (New Course)

### M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: II

Course Code/ Name: 24FNP2CB – Applied Physiology

Unit	Content
I	<b>Blood</b> - Composition, cellular elements of blood — RBC, WBC, platelets, serum and plasma proteins-functions. Hemoglobin- structure and function. Blood coagulation and disorders of blood coagulation. <b>Immunology</b> - Types of immunity - Innate immunity and Acquired immunity, Immune responses -Cell mediated and Humoral immunity, Antigens and its functions, antigen - antibody reactions, auto-immunity and hypersensitivity.
II	<b>Circulatory System</b> - Origin and spread of cardiac impulse, cardiac cycle, heart sounds, electro cardiogram, heart rate, regulation of cardiac output and blood pressure. Circadian rhythm - Circadian rhythm in human health. <b>Digestive System</b> - Hormones and enzymes of digestive system-different sources of secretions and action. Metabolism (Digestion, absorption and transport of food). Role of enzymes in digestion and role of prebiotics and probiotics in the maintenance of health of digestive system. Regulation of food intake –hunger, appetite and satiety.
III	<b>Respiratory System</b> -Transport and exchange of oxygen and carbon di oxide, Role of haemoglobin and buffer systems. <b>Excretory System</b> - Structure and function of Nephron, Urine formation, Role of kidney in maintaining pH of blood, Electrolyte and acid base balance.
IV	<b>Endocrine system</b> - Structure, function, role of hormones, regulation of hormone secretion and disorders – pituitary, thyroid, adrenal, pancreas and parathyroid glands. <b>Enzyme</b> -Introduction, classifications and biological functions of enzymes, enzyme activation, properties of enzymes. Enzymes in medical diagnosis (Liver disorders, heart disorders, muscle disorders, skeletal disorders and cancer).
V	<b>Function tests</b> - Gastric function test, liver function test, renal function test and endocrine function test. Nutrient interaction-Nutrient-Nutrient interaction, Nutrient-Drug Interaction- Introduction, absorption, route of drug administration, excretion, basic concept, effect of nutrition on drugs, Effect of drugs on nutritional status, clinical significance and risk factors for drug nutrient interaction.

PERCENTAGE OF SYLLABUS REVISED: 100%

#### COURSE FOCUSES ON:

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## Syllabus Revision– New Course (New Course)

M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

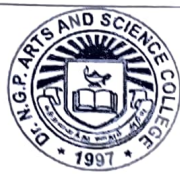
Semester: II

Course Code/ Name: 24FNP2CC – Therapeutic Nutrition – I

Unit	New Course
I	<b>Introduction to Therapeutic Nutrition</b> Diet therapy and types of therapeutic diet. Indications of therapeutic diet requirement. Hospital diets and progressive modifications. Additional modifications in texture and consistency. Modifications of a normal diet during illness and convalescence. Determining Energy, Carbohydrates, Protein, and Fat Requirements for hospitalized patients. Fluid requirements for hospitalized patients (Body Weight-Based Formula, Age-Based Holliday-Segar Method, Energy-Based Method). Food Exchange List in menu planning and calculation of macronutrients.
II	<b>Diet during Energy Imbalance</b> Energy balance - Energy Intake Versus Energy Expenditure. Definition, types, causes of obesity. BMI Classification for Asians (as per WHO Asia-Pacific guidelines). Waist Circumference Criteria (Additional Metric for Asians). Metabolic Syndrome and Diabetes. Factors responsible for obesity. Measurement of obesity. Diet during obesity - determination of energy needs, calorie adjustment required for weight loss. Dietary management. Maintenance diet. Definition, classification of underweight. Diet for an underweight person - dietary modification.
III	<b>Diabetes Mellitus</b> Definition, causes of diabetes mellitus. Factors predisposing diabetes. Classification of diabetes - The Juvenile-Onset type, The Maturity-Onset type, Clinical classes. Clinical presentation, blood glucose levels, renal threshold for glucose. Symptoms of diabetes. Tests for diabetes - OGTT, HbA1C. Non-indications for diagnosis of diabetes with HbA1C. Acute complications of diabetes - Hypoglycaemia, Diabetic Acidosis and Coma. Chronic complications of diabetes - Diabetic Eye Disease, Kidney Diseases, Diabetic Neuropathy, Cardio-Vascular diseases, The Diabetic Foot, Gastroparesis.
IV	<b>Management of Diabetes Mellitus</b> Patient Education for management of diabetes. Types of insulin preparations - Short-acting, Intermediate acting and Long-acting. Oral Hypoglycaemic Drugs- mechanism of action and side-effects. Objectives of diabetes management. Methods of treatment - Diet Alone, Diet and oral hypoglycemic drugs, and Diet and insulin. Glycemic Index, Glycemic Load and Carbohydrate counting in diabetes management.
V	<b>Diet for Cardiovascular Diseases</b> Types of Cardiac Disorders, multiple risk factors in cardiovascular diseases. Etiology and classification of High Blood Pressure. Measurement of blood pressure - Systolic pressure and Diastolic pressure. Salt and blood pressure. Control of blood pressure. Definition and development of Atherosclerosis. Blood profile related to Coronary-Heart Disease-Lipoproteinaemias (primary, secondary, insulin resistance). Drugs used in the treatment of cardiovascular diseases. Dietary management of Atherosclerosis and hyperlipidemia. Low and Modified Fat diet for Atherosclerotic conditions and nutrition education. Dietary management of acute heart disease. Dangers of a sodium-restricted diet and symptoms of sodium depletion.

PERCENTAGE OF SYLLABUS REVISED: 100 %  
COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input checked="" type="checkbox"/> Social Awareness / Environment
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## Syllabus Revision

### M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: II

Course Code/ Name: 24FNP2CD – Macronutrients

Unit	Existing	Changes
I	<b>Energy</b> Energy - Definition, Units, Components of energy requirement, Determination of Energy Value of Food, Total energy Requirement, Basal Metabolic Rate and its measurements, Factors Affecting Basal Metabolic Rate, Thermic Effect of food, Factors Affecting, Energy requirement during work, Resting Energy Expenditure, Specific dynamic actions, Recommended Dietary Allowances.	TEE, Deficiency.
II	<b>Carbohydrates</b> Carbohydrates- Classification, Functions, Digestion, Absorption, Metabolism, Maintenance of Blood Glucose Levels, Hormonal control of blood sugar levels. Dietary Fiber- Classification of dietary fiber, physiological and metabolic effects of fiber, role of fiber in the prevention of disease. Recommended dietary allowances and sources.	Glycemic index- factors affecting GI of foods.
III	<b>Proteins</b> Proteins & Amino acids – Functions, classification, sources, Digestion, absorption, metabolism, utilization and factors affecting, storage, assessment of quality of proteins, complimentary value of proteins and requirements. Factorial estimation for arriving at RDA of proteins for Indians.	Supplementary value, Deficiency.
IV	<b>Lipids</b> Lipids- Classification, Fats in the Body and Food, Functions, Digestion and Absorption, Transport and Metabolism, Essential Fatty Acids, Brown Fat Thermogenesis, Therapeutic Inhibition of Fat Absorption and Sources.	Fatty acid- types, Functions, requirements, Food sources and deficiency
V	<b>Water and Electrolytes</b> Water- Definition, Distribution, Functions, 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: 10%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input checked="" type="checkbox"/> Social Awareness / Environment
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### Syllabus Revision – Practical Course

#### M.Sc. Food and Nutrition

Faculty: Bio-Sciences  
Nutrition

Board: Food Science and

Semester: II

Course Code/ Name: 24FNP2CP - Food Analysis

Exp. No.	Existing	Changes
13.	Determination of Moisture content	Determination of Moisture content. Ash, crude fibre
14.	Determination of Carbohydrate by anthrone method	-
15.	Estimation of protein content of foods by Lowry's method	-
16. *	<del>Estimation of fat content of foods by Soxhlet method</del>	Demonstration of fat content by Soxhlet method
17.	<del>Estimation of crude fibre</del>	Estimation of amino acid by Sorensen's Formaldehyde titration method
18.	<del>Estimation of Sodium and Potassium in processed foods</del>	Qualitative analysis of phytochemical constituents
19.	Estimation of Iron	-
20.	Estimation of Phosphorus	-
21.	Estimation of Calcium in milk and curd	-
22.	Estimation of Ascorbic Acid in Citrus Fruits	-
23.	Estimation of Iodine number, Acid number, Saponification number	-
24.	<del>Determination of Saponification Value of oil</del>	Demonstration of protein by Micro Kjeldhal method
25.	<del>Determination of Total Antioxidant Capacity</del>	Estimation of Total Antioxidant Capacity
26.	<del>Estimation of Thiamine and Riboflavin</del>	Estimation of lipid in egg yolk
27.	<del>Determination of <math>\beta</math>-Carotene and Lycopene</del>	Determination of microbial growth by pure culture technique and microbial count by standard plate count method

**Note: Out of 15 – 13 mandatory**

**PERCENTAGE OF SYLLABUS REVISED: 50%**

**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input checked="" type="checkbox"/> Social Awareness / Environment
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## Syllabus Revision (New course) M.Sc. Food and Nutrition

Faculty: Bio-Sciences  
Semester: II

Board: Food Science and Nutrition

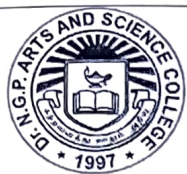
Course Code/ Name: 24FNP2CE – Computer Application in Nutrition

Unit	CONTENT
I	<b>Basics of computer applications in nutrition</b> Introduction to computers: hardware, software, types of computers, and operating systems. Computer applications in nutrition: overview of applications in dietary assessment, meal planning, nutrient tracking, and research. Nutrition software tools: introduction to popular nutrition software and tools used in dietetics and nutrition research.
II	<b>Dietary assessment and analysis tools</b> Dietary assessment methods: 24-hour recall, food frequency questionnaire, and food diary. Software for dietary analysis: introduction to applications like NutriSurvey, FoodWorks, and MyFitnessPal. Data collection and entry: methods for inputting and managing dietary data.
III	<b>Data analysis and statistical tools in nutrition</b> Introduction to statistical software: overview of SPSS, R, and other statistical tools. Data analysis techniques: descriptive and inferential statistics in nutrition research.
IV	<b>Diet planning and nutrient tracking applications</b> Diet planning tools: introduction to software like DietCal, Cronometer, and MyPlate. Personalized nutrition: customizing diet plans based on individual needs using software. Mobile applications for nutrient tracking: pros and cons of mobile-based applications in dietary assessment.
V	<b>Ethics, privacy, and future trends in nutrition technology</b> Ethical use of nutrition technology: issues related to data privacy and informed consent. Future of digital health in nutrition: wearables, AI, and predictive analytics in personalized nutrition. Regulations and guidelines: standards and guidelines for using technology in dietetics.

PERCENTAGE OF SYLLABUS REVISED: 100%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development <input checked="" type="checkbox"/> Employability <input type="checkbox"/> Intellectual Property Rights (IPR) <input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Entrepreneurial Development <input type="checkbox"/> Gender Sensitization <input type="checkbox"/> Innovations <input type="checkbox"/> Constitutional Rights/Human Values/Ethics
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## Syllabus Revision M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food and Nutrition

Semester: II

Course Code/ Name: 24FNP2DA - Food Biotechnology

Unit	Existing	Changes
I	<b>Food biotechnology</b> Food Biotechnology-Introduction, goals, ethical aspects of food, 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.	agricultural biotechnology.
II	<b>Role of biotechnology in fermentation &amp; Probiotics</b> 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 products - quality assurance and regulatory issues, guidelines for the evaluation of probiotics in food.	Probiotics and synbiotics
III	<b>Genetically modified foods</b> Genetically modified foods- Introduction, regulation and role of government, labeling, advantages of GM foods and 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.	Hazards of Gm Foods. Genetically modified cereals - rice. Bio fortification foods, nutritional impact
IV	<b>Role of biotechnology in animal source foods</b> 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	<b>Enzymes and carbon footprint</b> 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.	Minimising carbon foot point

### PERCENTAGE OF SYLLABUS REVISED: 15%

<input checked="" type="checkbox"/> Skill Development  <input checked="" type="checkbox"/> Employability  <input type="checkbox"/> Intellectual Property Rights (IPR)  <input type="checkbox"/> Innovations	<input checked="" type="checkbox"/> Entrepreneurial Development  <input type="checkbox"/> Gender Sensitization  <input checked="" type="checkbox"/> Social Awareness / Environment  <input type="checkbox"/> Constitutional Rights/Human Values/Ethics
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## Syllabus Revision M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: II

Course Code/ Name: 24FNP2DB – Food Waste and By-Product Utilization

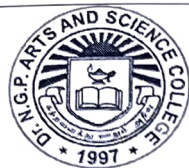
Unit	Existing	Changes
I	<b>Industrial Food waste</b> Food waste: classification and properties, disposal and recycling in the context of change in the agricultural industry and emerging nutritional trends, origin of food waste, generated mass of the most important types of product-specific food waste. Possible mitigation measures for food processing wastes. Impact of waste disposal on environment and human health.	-
II	<b>Cereals, Pulses and Sugar</b> 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 of important soybean products. Sugar Processing Industries - By-Products - agglomerated product production from bagasse.	Sugar Processing Industries - flavourings and aromas
III	<b>Fruit, Vegetables and Dietary Fiber</b> 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	<b>Dairy and Pre – Biotics</b> 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	<b>Meat, Poultry and Seafood</b> 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. Seafood processing - By-Products, bio medicals – fish protein hydrolysate, peptides, chitin and chitosan.	Poultry - valorization of egg waste

PERCENTAGE OF SYLLABUS REVISED: 10%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
<input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics





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BoS

18<sup>th</sup>

## Syllabus Revision – (New Course)

B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: IV

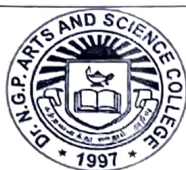
Course Code/ Name: 233FN1A4CA – Dietetics

Unit	New Course
I	<b>Introduction to Dietetics</b> Definition of Nutrition and Dietetics; Dietitian roles and responsibilities, ethics in dietary practice. Exchange list system - menu plan using exchange list. Hospital diets - Liquid diet, soft diet, bland diet, pureed diet, enteral nutrition and parenteral nutrition. Energy imbalance - High and low-calorie diets.
II	<b>Gastrointestinal and Febrile conditions</b> Gastrointestinal diseases - Introduction, causes, symptoms, dietary management of diarrhea, constipation, peptic ulcer. Febrile conditions - Introduction, causes, symptoms, dietary management of typhoid, tuberculosis, dengue.
III	<b>Diabetes and Renal diseases</b> Diabetes mellitus - classification, causes, symptoms, diagnosis (FBS, RBS, PPBS, HbA1C), dietary management of Type 1, Type 2 and Gestational diabetes mellitus. Basics of glycemic index, glycemic load and carbohydrate counting. Renal diseases - Introduction, causes, symptoms, dietary management of nephritis, nephrotic syndrome, renal calculi, and chronic kidney disease. Dialysis - types, nutritional considerations in hemodialysis and peritoneal dialysis.
IV	<b>Cardiovascular diseases</b> Cardiovascular diseases - Risk factors, role of fat and cholesterol. Introduction, causes, symptoms, dietary management of hypertension, atherosclerosis. Hyperlipidemia - definition, lipid parameters, causes, symptoms, dietary management.
V	<b>Cancer and Food Intolerance</b> Cancer - common sites of cancer, development of cancer, causes, symptoms, and dietary management of cancer. Role of diet in prevention of cancer. Feeding problems related to cancer therapy. Lactose intolerance and Gluten intolerance (Celiac disease) - Introduction, causes, symptoms, dietary management.

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input checked="" type="checkbox"/> Social Awareness / Environment
<input type="checkbox"/> Innovations	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics



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## Syllabus Revision – Practical Course (New Course)

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: IV

Course Code/ Name: 233FN1A4CP – Dietetics

Exp. No.	Contents
1	Planning and preparation of consistency modified diet - normal diet, soft diet, bland diet, pureed diet, liquid diet
2	Planning and preparation of diet for underweight
3	Planning and preparation of diet for overweight and obesity
4	Planning and preparation of diet for diarrhea, constipation, peptic ulcer
5	Febrile conditions - preparation of diet for typhoid, tuberculosis
6	Planning and preparation of diet for type 1 diabetes mellitus
7	Planning and preparation of diet for type 2 diabetes mellitus
8	Planning and preparation of diet for gestational diabetes mellitus
9	Planning and preparation of diet for nephritis
10	Planning and preparation of diet for chronic kidney disease
11	Planning and preparation of diet for hypertension
12	Planning and preparation of diet for atherosclerosis
13	Planning and preparation of diet for cancer
14	Planning and preparation of diet for lactose intolerance
15	Planning and preparation of diet for celiac disease
<b>Experiments under DBT</b>	
1	Planning and preparation of low and medium cost diet for PEM
2	Planning and preparation of low and medium cost diet for Anemia

**Note: Out of 15 – 12 mandatory**

**PERCENTAGE OF SYLLABUS REVISED: 100%**

<input checked="" type="checkbox"/> Skill Development  <input checked="" type="checkbox"/> Employability  <input type="checkbox"/> Intellectual Property Rights (IPR)  <input type="checkbox"/> Innovations	<input checked="" type="checkbox"/> Entrepreneurial Development  <input type="checkbox"/> Gender Sensitization  <input checked="" type="checkbox"/> Social Awareness / Environment  <input type="checkbox"/> Constitutional Rights/Human Values/Ethics
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### Syllabus Revision

#### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: IV

Course Code/ Name: 233FN1A4CB - Perspective Psychology

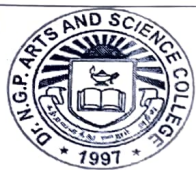
Unit	Existing	Changes
I	Introduction to Psychology Psychology as a Science, Methods in Psychology- Experimental Methods, Systematic Observation, clinical method. Disciplines of Psychology. Early Schools of Psychology- Structuralism, Gestalt Psychology, Functionalism, Behaviorism, Psychoanalysis. Modern Perspectives - Behavioral, Biological, Cognitive, Social, Developmental, Humanistic, Psychoanalytic.	
II	Attitudes Attitude -Meaning, Types of Attitudes, How Attitude Develop, Importance of Attitudes, Improving Attitude, Developing Positive Attitudes, attitude and behavior. Communication Channels - Communication Barriers, Communication Openers, Communication Styles.	
III	Self-Motivation Importance of Self-Motivation Activities and projects - Case study for Critical Thinking. Self-Management - Efficient Work Habits, Stress Management. Self Esteem Knowing Oneself and Accepting Oneself. Self Enhancement- Plan to Improve-Actively Working to Improve Oneself.	
IV	Personality Definition, Nature of Personality, Characteristics of Personality, elements of Personality, Types of Personality, Aspects of Personality, methods of measuring personality, Basic Theories of Personality-Albert Bandura, Sigmund Freud's Psychoanalytic Theory, Charles Horton Cooley Laws and George Herbert Mead Theory, Importance of Personality, Techniques to Improve Personality.	
V	Health Psychology Definition, Mind-Body Relationship, Biopsychosocial Model, Health Behavior Meaning, Barriers to Modify Poor Health Behaviors. <del>Health Promotion, Primary Prevention,</del> Intervening with Children, Adolescents and at-risk people. Transtheoretical Model of Behavior Change, Need, Functions of Health Psychologists.	Cognitive Behavioral Therapy (CBT) in Nutrition Application of Health Psychology in Nutritional Counseling

PERCENTAGE OF SYLLABUS REVISED: 5%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
<input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics





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### Syllabus Revision

#### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: IV

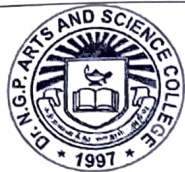
Course Code/ Name: 233FN1A4SA – Functional Foods

Unit	Existing	Changes
I	<b>Functional foods</b> - Definitions, sources, health benefits, bioactive components of functional foods. Development of functional foods, challenges and safety considerations. Future trends of functional foods. Dietary supplements and fortified foods- need, health benefits adverse effects.	-
II	<b>Types of functional foods</b> - Whole foods, enriched foods, enhanced foods, fortified foods, modified foods. Market of functional foods, Challenges for Functional food delivery, Factors affecting consumer interest.	-
III	<b>Functional foods of plant &amp; animal origin</b> - <del>Functional foods of plant origin: Fruits, vegetables, nuts, spices, cereals, beverages. Functional foods of animal origin: Dairy products, sea foods, egg. Probiotics, prebiotics and symbiotic as functional foods. Effects of probiotics on health.</del>	Functional components and its therapeutic benefits of foods from plant & animal origin: fruits, vegetables, nuts, spices, cereals, beverages, dairy products, sea foods, egg. Probiotics, prebiotics and symbiotics as functional foods.
IV	<b>Legal aspects</b> - Nutrition and health claims, food component – approved health claims, labeling considerations for functional ingredients, permissible and impermissible functional claims. FSSAI regulations for functional foods. Consumer acceptance and assessment of health claims.	-
V	<b>Nutraceuticals</b> - Background, status of nutraceutical market, definition, difference between nutraceuticals and functional foods, types of nutraceutical compounds and their health benefits, current scenario.	Nutraceuticals - Definition

PERCENTAGE OF SYLLABUS REVISED: 30%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development <input checked="" type="checkbox"/> Employability <input type="checkbox"/> Intellectual Property Rights (IPR) <input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Entrepreneurial Development <input type="checkbox"/> Gender Sensitization <input type="checkbox"/> Innovations <input type="checkbox"/> Constitutional Rights/Human Values/Ethics
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## Syllabus Revision – Core

**M.Sc. Food and Nutrition**

**Faculty: Bio-Sciences**

**Board: Food Science and Nutrition**

**Semester: IV**

**Course Code/ Name: 233FN2A4CA – Public Health Nutrition**

Exp. No.	Existing	Changes
1.	Relationship between health and nutrition, role of public nutritionists in the. <del>Health care delivery system</del> ; Population dynamics - Demographic transition, population structure, population policy, nutrition and quality of life interrelationship; <del>determinants and indicators of health status.</del>	Introduction to public health nutrition, definition and scope Hospitals community health, policy making and Research
2.	Definition, Methods of assessments – anthropometry, clinical, biochemical and biochemical and biophysical assessment. Dietary assessment – Food weightment survey, 24 hour recall, food dairy and food frequency, food surveillance and security status.	Nutritional Surveillance system
3.	Definition of epidemiology – causes, signs and symptoms, treatment and prevention of communicable diseases, respiratory infections, <del>intestinal infections, other infections</del> – dengue, filarisis. Types of immunity – active and passive, Immunization agents – vaccine, Immunization schedules, Expanded programme on Immunization, chemoprophylaxis, non-specific measures	Emerging Infectious Diseases
4.	Nutrition Intervention programmes: Nutritious Noon Meal Programme, ICDS, Anemia Mukht Bharat, Poshan Abhiyan and National Nutrition Mission. Nutrition Education: Objectives and Methods used integration of nutrition education principles of planning, executing and evaluating, and problems in conducting nutrition education programmes.	-
5.	National organization – History, objectives and functions of ICAR, ICMR, NIN, CFTRI, DFRL, NIPCCID, NFI and FSSAI – Food fortification Resource Center, Eat Right India Movement, E – Public Distribution System. International Organizations – History, objectives and functions of WHO, FAO, UNICEF, FFHC, WFP, CARE, CRS, AFPRO.	GAIN, SUN, and IFPRI

**PERCENTAGE OF SYLLABUS REVISED: 20%**  
**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
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## Syllabus Revision – Practical Course

M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: IV

Course Code/ Name: 233FN2A4DP – Food Quality Control

Exp. No.	Existing	Changes
1	Estimation of moisture and ash content in food samples	-
2	Qualitative tests for pectin in fruits	-
3	Estimation of titrable acidity in fruits	-
4	Determination of citric acid in fruits & vegetables	-
5	Determination of acetic acid in fruits & vegetables	-
6	Determination of chlorophyll in fruits and vegetables	Determination of Anthocyanins
7	Determination of methylene blue dye reduction test in milk	-
8	Estimation of lactose in milk	-
9	Estimation of total soluble solids in liquid foods	-
10	Estimation of specific gravity in foods	-
11	Tests for rancidity in oils – Kries test	Estimation of peroxide value
12	Food Adulteration - Test to detect adulteration	-

**Note: Out of 12 – 10 mandatory**  
**PERCENTAGE OF SYLLABUS REVISED: 10%**  
**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
<input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics





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## Syllabus Revision – Practical Course

M.Sc. Food and Nutrition

Faculty: Bio-Sciences

Board: Food Science and

Nutrition

Semester: I

Course Code/ Name: 233FN2A4DQ – Nutrition In Health

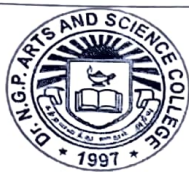
Exp. No.	Existing	Changes
1.	Menu planning for pregnant mother carrying twins.	
2.	Menu planning for preterm delivery.	
3.	Menu planning for lactating mother carrying twins.	
4.	Menu planning for adult & geriatrics.	
5.	Menu planning for mountaineering & sea voyage.	
6.	<del>Menu planning for adolescents</del>	Menu planning for special children.
7.	Menu planning for IT professionals working on different shifts.	
8.	Menu planning for soldiers.	
9.	Menu planning for swimmers.	
10.	Menu planning for weight lifters.	
11.	Menu planning for athletes.	
12.	<del>Menu planning for astronauts</del>	Menu planning for students during examination

**Note: Out of 12 – 10 mandatory.**

PERCENTAGE OF SYLLABUS REVISED: 12.5 %

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
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## Syllabus Revision – New Course

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences  
Nutrition

Board: Food Science and

Semester: VI

Course Code/ Name: 223FN2A4CA – Community Nutrition (New Course)

Unit	New Course
I	<p><b>Definitions</b> - Community, family, village and block, Meaning of Optimum Nutrition, Malnutrition- Under nutrition and over nutrition. Effects of malnutrition in different age groups, IMR, MMR, morbidity. Causes of malnutrition-Factors contributing to malnutrition in the community-habits, customs and practices, availability of food, Socio-economic factors.</p> <p><b>Food Security and Nutritional security</b>- concept and measurement. Factors affecting food security and nutritional security. Management of food insecurity-Food Fortification and enrichment.</p> <p><b>Food Production- Agriculture Planning in Relation to Nutrition</b>, Green, Blue, Pink, Red, White, Yellow, Gold, Silver. Protein and Ever green revolution</p>
II	<p><b>Protein Energy Malnutrition</b>- Marasmus and Kwashiorkor, Vitamin A deficiency, Vitamin D deficiency, B complex deficiency (thiamine, riboflavin, niacin, folic acid and pyridoxine), Other Problems- Iron Deficiency Anemia and Fluorosis -Prevalence, etiology, clinical features and prevention through food sources.</p>
III	<p><b>Methods of Nutritional Assessment</b>-Need for nutritional assessment, Direct Assessment Methods - Nutritional Anthropometry Status - Height, Body Weight, Mid- arm circumference, head, chest circumference and skin -fold thickness (biceps and triceps), BMI and WHR Uses and Limitations. Diet Survey-(Food frequency, 3day food weighment and 24 hrs recall method) and Biochemical tests. Indirect Assessment Methods- vital statistics</p>
IV	<p><b>Nutrition Education</b>-Importance, objective, Nutrition Education methods- Individual, Group and Mass Method, Principles of Planning (Cartwright's Theory), Executing and Evaluating, Nutrition Education Programs, Problems of Nutrition Education Programs.</p> <p>Use of computer in nutrition education programs</p>
V	<p><b>Governmental Policies and Programs</b> - Public Distribution System (PDS), Food For Work (FFW), Special Nutrition Program (SNP), Balawadi Nutrition Program (BNP), Wheat Based Nutrition Program (WNP), Applied Nutrition Programs (ANP), Integrated Child Development Services (ICDS), Poshan Abhiyan and Eat Right India movement. Sustainable Development Goals related to Nutrition (2, 3, 9 and 12 goals) and Millennium Development Goals (1, 4, 5 and 6 goals)</p> <p>National Organization- Role of ICMR, NIN, ICAR, CFTRI, DFRL and NNMB.</p> <p>International organization- FAO, WHO and UNICEF</p> <p>Health Care - PHC, ESI.</p>

PERCENTAGE OF SYLLABUS REVISED: 100 %

#### COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
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## Syllabus Revision – Practical Course (New Course)

B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and

Nutrition

Semester: VI

Course Code/ Name: 223FN1A6CP - Core Practical VI- Community Nutrition

Exp. No.	Existing
28.	Anthropometric measurements for assessing nutritional status of: i) Infants and Preschoolers: Crown-heel length, height, weight, circumference of head, chest and mid arm ii) Adult-Height, weight, BMI, Waist circumference, Hip circumference, Waist: Hip Ratio
29.	Comparison of anthropometric measurement with standards of pre- school group i) Weight for age ii) Height for age iii)Weight for height iv)BMI
30.	Plotting and interpretation of growth charts for i)Infants ii)Pre-school children
31.	Identification of clinical signs of common nutritional disorders-Anemia, B complex deficiencies, vitamin A deficiency, IDD
32.	Estimation of food and nutrient intake: i)24 hrs food recall ii)Three Day Food Weighment iii)Foof Frequency data
33.	METHODS OF EXTENSION USED IN THE COMMUNITY i) Interpersonal Communication- Home visits, Personal contact/ interviews ii) Mass media- Preparation of visual aids, charts, poster/ e-poster, models, Newspaper, Role play/Drama iii)Digital Media-You tube videos, reels, Magazines, Cookery competition, Exhibition/Melas iv) Traditional media- Folk music and dance – Puppetry, Therukootu, Villuppaatu.
34.	Demonstration of a low- cost recipe for infants(Kuzhanthai Amudhu and ARF), preschoolers, pregnant/nursing mothers for nutrition education.
35.	Develop 5-10 relevant messages for nutrition and health education of rural mothers (using ICT tools)
36.	Planning of skill development programmes for an immediately available group of women. (Kitchen Garden/ roof garden/Nutrition Garden)
37.	Formulation of Nutrition Education Tool To Assess Knowledge, Attitude And Practices
38.	Poularization of Traffic Signal Lights (Antioxidant Rich Foods)
39.	Visit to Observe the working of Nutrition and Health oriented Programs. (ICDS) Centre and preparation of report
40.	Mini Project (Group)- Conduct a survey in any community setting to identify any one major nutritional problem in any vulnerable group. Suggest strategies/actions to tackle the problem through Nutrition Education

**Note: Out of 13 – 11 mandatory.**

PERCENTAGE OF SYLLABUS REVISED: 100%

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
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## Syllabus Revision (New course)

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

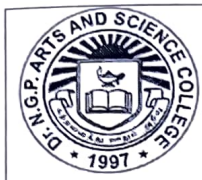
Semester: VI

Course Code/ Name: 223FN1A6CB – Food Product Development and Marketing

Unit	CONTENT
I	<b>Introduction to food product development</b> - Overview of Food Product Development Process - ideation, concept development, formulation, testing, scale-up, and commercialization, market trends, analyzing consumer behavior and preferences, Types of food products, challenges in product development.  Analysis of case studies on successful product launches, consumer trends, and brand strategies.
II	<b>Food formulation and processing techniques</b> - Ingredients selection and functionality, Food processing techniques – steps in formulation and aseptic processing, Formulation principles, Prototyping and pilot testing - Creating prototypes and testing scalability for large-scale production.
III	<b>Sensory evaluation and quality assurance</b> - Sensory evaluation techniques, Consumer testing and acceptability - focus groups and surveys, Quality control and assurance, Shelf-life testing and stability studies - factors affecting shelf-life, storage conditions, and accelerated stability studies.
IV	<b>Food marketing and labeling</b> - Food marketing and positioning, Packaging and labeling regulations, Consumer behavior and purchasing patterns - targeting demographics, psychographics, and analyzing purchase trends, Marketing strategies for food products - digital marketing, Influencer partnerships, Point-of-sale tactics and Sustainability marketing.
V	<b>Sustainability, ethics, and innovation in food product development</b> - Sustainability in product development, Ethical Considerations and social responsibility - transparency, fair trade, animal welfare, and environmental impact, Innovation and future trends, Regulatory compliance and food safety standards - FSSAI, FDA, HACCP, IPR in new product development, Food forensics.

PERCENTAGE OF SYLLABUS REVISED: 100%

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
<input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics



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18<sup>th</sup>

### Syllabus Revision – Practical Course (New course)

#### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and Nutrition

Semester: VI

Course Code/ Name: 223FN1A6CP – Food Product Development

Exp. No.	Existing
1.	Introduction to food product development and types of food products
2.	Ingredient selection and functionality analysis
3.	Develop a prototype for a novel food product
4.	Product preservation techniques
5.	Sensory evaluation - Standardization of test methods
6.	Flavor and texture modification
7.	Nutritional profiling and labeling
8.	Quality control tests (physical & chemical)
9.	Product stability and shelf-life testing (moisture and water activity)
10.	Selection and testing of packaging material
11.	Costing & economic feasibility
12.	Final product presentation and report preparation
<b>Experiments Under DBT</b>	
1.	Reduction of sugar in baking & confectionery using natural sweeteners
2.	Formulation of fermented & gut friendly foods

**Note: Out of 12 – 10 mandatory**

**PERCENTAGE OF SYLLABUS REVISED: 100%**

**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
<input type="checkbox"/> Social awareness / Environment	<input type="checkbox"/> Constitutional Rights/Human Values/Ethics



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## Syllabus Revision (New Course)

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and

Nutrition

Semester: III

Course Code/ Name: 223FN1A6DD - Entrepreneurship in Food Industry

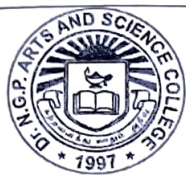
Unit	Content
I	<b>Introduction to Entrepreneurship-(10 h)</b> Introduction to Entrepreneurship- Meaning, definition and concepts, characteristics, functions, entrepreneurial traits and motivation, role of entrepreneur in economic development, factors affecting entrepreneurial growth. Types of entrepreneurs, Women entrepreneurship-significance, problems, solutions to the problems.
II	<b>Marketing Strategy in Food processing industry - (10 h)</b> Strategic planning and the marketing process, the marketing environment, consumer markets. Rural marketing, industrial marketing, overview, advertising and promotion. Product and services strategy, pricing products, distribution and supply chain management channels. Direct and online marketing, competitive strategies.
III	<b>Product and Brand Management-(10 h)</b> Consumer Preference and buying behavior, sales management and sales promotion. Food product handling and transportation. Place of retailing in the marketing mix- Trends in retailing, communication and customer relations. Managing People at Work - recruitment and motivation, total quality management, product development, globalization in food industries.
IV	<b>Setting up of Micro, Small and Medium enterprises- (10 h)</b> Setting up of micro, small and medium enterprises, location significance, Green channel, Bridge capital, Seed capital assistance, Margin money scheme, Sickness, Causes-Remedies.
V	<b>Role of Institutions/Schemes in Entrepreneurial Development- (8 h)</b> MOFPI, NABARD, SIDCO, SIDBI, NIESBUD, EDII, SISI, NREG Scheme- SWARNA JAYANTHI, Rozgar Yojana Schemes, etc.

PERCENTAGE OF SYLLABUS REVISED: 100%

COURSE FOCUSES ON:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
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## Syllabus Revision (New course)

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and

Nutrition

Semester: VI

Course Code/ Name: 223FN1A6DD -Basics of Food Packaging

Unit	CONTENT
I	<b>Food packaging</b> Definition, functions of packaging for different foods, requirements for effective food packaging. Types of Packaging -primary, secondary & tertiary, characteristics, applications in food industry, Packaging Hazards and precautions.
II	<b>Packaging materials</b> Packaging materials - Introduction, purpose, requirements, types of containers. Modern packaging materials and forms - Glass containers, metal cans, composite containers, aerosol containers, rigid plastic packages, semi rigid packaging, flexible and edible packaging.
III	<b>Packaging of Different Food Products</b> Packaging of cereal products and whole grains, Packaging of milled grains, Packaging of Cereal based convenience products and weaning products. Packaging for Fruits, Vegetables and Processed Foods, Packaging for Dry Foods, Dairy, Meat, and Seafood Products.
IV	<b>Packaging Techniques and Systems</b> Packaging system - Aseptic packaging, Controlled Atmosphere Packaging, Modified Atmosphere Packaging, Active packaging, Intelligent and Smart Packaging. Vacuum Packaging, Shrink Wrap, and Skin Packaging, Brik-Pak, Bag-in-Box, and Tetra Pak Systems.
V	<b>Labeling &amp; Packaging Standards</b> Labeling- Purpose of labels, Critical elements of food label, type of label, Labels for freight containers, labeling regulations, bar code, Nutrition labeling, health claims, mandatory labeling provisions, The Food Safety and Standards (Labelling & Display) Regulations, 2020. International Packaging Standards: ISO, HACCP, and GMP in Packaging.

PERCENTAGE OF SYLLABUS REVISED: 100%

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Gender Sensitization
<input type="checkbox"/> Intellectual Property Rights (IPR)	<input type="checkbox"/> Innovations
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## Syllabus Revision (New Course)

Faculty: Bio-Sciences

B.Sc. Food Science and Nutrition

Semester: VI

Board: Food Science and Nutrition

Course Code/ Name: 223FN1A6DC – Health and Fitness

Unit	New Course
I	<b>Introduction to Fitness and Sports Nutrition –</b> Fundamentals of Fitness and Sports Nutrition. Overview of Macronutrients and Micronutrients for Athletes. Energy Systems and Metabolism in Exercise. Physiological and Psychological Effects of Exercise on the Body. VO2 max. Basic Assessment of Fitness and Wellness Levels and Nutritional Status.
II	<b>Energy Requirements and Macronutrient Needs –</b> Calculating Energy Needs for Athletes and Non athletes. Role of Carbohydrates in Exercise and Recovery. Protein Requirements for Muscle Repair and Growth. Role of Fats in Endurance and Long-Duration Sports. Pre-Exercise, During-Exercise, and Post-Exercise Nutrition Strategies.
III	<b>Micronutrients, Hydration, and Supplements in Sports –</b> Importance of Vitamins and Minerals in Athletic Performance. Hydration and Electrolyte Balance During Exercise. Role of Antioxidants in Recovery and Performance. Safe Use of Ergogenic Aids and Supplements in Sports Nutrition. Common Supplementation Protocols and Risks.
IV	<b>Nutrition Strategies for Specific Types of Sports –</b> Nutrition for Endurance Sports (e.g., marathon, cycling). Nutrition for Strength and Power Sports (e.g., weightlifting, sprinting). Team Sports Nutrition (e.g., football, basketball). Weight Management Strategies for Athletes. Special Considerations: Vegetarian Athletes, Female Athletes, and Youth. Sports Anemia, Calcium deficiency, RED, CED, FAT. Nutrition Education for Sports Persons.
V	<b>Diet Planning, Monitoring, and Ethical Considerations –</b> Developing Personalized Nutrition Plans for Athletes. Monitoring Nutritional Status and Adjusting Diet Plans. Addressing Common Issues: Eating Disorders in Athletes, Overtraining Syndrome. Ethics in Sports Nutrition: Anti-Doping Guidelines, Supplement Safety. Case Studies and Practical Applications in Sports Nutrition. Sports Injuries and Management.

PERCENTAGE OF SYLLABUS REVISED: 100 %

COURSE FOCUSES ON:

☒ Skill Development

☒ Employability

☐ Intellectual Property Rights (IPR)

☐ Innovations

☒ Entrepreneurial Development

☐ Gender Sensitization

☒ Social Awareness / Environment

☐ Constitutional Rights/Human Values/Ethics





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## Syllabus Revision– New Course

### B.Sc. Food Science and Nutrition

Faculty: Bio-Sciences

Board: Food Science and

Nutrition

Semester: VI

Course Code/ Name: 223FN1A6DB – Nutrition Care Process & Diet Counseling

Unit	New Course
I	<p><b>Assessment of Energy Intake and Energy Needs –</b> Overview of digestive and absorptive processes, The small intestine: Primary site of nutrient absorption, The large intestine - remaining nutrient absorption. Energy - Energy requirements, Components of energy expenditure, Estimating energy requirements, Physical activity in children, Calculating food energy. Determining energy balance - Energy Gap. Assessment of food- and nutrition-related history - Nutrition screening, Nutritional status assessment, Nutrition-related history, Food and nutrient intake, Nutrition knowledge, beliefs, and attitudes, Nutrition behaviors, Medication and complementary or alternative medicines, Nutrition access, Physical activity and physical function, Nutrition quality of life.</p>
II	<p><b>Biochemical and Clinical Nutrition Assessment –</b> Biochemical and functional assessment - Biochemical assessment of nutrition status, Nutrition interpretation of routine medical laboratory tests - CBC, Thyroid function test, Blood glucose test, Lipid panel, Renal test, Electrolyte panel. Assessment of hydration status and water balance, Assessment for nutritional anemia. Clinical: Nutrition-focused physical examination.</p>
III	<p><b>Nutrition Diagnosis and Patient-Centered Intervention -</b> Overview of nutrition diagnosis and intervention, Documentation in the nutrition care record, Influences on nutrition and health care, Nutrition interventions, Nutrition for the terminally ill or hospice client. Education and counseling: Behavioral change - Behavior change, Models for behavior change, Models for counseling strategies, Models for educational program development, Skills and attributes of the nutrition educator or counselor, Assessment results: Choosing focus areas, Counseling approaches after the assessment, Evaluation of effectiveness.</p>
IV	<p><b>Food and Nutrient Delivery in Clinical Practice –</b> Planning the diet with economic and cultural competence - Determining nutrient needs, worldwide guidelines, National guidelines for diet planning, Food and nutrient labeling, Dietary patterns and counseling tips, Socio-economic and cultural aspects of dietary planning. Dietary supplement regulation, Assessment of dietary supplement use in patients. Food and Nutrient delivery: Nutrition support methods - Rationale and criteria for appropriate nutrition support, Enteral nutrition, Enteral nutrition access, Parenteral nutrition, Complications, Refeeding syndrome, Transitional feeding, Nutrition support in long-term and home care.</p>
V	<p><b>Nutrition Care Process for Non-Communicable Diseases –</b> Nutrition Care Process, Prevention, Control and Management for Overweight, Obesity, Diabetes, Hypertension, CAD, ESRD, Renal calculi, Cancer - A case study approach.</p>

**PERCENTAGE OF SYLLABUS REVISED: 80 %**

**COURSE FOCUSES ON:**

<input checked="" type="checkbox"/> Skill Development  <input checked="" type="checkbox"/> Employability  <input type="checkbox"/> Intellectual Property Rights (IPR)  <input type="checkbox"/> Innovations	<input checked="" type="checkbox"/> Entrepreneurial Development  <input type="checkbox"/> Gender Sensitization  <input checked="" type="checkbox"/> Social Awareness / Environment  <input type="checkbox"/> Constitutional Rights/Human Values/Ethics
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## ATTENDANCE OF EIGHTEENTH BOARD OF STUDIES MEETING

Faculty: Bio Sciences
Board: Food Science and Nutrition

VENUE : B1 – Block Room No. 1512  
DATE : 08/11/2024  
TIME : 10.00 am

The following members were present for the Board of Studies meeting

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







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6.	<b>Gautham Palaniswamy</b> Chief Innovation Officer and Manager, Sathyabama TBI, Sathyabama Institute of Science and Technology, Chennai – 600119	Alumni	Absent
7.	<b>Dr. N. Kuppuchamy</b> Associate Professor and Head Department of Tamil Dr. N.G.P. ASC	Co-opted Member	
8	<b>Dr. A. Hazel Verbina</b> Professor and Head (i/c) Department of English Dr. N.G.P. ASC	Co-opted Member	
9	<b>Dr. R. Ravikumar</b> Associate Professor and Head (i/c) Department of Chemistry Dr. N.G.P. ASC	Co-opted Member	
10	<b>Dr. S. Gowri</b> Professor and Head Department of BioChemistry Dr. N.G.P. ASC	Co-opted Member	
11	<b>Ms. L. Abinaya</b> III B.Sc. FSN Department of Food Science & Nutrition Dr. N.G.P. ASC	UG-Student Representative	L. Abinaya





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12	<b>Ms. Dencili Verginia</b> II M.Sc.FN Department of Food Science & Nutrition Dr. N.G.P. ASC	PG-Student Representative	<i>Dencili.</i>
13	<b>Dr. Meera Raman</b> Dean – BioScience & BAS Dr. N.G.P. ASC	Member	ONLINE
14	<b>Ms. Anjali M</b> Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	<i>Anjali M</i>
15	<b>Dr. Jancy Rani D</b> Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	<i>Jancy Rani.</i>
16	<b>Ms. M. Rakeshwari</b> Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	<i>Rakeshwari</i>
17	<b>Ms. G. Priyaalini</b> Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	<i>Priyaalini</i>
18	<b>Dr. Priya A</b> Assistant Professor Department of Food Science & Nutrition Dr. N.G.P. ASC	Member	<i>Dr. A. Priya</i>

Date: 08/11/2024

*(Signature)*  
(Dr. D SRIDEVI)

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



Dr. NGPASC  
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