

E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI – 625 014.

(An Autonomous Institution – Affiliated to Madurai Kamaraj University)

Re-accredited (**3rd Cycle**) with Grade **A+ & CGPA 3.51** by NAAC

DEPARTMENT OF NUTRITION & DIETETICS



CBCS SYLLABUS

BACHELOR OF SCIENCE

PROGRAMME CODE - N

COURSE STRUCTURE

(w.e.f. 2021 – 2022 Batch onwards)



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CRITERION - I

1.2.2 Details of Programmes offered through Choice Based Credit System (CBCS) / Elective Course System

**Syllabus copies with highlights of contents focusing on
Elective Course System**



To be Noted:

HIGHLIGHTED	COURSE
<div></div>	Elective

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(w.e.f. 2021 – 2022 batch onwards)

COURSE STRUCTURE – SEMESTER WISE

Sem	Part	Sub Code	Title of the Paper	Teaching hrs (per week)	Exam Duration	Marks Allotted			Credits
						CIA	SE	Total	
V	III	21N51	Core : Nutrition Through Life Cycle	4	3	25	75	100	4
	III		Core : Lab – in - Nutrition Through Life Cycle	3	-	-	-	-	-
	III	21N52	Core : Dietetics - I	4	3	25	75	100	4
	III		Core : Lab – in -Dietetics – I & II	3	-	-	-	-	-
	III		Elective - I	4	3	25	75	100	5
	III		Dietetic Internship Project	2	-	-	-	-	-
	III	21AKN5	Allied II : General Chemistry- III	4	3	25	75	100	4
	III		Allied II : Practical - II Volumetric Analysis	2	-	-	-	-	-
	IV	214EV5	Environmental Studies	2	3	25	75	100	2
	IV	21SEN51	SBE : Hotel House Keeping	2	3	25	75	100	2

VI	III	21N61	Core : Food Processing	4	3	25	75	100	4
	III	21N62	Core : Dietetics - II	4	3	25	75	100	4
	III		Elective II	4	3	25	75	100	5
	III	21N61P	Core : Lab – in -Nutrition Through Life Cycle	3	3	40	60	100	4
	III	21N62P	Core : Lab – in -Dietetics –I &II	3	3	40	60	100	4
	III		Elective III	2	3	20	80	100	5
	III	21AKN6	Allied II : General Chemistry- IV	4	3	25	75	100	4
	III	21AKN6P	Allied II : Practical - II Volumetric Analysis	2	3	40	60	100	1
	IV	21SEN61	SBE : Front Office Management	2	3	25	75	100	2
	IV	214VE6	Value Education	2	3	25	75	100	2
	V	215NS4/ 215PE4	Extension Activities - NSS/Physical Education	-	3	25	75	100	1

Electives :**Semester – V****Elective – I (Choose any one)**

1. Catering Management – 21NE5A
2. Functional Foods and Nutraceuticals – 21NE5B

Semester – VI**Elective – II (Choose any one)**

1. Food Safety and Quality control – 21NE6A
2. Post Harvest Technology – 21NE6B

Semester – VI**Elective – III**

Dietetic Internship Project – 21NEPR6

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To enable students to

- 1.understand the different types of food service and styles.
- 2.gain knowledge about the functioning of food service institutions.
- 3.develop skills in setting up food service units.

Unit I

Food Service-Types -Commercial and Non commercial, objectives, Styles of service-waiter service, buffet, English and French service ,menu planning, types of menu.

Unit II

Equipments in food service-Classification of equipment, factors for selection of equipments, electrical and non-electrical equipments for food storage, preparation and food serving. Care and maintenance of equipment.

Unit III

Management tools-Organization chart,job description,job specification,job analysis,time &work schedule, production and service ,budget, leadership style and training, decision making and communication.

Unit IV

Personnel Management-Recruitment-sources , procedure and policy, selection and training, labour laws.

Unit V

Cost Accounting-Cost concepts-types, fixed cost, semi fixed cost, variable cost, food cost control, records to be maintained, book keeping, book of accounts-cash book, purchase book, sales book , purchase return book, sales return book and journal.

Text Books:

- 1.MohiniSethi, *SurjeetMalhan,Catering Management (Revised 2nd Edn)*,New Age International pvt .Ltd publishers,2007.
- 2.George B and Chatterjee S, *Food and Beverage service*, Jaico Publishing company, Mumbai,2009.

Reference Books:

- 1.Kotas R and Davis B, *Food cost control*, Macmillan,Publication,1973.
- 2.Longree.K,*Food Service Sanitation*,John Wiley and Sons 1973
- 3.MohiniSethi,SurjeetMalhan,*Catering Management (2nd Edn)*,New Age International pvt.Ltd publishers,2006.
- 4.Roday.s,*Food Hygiene and Sanitation*,TataMc Graw Hill Publishing Company Ltd,2006.
- 5.WestB.B,Wood.L,Hoglet .F and Shukart. G.*Food Service in Institutions*, John Wiley and Sons 1977.

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ELECTIVE I –(OPTIONAL)**Title of the Paper :Functional Foods and Nutraceuticals****Semester :V****Contact Hours:4****Sub Code :21NE5B****Credits:5****Objectives :**

To enable students to

1.understand the meaning and function of functional foods and nutraceuticals properties.

2.gain knowledge on the scientific basis of foods and nutrient supplements.

Unit - I**Functional Foods** – Introduction, definition , classification, role of functional foods in disease prevention ,advantages and disadvantages.**Unit - II****Nutraceuticals**-from plant, animals, microbes, classification as per sources of chemical nature and function, role of nutraceuticals in prevention of disease.**Unit - III****Perspective for food Applications** –Sources, bioavailability and potential application for health of polyphenols, flavonoids, catechins , isoflavones,tannins ,phytoestrogens, phytosterols, glucosinolates& protease.**Unit – IV****Health Functionality of Food Components**-Definition, sources and health benefits of probiotics& prebiotics ,synbiotic and microbiota dietary fibre, oligosaccharides, amino acids, peptides and protein, fatty acids.**Unit - V**

Consumer marketing- factors for marketing functional foods and nutraceuticals, role of functional foods in food industries. Diet supplements.

Text Books :

Annexure-11

- 1.Mary et.al., *Essentials of functional foods*, Culinary and hospitality industry publications services, 2005.
- 2.Robert et. al., *Nutraceuticals and Functional foods*, Culinary and hospitality Industry publications services, 2005.

Reference Books :

- 1.David et.al., *Performance functional foods*, culinary and hospitality industry publications services, 2005.
- 2.Israel Goldberg, *functional food, designer, pharma foods ,nutraceutical*, Culinary and hospitality industry publications services, 2006.
- 3.Srilakshm. B, *Nutriton Science* (5thedn.), New Age International Publications, New Delhi, 2017.
- 4.SunetraRoday, *Food Science & Nutrition*, (2ndedn.), Macmillan publishing co., New Delhi, 2012.
- 5.Robert E.C Wildman, *Hand book of Nutraceuticals and Functional foods*, Culinary and hospitality Industry publications services, 2005.

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ELECTIVE II – (OPTIONAL)**Title of the Paper : Food Safety and Quality control****Semester : VI****Contact Hours: 4****Sub Code : 21NE6A****Credits: 5****Objectives:**

To help the students to

- 1.study about quality control and food safety.
- 2.gain knowledge on food laws.
- 3.acquire knowledge on food adulteration and common food standards.

Unit I

Food safety – definition, food safety quality factors ,food related hazards- physical, chemical, and biological hazards,microbiological considerations in food safety.

Unit II

Quality control – meaning ,principles of quality control in food, raw material control, process control ,inspection of finished product, sensory evaluation, packaging, labelling and storage, Total quality management.

Unit III

Sensory Assessment – Sensory assessment on food quality- appearance, color, flavour, texture and taste, reasons for testing food quality and trained panel members, different method of sensory analysis –difference test –paired comparison, duo-trio, triangle, rating tests-ranking, hedonic rating, numerical scoring, sensitivity tests – sensitivity threshold - dilution and descriptive test.

Unit IV

Food Additives – definition , functions, food colours –types –natural & chemical advantage and disadvantages. food adulteration-definition – intentional and incidental adulteration.

Unit V

Food laws and regulations –standard of weight and measures act, mark of BIS, AGMARK, PFA, FPO, JECFA, Food Safety and Standards Act, GMP, GHP, Codex Alimentarius, HACCP- principles and application of HACCP.

Text Books:

- 1.ShakunthlaManay .N. Shadaksharaswamy. M.(2005).*Food Facts and Principles*, New Age International Publishers.
- 2.Srilakshmi. B *Food Science*(6th edn.), New Age International Pub., New Delhi, 2015.

Reference Books:

1. Potter N. and Joseph H, *Food Science* (5th ed.), CBS Publishers & Distributors Pvt, Ltd, New Delhi, 1996
- 2.Raheena Begum, *Food Nutrition and Dietetics* (3rd ed.), Sterling Publishers Private limited New Delhi, 2013
- 3.Srilakshmi. B, *Food Science* (6th ed.), New Age International Pub., New Delhi, 2015.
- 4.Srivastava .R.P. and Sanjeev Kumar , *Fruits and Vegetables Preservation principles and practices.*, (3rd ed)CBS Publishers & Distributors Pvt, Ltd, New Delhi, 1994
- 5.Sunetra Roday, *Food Hygiene and Sanitation with case studies.*, (2nd ed) Published by Tata Mc Graw Hill Education Pvt, Ltd, New Delhi 2011.

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ELECTIVE II –(OPTIONAL)

Title of the Paper :Post Harvest Technology

Semester :VI

Contact Hours: 4

Sub Code :21NE6B

Credits: 5

Objectives:

To enable students to

- 1.understand the knowledge of storages of grains
- 2.gain knowledge about food spoilage and its prevention.
- 3.know about various agencies in controlling food losses.

Unit I

Introduction to post harvest technology - Definition, importance , role, principles, methods involved in post harvest technology , advantages and disadvantages.

Unit II

Agents causing food losses- Physical agents, (moisture, temperature), Chemical losses, biological losses, insects attacking food grains , detection of insect infestation.

Unit III

Control of spoilage agents - Importance and method of sanitary handling, physical, chemical, biological and control of pests, rats , rodents and birds. Insect& pest control methods- Physical and chemical methods.

Unit IV

Storage of grains - Importance , requirements of storage , methods of storage units- traditional -warehouse , underground & above ground storage modern storage-cold storage unit, types of storage losses- qualitative and quantitative.

Unit V

Agencies governing Food Losses - Role of SGC, FCI, CWC, SWC, IGSI.

Text Books:

1. Pingale, *Handling and storage of food grains*- ICAR, New Delhi, 2000.
2. Potter, *Food Science*, - The A VI Publishing Co., The Westport, 2000.

Reference Books:

1. Avantina Sharma, *Textbook of Food Science and Technology*, International Book Distributing Company, Lucknow, 2006.
2. Gajalakshmi R *Nutrition science* CBS Publishers & Distributors Pvt Ltd New Delhi, 2010.
3. Potter, *Food Science*, - The A VI Publishing Co., The Westport, 1973.
4. Shakuntala many et.al *Food facts and principles*(3rd Edn), new age international publishing, New Delhi ,2009.
5. Subbulakshmi et.al *Food processing and preservation*, new age international publishing, New Delhi ,2009.