

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. 2017 – 2018 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 data-bbox="435 1476 659 1549" style="border: 1px solid red; width: 138px; height: 35px; margin: 0 auto;"></div>	Elective

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(w.e.f. 2017 – 2018 Batch onwards)

COURSE STRUCTURE – SEMESTER WISE

Sem	Part	Sub Code	Title of the Paper	Teaching hrs. (Per week)	Duration of Exam (Hrs)	Marks allotted			Credits
						C.A	S.E	Total	
1	I	17IT1	Part - I Tamil	6	3	25	75	100	3
	II	172E1	Part - II English	6	3	25	75	100	3
	III	17N11	Core - Food Science - I	4	3	25	75	100	4
	III	17N1R	Food Science - I & II Practicals	2	-	-	-	-	-
	III	17AN1	Allied I - Human Physiology	6	3	25	75	100	4
	IV	17SEN11	Skill Based Elective –I Spices and Herbal Nutrition	2	2	25	75	100	2
	IV	17SEN12	Skill Based Elective –II Food Safety and Quality Control	2	2	25	75	100	2
	IV	17NMN1	NME - Basic Nutrition	2	2	25	75	100	2
2	I	171T2	Part - I Tamil	6	3	25	75	100	3
	II	172E2	Part - II English	6	3	25	75	100	3
	III	17N21	Core - Food Science - II	4	3	25	75	100	4
	III	17N2P	Core - Food Science - I & II Practicals	2	3	40	60	100	2
	III	17AN2	Allied I - Food Microbiology	6	3	25	75	100	5
	IV	17SEN21	Skill Based Elective –I Nutritional Assessment	2	2	25	75	100	2
	IV	17SEN22	Skill Based Elective –II Home Food Catering	2	2	25	75	100	2
	IV	17NMN2	NME - Food Preservation	2	2	25	75	100	2

3	I	171T3	Part - I Tamil	6	3	25	75	100	3
	II	172E3	Part - II English	6	3	25	75	100	3
	III	17N31	Core- Fundamentals of Nutrition	4	3	25	75	100	4
	III ""	17N6R	Nutritional Biochemistry Practicals	2	-	-	-	-	-
	III	17AN31	Allied I – Bakery	6	3	25	75	100	4
	III	17AKN3	Allied II – Bio Chemistry	4	3	25	75	100	4
	III	39CMP 6R	Allied II - Practical I Qualitative Analysis	2	-	-	-	-	-
4	I	171T4	Part - I Tamil	6	3	25	75	100	3
	II	172E4	Part - II English	6	3	25	75	100	3
	III	17N41	Core - Nutritional Biochemistry	4	3	25	75	100	4
	III	17N4P	Core - Nutritional Biochemistry Practicals	2	3	40	60	100	2
	III	17AN41	Allied I - Food Preservation	4	3	25	75	100	4
	III	17AN4P	Allied I - Bakery and Food Preservation Practicals	2	3	40	60	100	1
	III	17AKN4	Allied II – Environmental and Organic Chemistry	4	3	25	75	100	4
	III	17AKN4P	Allied II - Practical I Qualitative Analysis	2	3	40	60	100	1
5	III	17N51	Core - Nutrition Through Life Cycle	4	3	25	75	100	4
	III	39P 83R	Nutrition Through Life Cycle Practicals	3	-	-	-	-	-
	III	17N52	Core - Dietetics - I	4	3	25	75	100	4
	III	17N82R	Dietetics – I & II Practicals	3	-	-	-	-	-
	III		Elective - I	4	3	25	75	100	5
	III ""	17NGRT8	Dietetic Internship Project	2	-	-	-	-	-
	III	17AKN5	Allied II – Applied Chemistry	4	3	25	75	100	4
	III	17AKN6P	Allied II - Practical II Volumetric Analysis	2	-	-	-	-	-
	IV	174EV5	Environmental Studies	2	2	-	100	100	2
	IV	17SEN51	Skill Based Elective –I Hotel House Keeping	2	2	-	100	100	2

6	III	17N61	Core - Food Processing	4	3	25	75	100	4
	III	17N62	Core - Dietetics - II	4	3	25	75	100	4
	III		Elective II	4	3	25	75	100	5
	III	17N61P	Core - Nutrition Through Life Cycle Practicals	3	3	40	60	100	4
	III	17N62P	Core - Dietetics –I & II Practicals	3	3	40	60	100	4
	III		Elective III	2	3	20	80	100	5
	III	17AKN6	Allied II –Applied and Medicinal Chemistry	4	3	25	75	100	4
	III	17AKN6P	Allied II - Practical II Volumetric Analysis	2	3	40	60	100	1
	IV	17SEN61	Skill Based Elective –I Front Office Management	2	2	-	100	100	2
	IV	174VE6	Value Education	2	2	-	100	100	2
	V	175NS4/ 175PE4	Extension Activities - NSS/Physical Education	-	2	-	-	100	1
			Total	180					140

Electives

Semester – V (Elective – I Choose any one)

1. Catering Management – 17NE5A
2. Functional Foods and Nutraceuticals – 17NE5B

Semester – VI (Elective – II Choose any one)

1. Post Harvest Technology - 17NE6A
2. Food Safety and Quality control – 17NE6B

Semester – VI (Elective – III)

Dietetic Internship Project – 17NEPR6

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ELECTIVE I –(OPTIONAL)

Title of the Paper :Catering Management

Semester :V

Contact Hours: 4

Sub Code :17NE5A

Credits: 5

Objectives:

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.

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. Mohini Sethi, Surjeet Malhan, *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. Mohini Sethi, Surjeet Malhan, *Catering Management (2nd Edn)*, New Age International pvt. Ltd publishers, 2006.
4. Roday. s, *Food Hygiene and Sanitation*, Tata Mc Graw Hill Publishing Company Ltd, 2006.
5. West B. 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 :17NE5B

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.

Text Books :

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. Srilakshmi. B, *Nutrition Science* (5thedn.), New Age International Publications, New Delhi, 2017.
4. Sunetra Roday, *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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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, retention of nutrients.

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.

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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, Food Safety and Standards Act, GMP, GHP, Codex Alimentarius, HACCP- principles and application of HACCP.

Text Books:

1. Shakunthla Manay .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.
3. 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 III

Title of the Paper	: Dietetic Internship – Project	
Semester	: VI	Contact Hours: 2
Sub Code	: 17NEPR6	Credits: 5

Objectives :

To enable the students to gain practical experience in the management of a dietary department and patient counseling for a period of 15 days.

Content

1. Observation and study of organization and management of the dietary department.
2. Understanding the medical history of the patients, study of case sheet and diagnostic tests used.
3. Planning therapeutic diets and computation of nutritive value.
4. Observation and study of
 - a. Purchase ,storage and issue.
 - b. Production.
 - c. Service.
5. Participation in diet counselling units, experience in imparting diet counseling and understanding the records maintained in diet counseling units.
6. Submission of case study project report at the end of the internship training.