

B. Sc. NUTRITION AND DIETETICS

Syllabus

Programme Code: 3USNUD

2021-2022



**SENGAMALA THAYAR EDUCATIONAL TRUST
WOMEN'S COLLEGE
(AUTONOMOUS)**

(Affiliated to Bharathidasan University, Tiruchirappalli)
(Accredited by NAAC) | (An ISO 9001:2015 Certified Institution)

Sundarakkottai, Mannargudi-614 016,

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



(Affiliated to Bharathidasan University)
(Accredited by NAAC; An ISO 9001:2015 Certified Institution)
SUNDARAKKOTTAI, MANNARGUDI -614016.
TAMILNADU, INDIA.

B.Sc., NUTRITION AND DIETETICS COURSE STRUCTURE UNDER CBCS

(For the candidate admitted in the academic year 2021-2022)

ELIGIBILITY: Those who have completed +2 examinations with Biology and Chemistry as two of the core subjects

Sem	Part	Course	Course Code	Title of the paper	Inst. Hours / Week	Credit	Exam Hours	Marks			
								CIA	ESE	Total	
I	I	Language Course (LC)-I Tamil*/Other Languages ** #	21LC101	Ikkala Ilakkiyam	6	3	3	25	75	100	
	II	English Language Course(ELC)-I	21ELC101	Language through Literature I (Prose and Communication Skills)	6	3	3	25	75	100	
	III		Core Course (CC)-I	21ND101	Food Science	6	5	3	25	75	100
			Core Practical (CP)-I	21ND102P	Food Science Practical	3	2	3	40	60	100
			Allied Course (AC)-I	21AND101	Food Microbiology	4	3	3	25	75	100
			Allied Practical (AP)-I	21AND102P	Food Microbiology Practical	3	2	3	40	60	100
	IV	Value Education	21UGVED	Value Education	2	2	3	25	75	100	
TOTAL					30	20	-	-	-	700	
II	I	Language Course (LC) –II Tamil*/Other Languages ** #	21LC201	Idaikkala Ilakkiyamum Pudhinamum	6	3	3	25	75	100	
	II	English Language Course (ELC)-II	21ELC201	Language through Literature II (Poetry and Communication Skills)	6	3	3	25	75	100	
	III		Core Course (CC)-II	21ND203	Human Anatomy and Physiology	6	5	3	25	75	100
			Core Practical (CP)-II	21ND204P	Human Anatomy and Physiology Practical	3	2	3	40	60	100
			Allied Course (AC)-II	21AND203	Principles of Nutrition	4	3	3	25	75	100
			Allied Practical (AP)-II	21AND204P	Principles of Nutrition Practical	3	2	3	40	60	100
	IV	Environmental Studies	21UGCES	Environmental Studies	2	2	3	25	75	100	
TOTAL					30	20	-	-	-	700	
III	I	Language Course(LC) – III Tamil*/Other Languages **#	22LC301	Kaapiyamum Naadakamum	6	3	3	25	75	100	
	II	English Language Course (ELC)-III	22ELC301	Language through Literature III(Drama and Communication Skills)	6	3	3	25	75	100	
	III		Core Course (CC) –III	22ND305	Nutrition Through Life Cycle	6	5	3	25	75	100
			Core Practical (CP) –III	22ND306P	Nutrition Through Life Cycle Practical	3	2	3	40	60	100
			Allied Course (AC) –III	22AND305	Family Resource Management and Interior Design	4	3	3	25	75	100
			Allied Practical (AP) –III	22AND306P	Interior Design Practical	3	2	3	40	60	100

	IV	Non Major Elective (NME) – I- for those who studied Tamil under Part-I a) Basic Tamil for other language students b) Special Tamil for those who studied Tamil up to +2 but opt for other languages in degree programme		Non Major Elective I- for those who studied Tamil under Part-I a) Basic Tamil for other language students b) Special Tamil for those who studied Tamil up to +2 but opt for other languages in degree programme	2	2	3	25	75	100
TOTAL					30	20	-	-	-	700
IV	I	Language Course (LC)–IV Tamil*/Other Languages ** #	22LC401	Pandaiya Ilakkiyam	6	3	3	25	75	100
	II	English Language Course(ELC)-IV	22ELC401	Language through LiteratureIV (Short stories and Communication Skills)	6	3	3	25	75	100
	III	Core Course (CC)-IV	22ND407	Nutritional Biochemistry	5	4	3	25	75	100
		Core Practical (CP)-IV	22ND408P	Nutritional Biochemistry Practical	3	2	3	40	60	100
	III	Allied Course (AC)-IV	22AND407	Basic Food Processing and Preservation	3	3	3	25	75	100
		Allied Practical (AP)-IV	22AND408P	Basic Food Processing and Preservation Practical	3	2	3	40	60	100
	IV	Non Major Elective (NME)-II – for those who studied Tamil under Part I a).Basic Tamil for other language students b).Special Tamil for those who studied Tamil up to+2 but opt for other languages in degree programme		Non Major Elective II- for those who studied Tamil under Part-I c) Basic Tamil for other language students d) Special Tamil for those who studied Tamil up to +2 but opt for other languages in degree programme	2	2	3	25	75	100
		Skill Based Elective (SBE)–I	22SBEND1		2	2	3	25	75	100
TOTAL					30	21	-	-	-	800
V	III	Core Course (CC) –V	23ND509	Dietetics–I	6	6	3	25	75	100
		Core Course (CC) –VI	23ND510	Food Service Management-I	6	6	3	25	75	100
		Core Course (CC) –VII	23ND511	Family and Child Welfare	5	5	3	25	75	100
		Core Practical (CP) –V	23ND512P	Dietetics–I Practical	3	3	3	40	60	100
		Major Based Elective(MBE)– I	23MBEND1	Changing Trends in Extension Education	4	4	3	25	75	100
	IV	Skill Based Elective (SBE)–II	23SBEND2	-	2	2	3	25	75	100
		Skill Based Elective (SBE) -III	23SBEND3	-	2	2	3	25	75	100
		Soft Skills Development	23UGSDC	Soft Skills Development	2	2	3	25	75	100
TOTAL					30	30	-	-	-	800
VI		Core Course (CC) –VIII	23ND513	Dietetics–II	6	6	3	25	75	100
	III	Core Course (CC) –IX	23ND514	Food Service	6	6	3	25	75	100

			Management-II							
	Core Practical (CP) –VI	23ND515P	Dietetics II Practical	6	5	3	40	60	100	
	Major Based Elective(MBE)- II	23MBEND2	Textile Science	5	5	3	25	75	100	
	Major Based Elective (MBE) –III	23MBEND3	Dietary Internship	6	5	-	40	60	100	
V	Extension Activities		**Extension Activities	-	1	-	-	-	-	
	Gender Studies	23UGGS	Gender Studies	1	1	3	25	75	100	
TOTAL				30	29	-	-	-	600	
GRAND TOTAL				180	140	-	-	-	4300	

CURRICULUM DESIGN

Subject	No. of Courses	Total Credits
Language Part – I	4	12
English Part –II	4	12
Core Course	9	48
Core Practical	6	16
Allied Course	4	12
Allied Practical	4	08
Non–Major Elective	2	04
Skill Based Elective	3	06
Major Based Elective	3	14
Environmental Studies	1	02
Value Education	1	02
Soft Skill Development	1	02
Gender Studies	1	01
Extension Activities	-	01
Total	43	140

- * For those who studied Tamil up to 10th +2 (Regular Stream);
- + Syllabus for other Languages should be on par with Tamil at degree level;
- # those who studied Tamil up to 10th +2 but opt for other languages in degree level under Part I should study Tamil in Part IV;
- ** Extension Activities shall be outside instruction hours.

Note:

	CIA	ESE
1. Theory	25	75
2. Practical	40	60
3. Separate passing minimum is prescribed for CIA and ESE		

FOR THEORY

The passing minimum for CIA shall be 40% out of 25 marks [i.e. 10 marks]

The passing minimum for ESE shall be 40% out of 75 marks [i.e. 30 marks]

FOR PRACTICAL

The passing minimum for CIA shall be 40% out of 40 marks [i.e. 16 marks]

The passing minimum for ESE shall be 40% out of 60 marks [i.e. 24 marks]

NON MAJOR ELECTIVE (NME) OFFERED BY THE DEPARTMENT

Semester	Part	Course	Course Code	Title of The Paper
III	IV	NME-I	22NMEND31	Basics of Nutrition
IV		NME-II	22NMEND42	Women's Health and Nutrition

SKILL BASED ELECTIVE (SBE) OFFERED BY THE DEPARTMENT

Semester	Part	Course	Course Code	Title of The Paper
IV	IV	Skill Based Elective –I	22SBEND1	Bakery and Confectionary
V		Skill Based Elective –II	23SBEND2	Food Standards Quality Control
V		Skill Based Elective –III	23SBEND3	Food Packaging



**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

(Affiliated to Bharathidasan University)
(Accredited by NAAC; An ISO 9001:2015 Certified Institution)
**SUNDARAKKOTTAI, MANNARGUDI -614016.
TAMIL NADU, INDIA.**

DEPARTMENT OF NUTRITION AND DIETETICS

B.SC., NUTRITION AND DIETETICS

(For the candidate admitted in the academic year 2021-2022)

QUESTION PAPER PATTERN-(Theory)

Max Times: 3 Hours

Max Marks: 75

Section-A (10 ×2=20)

Answer all the questions

Answer in one or two sentences each

1. — Unit-I
- 2.
3. } Unit-II
4. }
5. }
6. } Unit-III
7. }
8. } Unit-IV
9. }
10. } Unit-V

Section-B (5 ×5=25)

Answer all the questions

Each answer should not exceed 500 words

11. a (or) } Unit-I
- b }
12. a (or) } Unit-II
- b }
13. a (or) } Unit-III
- b }
14. a (or) } Unit-IV
- b }
15. a (or) } Unit-V
- b }

Section-C (3 ×10=30)

Answer any THREE questions in 1200 words

- 16.....Unit-I
- 17.....Unit-II
- 18..... Unit-III
- 19.....Unit-IV
- 20.....Unit-V

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.

(For the candidate admitted in the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: I –CC-I: Food Science

Ins. Hrs./Week: 6

Course Credit : 5

Course Code: 21ND101

OBJECTIVES:

- To introduce different food groups, composition and their role in diet.
- To study the different methods of cooking foods.
- To make the students obtain knowledge about the nutrients present in the foods

UNIT- I: Introduction to Food Science (19 Hours)

Definitions: Food Science, Food, Nutrients, Nutritional Status, Mal-nutrition- Under- nutrition, over-nutrition, Balanced diet, Hunger – Hollow Hunger, Hidden Hunger, Appetite, Satiety, Health, Meal, Menu. Food Groups: Basic five, Nutritional classification of foods – Energy yielding, Body building and protective foods. Cooking: Objectives, cooking methods- Moist and Dry heat methods of cooking, merits and demerits. Recent Methods of Cooking- microwave cooking and Induction Cooking.

UNIT- II: Cereals, Pulses and Nuts (19 Hours)

Cereal and Cereal products: Rice and wheat -Structure, Nutritive Value, Changes during cooking- gelatinization, gel formation, retrogradation, syneresis, dextrinisation, gluten formation. Milling of rice, parboiling of rice, Enrichment and fortification of cereals and flours, Batters and doughs, Malting of cereals. Nutritional importance of millets– maize, jowar, ragi, bajra.

Pulses and Nuts: Nutritive value, factors affecting cooking quality of pulses, Processing – milling or decortications, soaking, germination, Fermentation, parching and their advantages. Role of pulses and nuts in Indian Cookery.

UNIT- III: Vegetable and Fruit Science (18 Hours)

Vegetables: Classification, Selection of vegetables, Nutritive value, Pigments - water insoluble, water soluble, organic acids, enzymes, flavour and bitter compounds in vegetables, selection of vegetables, changes during cooking, nutrient loss, effect of cooking on the pigments.

Fruits: Classification, Nutritive value, Pigments- water insoluble, water soluble, flavour constituents, polyphenols and bitter compounds in fruits, effect of cooking on the pigments, flavours. Changes during ripening of fruits, enzymatic browning -prevention, storage.

UNIT- IV: Milk and Meat Science (18 Hours)

Milk and Milk Products: Composition and Nutritive value, Processing of milk-clarification, pasteurization, homogenization. Milk products-Fermented and Non-fermented milk products, Maillard reaction.

Egg: Structure, Composition and Nutritive value, Quality of Egg -Evaluation of egg quality. Changes during cooking - Factors affecting coagulation of egg proteins and foam formation. Role of egg in cookery.

Meat- Structure, composition, different types of meat, cuts of meat, post mortem changes in meat, tenderness of meat, effect of cooking on meat. Poultry- Composition and classification.

Fish- Structure, classification, composition, nutritive value, selection of fish.

UNIT –V: Fats and Oils, Sugars, Spices and Beverage Science (16 Hours)

Fats and oil- Composition of Common Fats and Oil, Refining and processing of oil-Plasticity, Hydrogenation, Winterization, Effect of heating-Smoking temperature, thermal breakdown. Rancidity-Definition, Types- oxidation, hydrolysis, prevention of rancidity and role of Fats and Oil in cookery.

Sugar- Stages of sugar cookery, crystallization, factors affecting crystallization. Nutritive value, sugar products. Spices and condiments- Types and uses in Indian cookery, medicinal value. Beverages-Classification and Nutritive value- Coffee and Tea.

Total Lecture Hours -90

COURSE OUTCOME:

The students will be able to,

1. Understand the underlying concept and principle of Food science.
2. Identify the nutritive value and characteristics of Cereals, Pulses & Nuts in nature and during processing.
3. Understand the changes in physiochemical and functional properties of Vegetable & Fruit, Milk & Meat during processing, Fats & Oils, Sugars, Spices and Beverage.

TEXT BOOKS

1. Avantina Sharma. 2017. Textbook of Food Science and Technology. CBS Publishers and Distributors, New Delhi.
2. Shakuntala Manay N. 2001. Foods, Facts and Principles. New Age International Pvt Ltd Publishers, New Delhi.
3. Srilakshmi B. 2015. Food Science. New Age International Publishers, New Delhi.
4. Swaminathan M. 1992. Hand Book of Food Science and Experimental Foods. BAPPCO, Bangalore.
5. Usha Chandrasekhar. 2002. Food Science and Application in Indian Cookery. Phoenix Publishing House, Pvt. Ltd, New Delhi.

REFERENCE BOOK(S)

1. Brow A. 2000. Understanding Food. Thomson Learning Publications, New Delhi.
2. Mehas KY and Rodgers SL. 2000. Food Science and You, McMillan McGraw Company, New York.
3. Potter N. Hotchkiss, J H. 1998. Food Science. 5th edition, CBS Publications and Distributors, Daryaganji, New Delhi.
4. Sunetra Roday. 2012. Food Science and Nutrition. Oxford University Press, New Delhi.
5. Vickie A, Vaclavik, Elizabeth W and Christian. 2014. Essentials of Food Science Springer Science and Business Media, New York.

E-RESOURCES

1. <https://study.com/academy/lesson/what-is-food-science-definition-research.html>
2. <https://www.nia.nih.gov/health/important-nutrients-know-proteins-carbohydrates-and-fats>
3. <http://courseware.cutm.ac.in/wp-content/uploads/2020/06/Malting-of-Cereals.pdf>
4. <https://microbenotes.com/milk-pasteurization-methods-steps-significance/>
5. <https://www.selfstudys.com/uploads/pdf/pl7ZIMFciqH7WbRet7Qw.pdf>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.
(For the candidate admitted in the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: I CP-I: Food Science Practical

Ins. Hrs./Week:3

Course Credit :2

Course Code: 21ND102P

OBJECTIVES:

- To make the students understand the General Guidelines of laboratory.
- To introduce the methods of Measuring Ingredients and demonstration of Cooking Methods.
- To motivate the students for critical observation of different types of cereals, pulses, vegetables, fruits, nuts and oil seeds.

PRACTICAL:

1. Measurement of food materials using standard measures.
2. Cereals – Preparation of rice by steaming, absorption method, Straining and Pressure cooking, preparation of Fried and variety rice. Batters and dough- Preparation of Idli, Dosa, Upma, Chapathi, Poori.
3. Pulses – Factors affecting the cooking quality of pulses. Preparation of Sambar, Sundal, Vada, Channa Masala, Green gram payasam, Sprouted salad and koottu.
4. Vegetables – Selecting, cleaning, coring, pitting and chopping of fruits and vegetables. Different techniques, Avial, stew, cutlet, chips, stuffed chapathi.
5. Fruits –Salad, Stuffed items, Jelly, Thokku, Sauce and Jams.
6. Milk – Cottage Cheese, Paneer, Ice cream, kova, Buttermilk, Basanthi.
7. Egg – Boiled, Scrambled, Poached, Omelette. Egg quality testing, egg as binding and coating agent.
8. Flesh Foods – Meat, Fish and Poultry. Changes in Cookery, different method of cooking.
9. Score card preparation and sensory evaluation.

TEXT BOOKS

1. Avantina Sharma. 2017. Textbook of Food Science and Technology. CBS Publishers and Distributors, New Delhi.
2. Shakuntala Manay N. 2001. Foods: facts and principles, New Age International Publishers, New Delhi
3. Srilakshmi B. 2015. Food Science. New Age International Publishers, New Delhi.
4. Swaminathan M . 1992. Hand Book of Food Science and Experimental Foods. BAPPCO, Bangalore.
5. Usha Chandrasekhar. 2002. Food Science and Application in Indian Cookery. Phoenix Publishing House, Pvt. Ltd, New Delhi.

REFERENCE BOOK(S)

1. Brow A.2000. Understanding Food. Thomson Learning Publications, NewDelhi.
2. Mehas KY and Rodgers.2000. S.L. Food Science and You. McMillan McGraw Company, New Age International Publishers, New Delhi.
3. Potter Norman,N. 2007. Food Science. CBS Publications and distributors, New Delhi
4. Sumathi Mudambi R. Rajagopal MV. 2004. Fundamentals of Foods and Nutrition. New Age International Publishers, New Delhi.
5. ThangamE.Philip .2015. Modern Cookery for Teaching and the Trade Volume-I Orient Blackswan Private Limited, New Delhi.

E-RESOURCES

1. <https://opentextbc.ca/basickitchenandfoodservicemanagement/chapter/units-of-measurement/>
2. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=17057>
3. https://old.fssai.gov.in/Portals/0/Pdf/GFLP_Document_06_09_2016.pdf
4. https://www.researchgate.net/figure/Sample-Scorecard-that-Was-Used-for-Taste-Intensity-Training-Adapted-from-UTT-BAFT_fig2_259622487
5. <https://www.indianhealthyrecipes.com/how-to-make-paneer-cubes-at-home/>
6. <https://www.slideshare.net/powerofknowledge3/egg-cookery>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.
(For the candidate admitted in the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS

Semester: I AC-I: Food Microbiology

Ins. Hrs./Week: 4

Course Credit :3

Course Code: 21AND101

OBJECTIVES:

- To make the students to acquire fundamental knowledge and to make them to understand the relevance of microscopy.
- To make the students to learn and apply the basic of microbiology and its applications in everyday life.
- To make the students to understand the role of microorganisms in food industry and in the maintenance of health

UNIT- I: Introduction to Microbiology (14 Hours)

Definition and History: Microscopy, Light, Compound, Phase contrast, Fluorescence microscope and electron Microscope-Transmission Electron microscope, Scanning electron microscope. Micro Organisms – Bacteria- General characteristics, bacteria morphology, cell structure, motility, nutrition, reproduction and respiration. Viruses: General characteristics of viruses, Structure. Bacteriophage-multiplication. Yeasts: General characteristics of yeasts, Nutrition, Reproduction, Economic importance of yeasts. Molds: General characteristics of molds, Economic importance of molds.

UNIT- II: Growth and Multiplication of microorganism (10 Hours)

Growth phase, Factors Affecting Growth of microorganism: Intrinsic Factors- Nutrient Content, pH, Redox Potential, Antimicrobial Barrier and Water Activity. Extrinsic Factors- Relative Humidity, Temperature and Gaseous Atmosphere.

UNIT -III: Microbiology of Perishable, Semi and Non-Perishable Foods (14 Hours)

Outline of Contamination- Spoilage and Preservation of Cereals and Pulses, Vegetables and Fruits, Milk and Meat Products, Fish, Egg and Poultry.

UNIT -IV: Beneficial Effects of Microorganisms (12 Hours)

Fermentation- Definition, Types, Role of microorganisms in fermentation- Bacteria and Yeast. Fermented Foods – Probiotics, Curd, Cheese, Sauerkraut, Soy Based Foods, Alcoholic Beverages and Vinegar.

Unit- V: Microbial Diseases, Causes, Symptoms, Treatment, Prevention (10 Hours)

Food Borne Diseases – Botulism and Poliomyelitis, Amoebiasis.

Water Borne Diseases- Diarrhea and cholera.

Air Borne Diseases – Corona, Influenza and Chicken pox.

Total Lecture Hours -60

COURSE OUTCOME:

The students are able to

1. Gain thorough knowledge on history and scope of microbiology and deep insight in the application of microscopy
2. Acquaint with the basic concept of microbes, their taxonomy, differentiation and factors influencing their growth and survival.
3. Acquire knowledge of microbes and their importance, application in day to day life with special reference to food.
4. Explain the effects of fermentation in food production and also how it influences the microbial quality and status of the food product.
5. Identify the characteristics of food borne, water borne and air borne microbial diseases.

TEXT BOOK(S)

1. Adams MR. 2014. Food Microbiology. New Age International Publishers, New Delhi.
2. Arumugam N, Mani A, Selvaraj AM and Narayanan LM. 2014. Microbiology. Saras publication, Nagercoil.
3. Pelczar Jr. Michael J. 2014. Microbiology. McGraw Hill Education (India), Private Ltd, Publication, New York.
4. Vijaya Ramesh, K. 2007. Food Microbiology. MJP Publishers, Chennai.
5. William C. Frazier. 2014. Food Microbiology. Tata McGraw Hills Publishing Company Limited, New York.

REFERENCE BOOK(S)

1. Adams Tamine, 2005. Probiotic Dairy Products. Blackwell Publishing, USA.
2. Bohra and Parihar. 2012. Food Microbiology. Student edition.
3. James G. Cappuccino. Natalie Sherman. 2008. Microbiology – A Laboratory Manual. Pearson Education Publishers, USA.
4. James M. Jay. 2005. Modern Food Microbiology. Fourth Edition, CBS Publishers and Distributors, New Delhi.
5. Sugandhar Babu RP. 2008. Food Microbiology. Adhyayan Publishers and Distributors, New Delhi.

E-RESOURCES

1. <http://airccse.org/journal/ijscail/papers/3214ijscail01.pdf>
2. <https://www.ncbi.nlm.nih.gov>
3. <https://www.fda.gov/files/food/published/Evaluation-and-Definition-of-Potentially-Hazardous-Foods.pdf>
4. <https://nptel.ac.in/courses/102103015/pdf/mod5.pdf>
5. <http://egyankosh.ac.in/bitstream/123456789/12425/1/Unit-4.pdf>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.

(For the candidate admitted in the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: I AP-I: Food Microbiology Practical

Ins. Hrs./Week:3

Course Credit :2

Course Code: 21AND102P

OBJECTIVES:

- To make the students to acquire knowledge on cultivation of microorganisms.
- To make them understand the basics of microbiology and its applications in everyday life.

Food Microbiology

1. Instrumentation in Microbiology laboratory and their function (Microscope, Autoclave, Hot air oven)
2. Preparation of Culture media
3. Pure culture techniques (spread plate, streak plate and pour plate methods)
4. Staining techniques-simple and differential.
5. Morphological identification of important Yeast and Mold in Foods (Slide and Culture)-rhizopus, Mucor, Aspergillus.
6. Microbiological analysis of water and air.
7. Isolation of spoilage organisms from different food commodities.

TEXT BOOK(S)

1. Bharati Arora. 2007. Practical microbiology. CBS Publishers and Distributors, New Delhi.
2. Christina Amstalden and Margarete Midori, Neusely da Silva. 2012. Microbiological Examination Methods of Food and Water. CRS Press, London.
3. Deshpande HW, and Machewad. 2008 Practical Manual Food Microbiology. Department of Food Microbiology and Safety. College of Food Technology, Parbhani, Maharashtra. Microbiology. Dreamtech Press. New Delhi.
4. Neelima Garg KL and Mukerji. KG. 2010. laboratory Manual of Food
5. Shankar Prasad Sha and Kriti Ghatani. 2013. Fundamentals of Food Microbiology. Research India, Pulications. New Delhi.

REFERENCE BOOK(S)

1. Adams Tamine. 2005. Probiotic Dairy Products. Blackwell Publishing, USA.
2. James G. Cappuccino and Natalie Sherman. 2008. Microbiology – A Laboratory Manual. Pearson Education Publishers, USA,
3. James M. Jay. 2005. Modern Food Microbiology. Fourth Edition, CBS Publishers and Distributors, New Delhi,
4. Rao AS. 2001. Introduction to Microbiology. Prentice Hall Of India Private Ltd, New Delhi.
5. Sugandhar Babu RP. 2008. Food Microbiology. Adhyaya Publishers and distributors, New Delhi.

E-RESOURCES

1. <https://microbenotes.com/instruments-used-in-microbiology-lab/>.
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3122495/>.
3. <https://youtu.be/Lhxy-mb2-Ls>.
4. <https://youtube.be/-ciKzM5SICK>.
5. <https://youtube.be/fzk -- O2SDos>.

SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE



(AUTONOMOUS)

SUNDARAKKOTTAI, MANNARGUDI - 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Part IV - VALUE EDUCATION (Revised syllabus)

Unit I Philosophy of Life and Social Values

Human Life on Earth (Kural 629) Purpose of Life (Kural 46) Meaning and Philosophy of Life (Kural 131, 226) Family (Kural 45), Peace in Family (Kural 1025) Society (Kural 446), The Law of Life (Kural 952), Brotherhood (Kural 807) Five responsibilities / duties of Man (a) to himself (b) to his family (c) to his environment (d) to his society, (e) to the Universe in his lives (Kural 43, 981).

Unit II Human Rights and Organisations

Definitions, Nature of Human Rights. Universal Declaration of Human Rights, International covenant on Civil and Political Rights - International covenant of Economic, Social and Cultural Rights. Amnesty International Red Cross.

Unit III Human Rights : Contemporary Challenges

Child labour - Womens Right - Bonded labour - Problems of refugees - Capital punishment. National and State Human Rights Commissions

Unit IV Yoga and Health

Definition, Meaning, Scope of Yoga - Aims and objectives of Yoga - Yoga Education with modern context - Different traditions and schools of Yoga - Yoga practices: Asanas, Pranayama and Meditation.

Unit V Role of State Public Service Commission

Constitutional provisions and formation - Powers and Functions - Methods of recruitment - Rules and notification, syllabi for different exams - written and oral - placement.

BOOKS FOR REFERENCES:

1. Thirukkural with English Translation of Rev. Dr. G.U. Pope, Uma Publication, 156, Serfoji Nagar, Medical College Road, Thanjavur 613 004
2. Leah Levin, Human Rights, NBT, 1998
3. V.R. Krishna Iyer, Dialectics and Dynamics of Human Rights in India, Tagore Law Lectures.
4. Yogic Therapy - Swami Kuvalayananda and Dr.S.L.Vinekar, Government of India, Ministry of Health, New Delhi.
5. SOUND HEALTH THROUGH YOGA - Dr.K.Chandrasekaran, Prem Kalyan Publications, Sedapatti, 1999.

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.

(For the candidate admitted in the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: II- CC-II: Human Anatomy and Physiology

Ins. Hrs./Week:6

Course Credit :5

Course Code:21ND203

OBJECTIVES

- To provide knowledge on the structure of various organs of the body and their harmonious functions with other organs
- To make the students learn about the importance of hormonal and nervous systems and their significance in the regulation of the body.
- To make the Students to understand the circulatory, digestive and respiratory systems and their functions.

UNIT-I: Blood and Circulatory System (19 Hours)

Blood: Composition, functions, Red Blood cells (RBCs) – Structure, functions, Erythropoiesis, Haemoglobin, White Blood cells (WBCs) –Structure, classification-granulocytes, lymphocytes, monocytes, and functions.

Blood Platelets: Structure, functions; Reticulo endothelial system;Blood groups –Rh factor. Blood coagulation, Spleen –Structure and functions, Lymph – Lymphatic system-Components and functions.

Heart and Circulation – Structure of heart and circulation. Structure of blood vessels, Properties of cardiac muscle, Cardiac cycle-Cardiac rhythm, Cardiac output, Origin and conduction of heart beat; Measurement of arterial blood pressure; Regulation of Heart's action.

UNIT- II: Digestive System (16 Hours)

General Anatomy of the digestive system. Digestion in the Mouth, Stomach and Intestines; structure of Villi: Movements of the Gastro intestinal tract;Role of Liver, Gall bladder and Pancreas – Structure and Functions.

UNIT- III: Respiratory and Excretory System (18 Hours)

Respiratory System –Anatomy and physiology of Respiratory organ, Mechanism of respiration, Subdivisions of Lung air; Control of respiration; chemistry of Respiration; Artificial Respiration.

Excretory system –Structure and functions of kidney and nephron, Formation of urine; Micturition.

UNIT- IV: Endocrine and Reproductive System (19 Hours)

Endocrine System – Role of hormones and functions of thyroid gland, pituitary gland, parathyroid gland, adrenal gland; Islets of langerhans of pancreas.

Reproductive System – General anatomy – Female and male reproductive system. Testis – Spermatogenesis, male sex hormones, ovaries – oogenesis, Female sex hormones, menstrual cycle. Phases and endocrine control. Fertilization, development of embryo, pregnancy and parturition. Mammary glands – Structure and process of lactation.

UNIT –V: Nervous System and Sense Organs (18 Hours)

Nervous System – Anatomy and physiology of Brain.Spinal cord and Neuron, Conduction of nerve impulse.

Sense Organs:

Eye - Structure, functions, Physiology of vision, dark and light adaptation, accommodation of the eye, visual fields, Abnormalities – presbyopia, cataract, Astigmatism, Blindness.

Ear - Structure and Physiology of hearing.

Nose – Structure and function.

Tongue in Perception of stimuli.

Skin – Structure and functions, Regulations of body temperature.

Total Lecture Hours -90

COURSE OUTCOME:

The students will be able to,

1. Know the role and importance of blood and circulatory system and its role regulation of body function
2. Gain knowledge on mechanism of digestive system, respiratory and excretory function and their role in body regulation.
3. Understand the importance of endocrinology and comprehend the reproductive system.
4. Gain knowledge about nervous system and sense organs.

TEXT BOOKS

1. Arumugam N.Mariakuttikan A.2016. Animal Physiology. Saras Publication. ISBN: 9789382459873, 9382459871.Nagarcoil.
2. Chatterjee CC .2004. Human Physiology. Volume I, Medical Allied Agency, Kolkata
3. Chatterjee CC. 2004. Human Physiology. Volume II, Medical Allied Agency, Kolkata.
4. Sembulingam K. 2000. Essentials of Medical Physiology.Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.
5. Subramanyam, Sarada . 2018. Textbook of Human Physiology. S.Chand and company Ltd,New Delhi.

REFERENCE BOOK(S)

1. Best and Taylor.1992. The Physiological Basis for Medical Practice, Saunders Company. Canada.
2. Chaudhri K. 1993. Concise Medical Physiology. New Central Book Agency Parentra ltd,Calcutta, Churchill Livingston, NewYork.
3. Dr.Goyal R, Dr.Natvar M, Patel M.2018.Practical Anatomy and Physiology.B.S.Shah Prakashan.Gujarat.
4. Murugesh N.2014.Anatomy and Physiology.Sathya Publishers, Madurai
5. Waugh Anne Ross. 2003. Anatomy and Physiology in Health and Illness. Reed Elsevier IndiaPrivate Limited, New Delhi.

E - RESOURCES

1. <https://nptel.ac.in/content/storage2/courses/122103039/pdf/mod3.pdf>
2. <https://lba.ku.edu/sites/lba.drupal.ku.edu/files/docs/Courses/chapter%204d.pdf>
3. <https://globex.coe.pku.edu.cn/file/upload/201807/05/092547601064.pdf>
4. <https://courses.lumenlearning.com/suny-ap2/chapter/anatomy-and-physiology-of-the-female-reproductive-system/>
5. <https://www.khanacademy.org/science/health-and-medicine/human-anatomy-and-physiology>
6. <https://youtu.be/RHW-KDDKypo>
7. https://youtu.be/XXBiVBO_Jws
8. <https://youtu.be/S1hdq8ugaQY>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.

(For the candidate admitted in the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Semester: II –CP-II: Human Anatomy and Physiology Practical

Ins.Hrs./Week:3

Course Credit: 2

Course Code: 21ND204P

OBJECTIVES

- To make the students understand the General Guidelines of laboratory.
- To able to recognize and identify principles of tissue structure.
- To identify the count of Red Blood Cells, White Blood Cells, Blood Grouping, Blood bleeding and clotting time.
- To make the students to understand the determination of heart and pulse rate.

PRACTICAL:

1. Histology of Tissues – Columnar, cubical, ciliated, squamous, stratified squamous.
2. Microscopic structure of organs – lungs, artery, vein, stomach, ovary, testis, uterus, pancreas.
3. Histology of muscles – cardiac, striated, non – striated
4. Estimation of Haemoglobin, Bleeding time, Clotting time
5. Measurement of Blood pressure – before and after exercise
6. Determination of Respiratory rate and Pulse rate – before and after exercise.
7. Determination of Blood group.
8. Determination of Rh factor.
9. Enumeration of Red blood cells – Demonstration.
10. Enumeration of White blood cells – Demonstration.
11. Differential Leukocyte count – Demonstration
12. Visit to a Clinical laboratory.

TEXT BOOK(S)

1. Dr.Mrunal K.Shirsat.Dr.Jayesh Dwivedi.2002.A Practical Book on Human Anatomy And Physiology I. Everest Publishing House.Pune.
2. Guyton and Hal.2000. Textbook of Medical Physiology. Saunders, United States of America
3. Pal GK, and Parvati Pal.2016.Textbook of Practical Physiology. Universities Press(India)Private Limited,
4. Sembulingam, 2016. Essentials of Medical Physiology. Health Sciences Publisher, New Delhi.
5. Subramanyam, Sarada . 2018. Textbook of Human Physiology. S.Chand and company Ltd,New Delhi.

REFERENCE BOOK(S)

1. Best and Taylor.1992. The Physiological Basis for Medical Practice, Saunders Company. Canada.
2. Dr.Goyal R, Dr.Natvar M,Patel M.2018.Practical Anatomy and Physiology.B.S.Shah Prakashan.Gujarat.
3. Sri Nageswari K.Rajeev Sharma.2018.Practical Workbook of Human Physiology .Jaypee-The Health Sciences Publisher. Mumbai.
4. Waugh Anne Ross. 2003. Anatomy and Physiology in Health and Illness, Churchill Livingstone, New York.
5. Wilson, Ross. 2014. Anatomy and Physiology in Health and Illness, Reed Elsevier India Private Limited, New Delhi.

E - RESOURCES

1. <http://nbt.c.naco.gov.in/assets/resources/training/5.pdf>
2. https://www.researchgate.net/publication/331326775_Bleeding_Time_BT_Clotting_Time_CT_Platelet_Count_and_Mean_Platelet_Volume_MPV_in_Type_2_Diabetes_Mellitus-A_case_control_study
3. <http://nbt.c.naco.gov.in/assets/resources/training/5.pdf>
4. <https://youtu.be/4PaEd6FAZn4>
5. https://youtu.be/x_AihJIPF30

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.

(For the candidate admitted in the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: I-AC-II: Principles of Nutrition

Ins. Hrs. /Week: 4

Course Credit: 3

Course Code: 21AND203

OBJECTIVES:

- To impart basic knowledge on different nutrients and their importance for human health.
- To make the students understand the role of nutrients in maintaining health of the individual and Community.
- To teach the interrelationship between health and nutrients.

UNIT- I: Nutrition and Recommended dietary allowances (12 Hours)

Introduction to Nutrition– Definition of nutrition, health, nutrients, nutritional status and malnutrition-under nutrition, over nutrition, imbalance, specific deficiency, Inter-relationship between health and nutrition.

Recommended dietary allowances – Definition, General principles of deriving Recommended Dietary Allowances -Dietary intake, Growth, nutrient balance, obligatory loss of nutrients, factorial approach, nutrient turnover, Factors affecting Recommended Dietary Allowances-variability in nutrient requirements, Dietary factors. Determination of Recommended Dietary Allowances of different nutrients, uses of Recommended Dietary Allowances.

UNIT-II: Carbohydrate, Dietary fiber and Proteins (12 Hours)

Carbohydrates– Definition, Nutritional classification, Functions, Sources and Requirements, Regulation of Blood Sugar level.

Dietary Fibre – Definition, Classification, Role of fibre in preventing disease, Recommended dietary allowances and sources.

Proteins – Definition, Composition, Nutritional classification of protein-complete, incomplete and partially incomplete proteins and amino acids, Functions of Proteins and amino acids, Sources and Requirements, Deficiency. Evaluation of Protein quality – Biological assays, Biological Value(BV), Net protein utilization(NPU), Net Dietary protein ratio ,Protein Efficiency Ratio(PER),and chemical score.

UNIT- III: Lipids and Energy and Basal Metabolic Rate (12 Hours)

Lipids – Definition, Composition, Nutritional classification, Functions, Sources and requirements; Essential fatty acids – Definition, Functions, Sources and effects of deficiency.

Energy – Definitions, Energy units, Determination of energy value of foods by direct and indirect calorimetry and physiological energy value of foods.

Basal Metabolic Rate(BMR) – Definitions, Measurements of basal metabolism, Determinations, Factors affecting the Basal Metabolic Rate, Energy requirements for physical activity – Factorial method, Specific Dynamic action(SDA)-Measuring total energy requirements, factors affecting thermic effect of food, Resting Energy Expenditure(REE). Energy requirement and sources.

UNIT –IV: Vitamins (12 Hours)

Vitamins –Classification, General Functions and Deficiency.

Fat Soluble Vitamins – Vitamin A, D,E and K – Functions, Requirements, Sources and Effect of deficiency.

Water soluble vitamins – Thiamine, Riboflavin, Niacin, Ascorbic acid, Folic acid, Vitamin B6 and B12 – Functions, Requirements, Sources and Effects of deficiency.

UNIT- V: Minerals and Water (12 Hours)

Minerals- Classification and General Functions.

Macro minerals – Calcium, Phosphorus, Magnesium, Sodium and Potassium – Functions, Requirements, Sources, Effects of Deficiency, Effect of imbalance of Sodium and Potassium.

Micro Minerals – Iron, Iodine, Copper, Fluorine and Zinc – Functions, Requirements, Sources and Effect of Deficiency.

Water – Definition, distribution of water, function, requirements, sources, water balance, maintenance of water balance, distribution of electrolytes, maintenance of electrolyte balance.

Total Lecture Hours - 60

COURSE OUTCOME:

The students will be able to,

1. Understand the relationship between health and nutrition and identify food sources of macro and micro nutrients
2. Understand the role of macro nutrients and are able to evaluate the energy value of foods
3. Understand the important role of vitamins and water in human body.
4. Gain knowledge of minerals and their functions.

TEXT BOOK(S)

1. Gajalakshmi R .2014 .Nutrition Science. CBS Publishers and Distributors Pvt. Ltd.
2. Longvah R,Anandhan K,Bhaskarachar Y and .Venkaiah K. 2017. Indian Food Composition Table. National Institute of Nutrition, Hyderabad.
3. Mahtab S. Bamji, 2017. Textbook of Human Nutrition. Oxford & IBH Publishing Company Private Limited.
4. Srilakshmi.B. 2004.Nutrition Science. New age International, Private Limited, New Delhi.
5. Swaminathan, M. 2000.Essentials of food and Nutrition, Vol I & II, Bappco Publishers, Chennai.

REFERENCE BOOK(S)

1. Berdanier Carolyn D.2009.Advanced Nutrition: Macronutrients, Micronutrients and Metabolism. Atlantic Publishers and Distributors, New Delhi.
2. Bonnie, Worthington, Roberts and Sue Rodwell Williams. 1996. Nutrition throughout the lifecycle.3rd edition, WCB/MC Graw Hill Publisher, New York.
3. Frances sizer and Ellie Whitney, 2006.Nutrition Concepts and Controversies. Thomson wadsworth Publisher, New York
4. Mangale Kango. 2005. Normal Nutrition, Curing Diseases through Diet. CBS publication,First edition.
5. Martin Eastwood. 2013. Principles of Human Nutrition. Wiley Publishing, Private Limited

E-RESOURCES

1. <https://foodfuturefoundation.org/media/i0ld30zx/recommended-dietary-allowances-rda-for-indians-2020.pdf>
2. <http://www.signutra.com/nutripedia/role-of-dietary-fiber-in-health-and-disease>
3. https://www.researchgate.net/publication/293012690_Protein_Evaluation_of_Foods
4. <https://www.healthline.com/nutrition/micronutrients#types-and-functions>
5. <https://www.uofmhealth.org/health-library/ta3868>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI -614016.

(For the candidate admitted in the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: II –AP-II: Principles of Nutrition Practical

Ins. Hrs./Week:3

Course Credit: 2

Course Code: 21AND204P

OBJECTIVES:

- To create awareness about the importance of the nutrients.
- To make the students understand the techniques of estimation of micronutrients.
- To inculcate knowledge on nutritive value of Indian foods.

PRACTICAL:

1. Planning, Preparation and nutritive value calculation of macronutrient rich dishes
 - Carbohydrate- Starch, Fibre
 - Protein
 - Fat
 - Fiber
2. Planning, Preparation and Nutritive value calculation of micronutrient rich dishes
 - Vitamins- Vitamin A, Vitamin C, Thiamine, Riboflavin and Niacin
 - Minerals- Calcium, Iron, Zinc, Phosphorus, potassium
3. Estimation of nitrogen
4. Estimation of fibre
5. Estimation of total fat

TEXT BOOK(S)

1. Gajalakshmi R 2014 .Nutrition Science. CBS Publishers and Distributors Pvt. Ltd.
2. Oser BL, Harke's.2001.Physiological Chemistry.14th Edition Tata McGraw Hill Publishing Company Ltd., Bombay.
3. Raghuramulu N, Madhavan Nair K and Kalyana Sundaram. 2013. National Institute of Nutrition. A Manual of Laboratory Techniques, Hyderabad.
4. Sadasivam S and Manickam, A. 2003. Biochemical Method. Second Edition, New Age International P. Ltd., Publishers, New Delhi.
5. Varley H,Gowenlak AH and Hill M.2000.Practical Clinical Biochemistry, WilliamItinmaon Medical Books, London.

REFERENCE BOOK(S)

1. Food Safety and Standards Authority of India. 2015 Manual of Analysis of Foods Food Safety and Standards Authority of India.
2. Gopalan C, Rama Sastri VB and Balasuramanian SC. 2016 Nutritive Value of Indian Foods National Institute of Nutrition (ICMR) Hyderabad.
3. Graham Dodgshun and Michel Peters .2010 Cookery for the Hospitality Industry Cambridge University Press, New Delhi.
4. Kathleen Mahan, 2008 .Krause's Food and Nutrition Therapy. Saunders Elsevier, Missouri.
5. Thangam E. Philip .2015. Modern Cookery for Teaching and the Trade Volume-I Orient Blackswan Private Limited, New Delhi.

E-RESOURCES

1. <https://www.trifectanutrition.com/blog/macro-meal-planner-how-to-portion-foods-to-fit-your-macros>
2. <https://fitmencook.com/recipes/workout/high-carbs>
3. <https://www.ars.usda.gov/is/np/NutritiveValueofFoods/NutritiveValueofFoods.pdf> 4
4. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/j.2050-0416.1936.tb05656.x>
5. <https://www.youtube.com/watch?v=p1a3kctJuIs>
6. <https://www.youtube.com/watch?v=ylyjm8iY23Q>

SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)

SUNDARAKKOTTAI, MANNARGUDI - 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



(Applicable to the candidates admitted from the Academic year 2019-20 onwards)
ENVIRONMENTAL STUDIES

- Unit: 1** The Multidisciplinary nature of environmental studies
Definition, scope and importance. (2 lectures)
Need for public awareness
- Unit: 2** Natural Resources:
Renewable and non-renewable resources:
Natural resources and associated problems.
- a) Forest resources: use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
 - b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems.
 - c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
 - d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
 - e) Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
 - f) Land resources: Land as a resources, land degradation, man induced Landslides, soil erosion and desertification.
- Role of an individual in conservation of natural resources.
 - Equitable use of resources for sustainable lifestyles. (8 lectures)
- Unit: 3** **Ecosystems**
- Concept of an ecosystem.
 - Structure and function of an ecosystem.
 - Producers, consumers and decomposers
 - Energy flow in the ecosystem
 - Ecological succession.
 - Food chains, food webs and ecological pyramids
- Introduction, types, characteristic features, structure and function of the following ecosystem:-
- Forest ecosystem

- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems, (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lectures)

Unit: 4 Biodiversity and its conservation

- Introduction – Definition : Genetic, species and ecosystem diversity
- Biogeographically classification of India
- Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values
- Biodiversity at global, National and local levels
- India as a mega-diversity nation
- Hot-spots of biodiversity
- Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Biological Diversity Act 2002/ BD Rules, 2004

(8 lectures)

Unit: 5 Environmental Pollution

Definition

Causes, effects and control measures of:

- a. Air Pollution
- b. Water Pollution
- c. Soil Pollution
- d. Marine Pollution
- e. Noise pollution
- f. Thermal Pollution
- g. Nuclear hazards

- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution
- Pollution case studies
- Disaster management: floods, earthquake, cyclone and landslides.
- Ill-Effects of Fireworks: Firework and Celebrations, Health Hazards, Types of Fire, Firework and Safety

(8 lectures)

Unit: 6 Social Issues and the Environment

- From Unsustainable to Sustainable development.
- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people; its problems and concerns.

Case studies

- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and Control of Pollution) Act.
- Wildlife Protection Act.
- Forest Conservation Act.
- Issues involved in enforcement of environmental legislation
- Public awareness.

(7 lectures)

Unit: 7 Human Population and the Environment

- Population growth, variation among nations.
- Population explosion – Family Welfare Programmes
- Environment and human health
- Human Rights - Value Education
- HIV/ AIDS - Women and Child Welfare
- Role of Information Technology in Environment and human health
- Case studies.

Unit: 8 Field Work

- Visit to a local area to document environmental assets-river / forest/ grassland/ hill / mountain

References:

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Public Ltd Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt ltd, Ahamedabad – 380013, India, E-mail: [mapin@icenet.net\(R\)](mailto:mapin@icenet.net(R))
3. Brunner R.C. 1989, Hazardous Waste Incineration, McGraw Hill Inc 480 p
4. Clark R.S. Marine Pollution, Clarendon Press Oxford (TB)
5. Cunningham, W.P.Cooper, T.H.Gorhani E & Hepworth, M.T. 2001.
6. De A.K. Environmental Chemistry, Wiley Eastern Ltd
7. Down to Earth, Centre for Science and Environment (R)
8. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford University, Press 473p.
9. Hawkins, R.E. Encyclopedia of India Natural History, Bombay Natural History Society,

- Bombay (R)
10. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment. Cambridge University Press 1140 p.
 11. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws Himalaya Pub. House, Delhi 284 p.
 12. Mckinney, M.L. & Schoch R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition 639 p.
 13. Mhaskar A.K. Matter Hazardous, Techno-Science Publications (TB)
 14. Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB)
 15. Odum, E.P. 1971 Fundamentals of Ecology. W.B. Saunders Co. USA. 574 p
 16. Rao MN & Datta, A.K. 1987 Waste Water treatment, Oxford & IBH Publication Co. Pvt Ltd 345 p.
 17. Sharma B.K. 2001 Environmental chemistry Goel Publ House, Meerut.
 18. Survey of the Environment, The Hindu (M).
 19. Townsend C. Harper, J and Michael Begon, Essentials of Ecology, Blackwell science (TB)
 20. Trivedi R.K. Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, Vol. I and II, Enviro Media (R).
 21. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science Publications (TB).
 22. Wagner K.D. 1998 Environmental Management. W.B. Saunders Co. Philadelphia USA 499 p
(M) Magazine (R) Reference (TB) Textbook
 23. <http://nbaindia.org/uploaded/Biodiversityindia/Legal/33%20Biological%20Diversity%20Rules,%202004.pdf>.



**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Semester III – CC- III: Nutrition through Life Cycle

Ins Hrs. /Week: 6

Course Credit: 5

Course Code: 22ND305

OBJECTIVES

- Gain knowledge on the importance of nutrition during life span.
- To do computation of nutrient allowances during life span.
- Enlighten on the dietary modifications.

UNIT-I: Meal Planning

(16 Hours)

Principles of meal planning, Recommended Dietary Allowances, Food groups and food exchange list; Factors affecting meal planning and types of eating behavior, Dietary guidelines for Indians.

UNIT-II: Nutrition for Pregnancy and Lactation

(20 Hours)

Nutrition during pregnancy, Importance of preconception nutrition; Pre pregnancy weight and foetal outcome. Foetal weight gain. Physiological changes during pregnancy, complications in pregnancy. Intrauterine growth retardation. High risk pregnancies. Importance of antenatal care. Maternal nutrient metabolism and recommended dietary allowances in pregnancy. Nutrition during lactation- Breast feeding biology, Psycho – physiological aspects of lactation, Recommended Dietary Allowances and nutritional needs of a nursing mother, nutritional guidelines, composition of breast milk and advantages, disadvantages of bottle feeding, Factors affecting lactation capacity, Effect of breast feeding on maternal health.

UNIT-III: Nutrition in infancy

(18 Hours)

Nutrition during Infant – Growth and physiological development. Infant nutritional needs and concerns. Nutrition and brain development. Infant feeding, Weaning – Definition, types of supplementary foods, points to be considered in introducing weaning foods. Nutritional problems in infant feeding. Preterm and Low Birth Weight infants.

UNIT-IV: Nutrition for Preschool Children, School Children and Adolescence

(19 Hours)

Nutrition during preschool children- Growth and development, Nutritional needs and feeding for preschool children. Malnutrition among preschool children. Nutrition during school children- Growth and development, Nutritional requirements and RDA. Feeding school children, behavioural characteristics and feeding problems. Dietary patterns, packed lunch – factors to be considered, sample menu, school lunch programmes and nutritional problems.

Nutrition during adolescence- Growth during adolescence, nutritional requirements, hormonal influences, age of menarche-factors affecting, physiological problems and nutritional problems in adolescence.

UNIT-V: Nutrition for Adulthood and Nutrition for Old Age (17 Hours)

Nutrition for Adulthood- Food and nutritional requirements, dietary guidelines, nutritional problems.

Nutrition for old age – Process of ageing, food and nutritional requirement, dietary guidelines, nutrition related problems, physiological and Biochemical changes.

Total Lecture Hours- 90

COURSE OUTCOME

The students should be able to:

1. Apply the knowledge of the science of nutrition to human health across the life span.
2. Understand the physiological basis for nutritional needs of normal healthy humans throughout the life cycle.
3. Understand the importance of maternal nutrition on foetal outcome
4. Assess and compare the diet and nutritional requirements related to diseases.
5. Recognize the composition, quality, and appropriateness of nutrition products and formulate dietary interventions to address nutritional deficiencies.

TEXT BOOK(S)

1. Khanna K. Gupta S. Passi S.J. Seth R. Mahna R. Puri S. 2013. Textbook of Nutrition and Dietetics. Phoenix Publishing House.
2. Mahtab S. Bamji, Kamala Krishnaswamy G.N.V Brahman. 2012. Text book of Human Nutrition. 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd, New Delhi.
3. Ravinder Chadha and Pulkat Mathur. 2015. Nutrition: A Lifecycle Approach Publisher The Orient Blackswan, First edition ISBN-10: 812505930X; ISBN-13:978-8125059301
4. Seth V and Singh K. 2006. Diet planning through life cycle. Part 1. Elite publishing house Pvt. Ltd, New Delhi.
5. Srilakshmi B. 2013. Dietetics, New Age International (P). Ltd, New Delhi.
6. Swaminathan M. 2012. Advanced Textbook on Food and Nutrition. Vol-1, Second Edition, Bangalore Printing and Publishing Co. Ltd, Bangalore.

REFERENCE BOOK(S)

1. Chadha R and Mathur P. 2015. Nutrition: A Lifecycle Approach. Orient Blackswan, Delhi.
2. Gopalan C. Rama Sastri BV. Balasubramanian SC. 2014. Nutritive Value of Indian Foods. National Institute of Nutrition. ICMR, Hyderabad.
3. Krause MV. and Hunscher M.A. Food, Nutrition and Diet Therapy, 14th Edition W.B. Saunders.
4. Park K. 2011. Text Book of Preventive and Social Medicine. 21st edn, Banarsidas Bhanot Publishers, Jabalpur, India.
5. Shills ME. Olson JA. Moshe S and Ross CA. 2006. Modern Nutrition in Health and Disease, 9th edn, Lippincott Williams and Wilkins.

6. Smolin and Grosvenor. 2000. Nutrition Science and Applications, 3rd edn, Saunders College Publishing, Philadelphia.
7. Wardlaw GM. Hampi JS. DiSilvestro RA. 2004. Perspectives in Nutrition. 6th edition, McGraw Hill.

E – Resources

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5104202/>
2. <https://www.ncbi.nlm.nih.gov/books/NBK525242/>
3. <https://www.health.gov.au/English/Topics/SeniorHealth/HealthPromo/Pages/nutrition-elderly.aspx>
4. <https://youtu.be/2d0ane8uuR8>
5. <https://youtu.be/TTIOQN24YJ4>
6. https://nptel.ac.in/content/storage2/courses/126104004/LectureNotes/Week-1_05-pdf
7. <https://www.biologyonline.com/dictionary/degenerative-disease>



**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Semester: III CP – III: Nutrition Through Life Cycle Practical

Ins Hrs./Week:3

Course Credit: 2

Course Code: 22ND306P

CONTENTS

- 1. Prepare a days menu based on food groups**
 - a. Calculate Calories (Kcal)
 - b. Calculate Protein (g)
 - c. Calculate Fat (g)
- 2. Plan, prepare and calculate nutritive value for**
 - a. Pregnant women
 - b. Lactating women
 - c. Infant
 - d. Preschooler
 - e. School going children
 - f. Adolescent
 - g. Adult
 - h. Old age

REFERENCE BOOK(S)

1. Chadha R and Mathur P. 2015. Nutrition: A Lifecycle Approach. Orient Blackswan, Delhi.
2. Gopalan C. Rama Sastri BV. Balasubramanian SC. 2014. Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.
3. Krause MV and Hunscher MA. Food. Nutrition and Diet Therapy. 14th Edition, W.B.Saunders.
4. Park K. 2011. Text Book of Preventive and Social Medicine. 21stedn, Banarsidas Bhanot Publishers, Jabalpur. India.
5. Shills ME. Olson JA. Moshe S and Ross CA. 2006. Modern Nutrition in Health and Disease, 9thedn, Lippincott Williams and Wilkins. .
6. Wardlaw GM. Hampi JS. DiSilvestro RA. 2004. Perspectives in Nutrition. 6th edition, McGraw Hill.

E- RESOURCES

1. <https://youtu.be/kdfFTRbHsIU>
2. https://youtu.be/_Ap4BXhig5c
3. <https://www.healthychildren.org/English/healthy-living/nutrition/Pages/The-5-Food-Groups-Sample-Choices.aspx>
4. <https://heas.health.vic.gov.au/early-childhood-services/menu-planning/babies>
5. http://www.efad.org/media/1351/nutritional_guidlines_and_menu_checklist_march2014.pdf

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester: III AC –III: Family Resource Management and Interior Design

Ins Hrs. /Week: 4

Course Credit: 3

Course Code: 22AND305

OBJECTIVES

- Students have a foundation in the fundamentals of art and design; theories of design, green design, and discipline-related history.
- Students understand and apply the knowledge, skills, processes, and theories of interior design.
- Individual with customer service experience, extensive knowledge of design techniques, and a background in management seeking interior design position at any company.

UNIT – I: Management and Concepts

(11 Hours)

Management – Definition, Principles and elements involved in management Process – planning, organizing, controlling, coordinating and motivating. Management Concepts - Goals and Values – their relationship to decision-making, Standard of Living – Definition, constituents, Means for raising the standard of living of families. Decision Making – steps, importance, types of decisions, Habitual versus Conscious decision making. Individual and group decisions, resolving conflicts in group decisions.

UNIT – II: Resources and Family

(12 Hours)

Resources – Human and non-human resources. Characteristics of Resources, utilization of resources to achieve family goals. Family Income – Definition, Types - Money, Real and Psychic income, HUDCO classification, various ways of improving the income of the family, Family finance management, Family Budget – Definition and meaning, importance of budgeting, steps, factors affecting the budget. Engles's Law of Consumption. Savings – Meaning, objectives, Needs for savings in the family, types of savings schemes.

UNIT III: Basics in Interior Design

(12 Hours)

Concept of Interior Design-Meaning of Interior Design and Interior Decoration. Design – Definition, Meaning, Purpose. Types, elements and principles Concept of colour. Dimensions of colour – Hue, value and intensity, Colour therapy & Psychology of Colour systems, harmonies, Application of colour harmonies in the interiors and exteriors

UNIT-IV: Lighting, Accessories & Furnitures

(13 Hours)

Importance of lighting. Sources, Types, Glare- Types, causes and prevention. Accessories-Meaning, Types-functional, decorative, both functional and decorative, Lighting accessories- fixtures, Lighting for areas and specific activities. Picture mounting, wall hangings.

Styles of furniture – traditional, contemporary and modern design. Furniture for different purpose, furniture materials. Selection and arrangement – Furniture for various rooms, Furniture Dimensions, Care and maintenance.

UNIT -V: Window/ Door Treatments & Flower Arrangements (12 Hours)

Draperies, curtains - different doors and window and its coverings - Selection, Use & Care of furnishing materials. Use of flowers and containers for Interior Decoration – Importance, materials required, care and maintenance of flowers, vase selection, basic shapes. Styles in flower arrangement, dried and pressed flowers, and Japanese arrangements – IKEBANA, MORIBANA & SHABANA.

Total Lecture Hours- 60

COURSE OUTCOME

The students should be able to

1. Recognize the importance of wise use of resources to achieve one's goals, & become a good home maker.
2. Gain knowledge in various aspects in home economics.
3. Recognize the effective use of resources and learn skills in using principles elements of art & design.
4. Acquire the ability to conceptualize and design interior spaces for homes, retails, hotels, offices.
5. Gain knowledge how to work as an interior designer, visual merchandiser and interior decorator.

TEXT BOOK(S)

1. Anita T. 2011. Textiles for Apparel and Home Furnishing. Sonali Publications, New Delhi, India.
2. Chaudhari SN. 2005. Interior Design. Aavishkar Publishers, Jaipur, India.
3. Kasu AA. 2005. Interior Design. Ashish Book Centre Delhi.
4. Kharuna S. 2012. Fabrics for Fashion and Textile Design. Sonali Publications, New Delhi, India.
5. Neeru Garg Sushma Gupta. 2008. Text book of Family Resource Management, 9th Edition.
6. Seetharaman P and Pannu P. 2009. Interior Design and Decoration. CBS Publishers and Distributors Pvt Ltd, New Delhi.
7. Sylvia M., Asay, Tami, J., Moore. 2016. Family Resource Management, Third Edition,
8. Varghese MA. Ogale, Srinivasan K. 1992. Home Management. Wiley Eastern Ltd.

REFERENCE BOOK(S)

1. Chaudhari SN. 2006. Interior Design. Aavishkar Publishers Jaipur.
2. Gary Gordon & Jamco L. Nuckolls. 1995. Interior lighting for Designers, Third edition John Wiley & Sons, New York.
3. Nickell P and Dorsey. J.M. 1960. Management in Family Living. John Wiley and Sons Inc, New York.
4. Sharma N. 2006. Home Management. Murari Lal Publishers, Ahmedabad.
5. Sharma V. 2005. Modern Home Management. Shree Niwas Publications, Jaipur.
6. Shukul M and Gandotra, V. 2006. Home Management and Family Finance. Dominant Publishers, New Delhi.

7. Tamilnadu State Council for Higher Education. 1974. Interior Design & Decoration, Fourth Edition, Sherrill Whiton Prentice Hall,
8. Varghese M.A et al. Home Management, Second Edition, New Age International (P) Limited, Publishers, New Delhi .
9. William Hardy & Steve Adams. 1988. The Encyclopaedia of Decorative Styles. New Burlington books, London.

E –RESOURCES

1. <https://youtu.be/Q25Ig09kK-A>
2. <https://youtu.be/rkDquOipXLA>
3. <https://youtu.be/2YMCQAUnfm4>
4. http://www.hillagric.ac.in/edu/coa/vegetables/lectures/VSF_233_HSc/VSF_233_HSc_Lect_15.pdf
5. https://www.brainkart.com/article/Decision-Making_33511/
6. <https://www.yourarticlelibrary.com/family/family-income-types-money-real-and-psychic-income/47908>
7. https://www.brainkart.com/article/Expenditure-and-Budget-Management_33516/
8. <https://nymag.com/strategist/article/curtains-for-windows.html>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016
(For the candidate admitted from the academic year 2021-2022)
DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS

Semester: III AP – III: Interior Design Practical

Ins Hrs./Week: 3

Course Credit: 2

Course Code: 22AND306P

CONTENTS

Eliciting values of students

- Maintaining family accounts.
- Developing budget for the family
- Analysis of design for their qualities.
- Arrangement of furniture using cut-outs.
- Arranging flowers suitable for various areas.
- Application of colour in the interior
- Application of designing in the interior.

REFERENCE BOOK(S)

1. Ahmedabad, Shukul M. Gandotra V. 2006. Home Management and Family Finance.
2. Chaudhari SN. 2006. Interior Design. Aavishkar Publishers ,Jaipur. Dominant Publishers New Delhi.
3. Gary Gordon & Jamco L. Nuckolls.1995. Interior lighting for Designers, Third edition John Wiley & Sons, New York.
4. Sharma N.2006. Home Management. Murari Lal Publishers ,
5. Sharma V. 2005. Modern Home Management. Shree Niwas Publications, Jaipur.
6. Varghese MA et al. Home Management, Second Edition,New Age International (P) Limited, Publishers, New Delhi .
7. William Hardy & Steve Adams.1988.The Encyclopaedia of Decorative Styles.New Burlington books, London.

E –RESOURCES

1. https://youtu.be/lyjC_QYZdx4https://youtu.be/lyjC_QYZdx4
2. https://youtu.be/BYHrefWA_eE
3. <https://newskillsacademy.com/wp-content/uploads/cs-portal/pdfs/interior-design-certification/module-04-use-colour-interior-design.pdf>
4. <https://interiordesignstudent.com/study-notes/colour-in-interior-design/>
5. <https://www.yourarticlelibrary.com/home-management/interior-decoration-arrangement-of-furniture/4786>



**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Semester: III NME– I: Basics of Nutrition

Ins Hrs./Week:2

Course Credit: 2

Course Code:22NMEND31

OBJECTIVES:

- To be able to discriminate in dealing with a vast amount of nutrient information.
- Recognize the consequences of over nutrition, under-nutrition, and malnutrition.
- Describe the principle of caloric balance.

UNIT- I: Basic of Nutrition and Water

(06 Hours)

Basic of Nutrition- Basics in Nutrition - Definition of Nutrition, Importance of nutrition for health, Basic five food groups, portion size of foods and the functions of food, Food pyramid, Balanced Diet, Nutrients and their functions , Recommended dietary allowances , factors affecting RDA, malnutrition (Under nutrition, and over nutrition).

UNIT- II: Carbohydrates, Proteins and Lipids

(06 Hours)

Carbohydrates- Classification, Sources, Requirements and Functions of carbohydrates in the body. Dietary fiber- Definition, soluble and insoluble fibers, sources of fiber, Role of fiber in human nutrition.

Proteins - Classification, Sources, Requirements and functions of protein. Protein deficiency- Protein Energy Malnutrition- Kwashiorkor and Marasmus – etiology, clinical features, treatment and prevention.

Lipids- Classification, Sources, Requirements and functions, Essential fatty acids- deficiency, food sources and functions, dietary lipids and its relation to Cardiovascular diseases.

UNIT- III: Fat Soluble Vitamins and Water Soluble Vitamins

(06 Hours)

Fat Soluble Vitamins - Functions, food sources, requirements, unit of measurements and hyper vitaminosis of vitamins A, D, E and K, Effect of deficiency.

Water Soluble Vitamins - Ascorbic acid and B complex vitamins- Thiamine, Riboflavin and Niacin- Functions, effects of deficiency, food sources and requirements for different age groups. Importance of folic acid, Pyridoxine, Vitamin B12.

UNIT-IV: Macro and Micro Minerals

(06 Hours)

Macro Minerals- Calcium, Phosphorous, Magnesium, Potassium,& Sodium Distribution in the body; functions, effects of deficiency, food sources and RDA.

Micro / Trace Minerals- Iron, Zinc, and Iodine Distribution in the body; functions, effects of deficiency, food sources and requirements for different age groups.

UNIT- V: Water**(06 Hours)**

Water- Sources, Functions, requirements. Distribution of water in the body, exchange of water in the body, Water balance, dehydration, water intoxication, Role of ADH in water balance.

Total Lecture Hours- 30**COURSE OUTCOME**

The students should be able to

1. Understand the importance of nutrients in relation to health.
2. Identify the major nutrients, their functions, interactions, and needs of the body.
3. Infer knowledge on micro nutrients and their functions.
4. Understand the importance of water balance and health.

TEXT BOOK(S)

1. Gajalakshmi R. 2014. Nutrition Science. CBS Publishers and distributors Pvt Ltd, New Delhi.
2. Raheena Begum M. 2012. A Text Book of Foods Nutrition and Dietetics. Sterling publishers private Limited.
3. Ranjana Mahna & Seema PuriKumud Khanna, Sharda Gupta, Santosh Jain Passi, Rama Seth.2016. Textbook of Nutrition and Dietetics. Elite Publishing House Pvt. Ltd, ISBN-10 : 8188901539; ISBN-13 : 978-8188901531
4. Srilakshmi B.2017.Nutrition Science. sixth edition. New Age International Publishers ISBN- 10 : 9386418886; ISBN-13 : 978-9386418883,
5. Swaminathan M. 1993. Principles of Nutrition and Dietetics. Bappco 88, Mysore Road, Bangalore-560 018.

REFERENCE BOOK(S)

1. Bogert J.G.V. Briggs, D.H. 1985. Calloway Nutrition and physical fitness 11th edition W.B. Saunders Co., Philadelphia, London, Toronto.
2. Guthrie H.A. – Introductory Nutrition C.V. Mosby Co. St. Louis.
3. Maurice E, Shils, James A. Olson, Moshe Shike “Modern Nutrition in health and disease” (1994) eighth edition, Vol. I & II Lea &Febiger Philadelphia, A waverly Company.
4. Wardlaw G.M. Insel, P.H. – Perspectives in Nutrition (1990) Times Mirror / Mosby College Publishing Co. St. Louis, Toronto, Boston.
5. William S.R. 1985. Nutrition and Diet Therapy. 5th edition, Mosbey Co. St. Louis.

E - RESOURCES

1. <https://youtu.be/HxeqJWJ5U>
2. https://youtu.be/WecTpcuha_4
3. <http://www.kgmu.org/download/virtualclass/biochemistry/Fat%20Soluble%20Vitamins.pdf>
4. <https://www.megazyme.com/focus-areas/dietary-fiber-portal/what-is-dietary-fiber>
5. <https://www.ncbi.nlm.nih.gov/books/NBK218759/>
6. <https://www.ao.org/eye-health/diseases/vitamin-deficiency>
7. <https://www.medicalnewstoday.com/articles/248>



**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: IV CC – IV: Nutritional Biochemistry

Ins Hrs./Week:5

Course Credit: 5

Course Code:22ND407

OBJECTIVE:

- Review the biological system of energy metabolism.
- Study the chemical/biochemical properties and metabolic pathways of carbohydrates, lipids, and proteins.
- Examine the regulatory mechanisms of macronutrient metabolism and associated signalling pathways.
- Understand the research techniques used in basic biochemistry and nutritional biochemistry research.

UNIT- I: Carbohydrate

(15 Hours)

Carbohydrate – Structure and classification, Metabolism of carbohydrate –glucose oxidation through Glycolysis, Krebs- TCA cycle, Pentose Phosphate Pathway, Gluconeogenesis. Inborn errors of metabolism – Fructosuria and galactosemia.

UNIT II: Proteins

(15 Hours)

Proteins-primary, secondary, tertiary structure of proteins, Hydrolysis of proteins-Denaturation, precipitation, coagulation. Nutritional classification of proteins, Amino Acids – Classification, chemical properties due to amino and carboxyl groups. Metabolism of amino acids-Deamination, Transamination, Decarboxylation – urea cycle, fate of carbon skeleton of amino acids. Inborn errors of metabolism-Phenyl ketonuria, Alcaptonuria, Maple Syrup Urine Disorder

UNIT- III: Lipid and Lipid Metabolism

(14 Hours)

Lipids and Lipid Metabolism– Classification of fats, oxidation of fatty acids, Bio synthesis of fatty acids, ketogenesis. Nutritional importance of Saturated and Unsaturated fatty acids, Tri acylglycerols, Phospholipids and Cholesterol.

UNIT-IV: Nucleotides, Nucleic Acids And Enzyme

(15 Hours)

Nucleotides and nucleic acids: Structure of purine and pyrimidines nucleotides, RNA – structure and types, double helical structure of DNA, biosynthesis and catabolism of purine and pyrimidine nucleotides.

Enzyme- Definition, Enzyme classification, Nomenclature, Factors affecting enzymatic activity, Mechanism of action. Co- enzyme and prosthetic group- role of B vitamins.

UNIT- V: Vitamins and Minerals**(16 Hours)**

Vitamins: Fat Soluble Vitamins (A, D, E, K) – Classification, functions, Sources and its metabolism. Water Soluble Vitamins (Vitamin B and Vitamin C) – Classification, functions, Sources and its metabolism

Minerals: Macro Minerals (Calcium, Phosphorus, Sodium, Potassium, Magnesium)– Sources, functions, Classification and its metabolism.

Micro Minerals (Iron, Fluorine, Zinc, Iodine, Selenium) – Classification , functions, Sources and its metabolism

Total Lecture Hours- 75

COURSE OUTCOME

The students should be able to

1. Understand the role of enzymes in metabolism and clinical conditions.
2. Interpret the significance of macronutrient metabolism, and thereby understand the implications of disorders resulting from these.
3. Acquire skills in qualitative tests and quantitative estimation of nutrients.
4. Understand and gain theory & practical knowledge on Biological cycles involved in metabolism.
5. Evaluate and criticize the experimental approaches and scientific information presented in the research articles related to nutritional biochemistry.

TEXT BOOK(S)

1. AmbikaShanmugam. 2008. Fundamentals of Biochemistry for Medical Students. Lippincott Williams & Wilkins.
2. Rafi MD. Dr. N.T.R. 2015. Textbook of BiochemistryforMedical Students. Universityof Health Sciences,UniversitiesPress.
3. Ranganatha Rao. K. 2000. Text book of Biochemistry. Prentice Hall of India, New Delhi.
4. Sathyanarayanan U.Chakrapani U. 2010.Textbook of biochemistry. 3rd edition.books and allied (p) ltd, Kolkata.
5. Ambika Shanmugham. 1985. Fundamentals of bio-chemistry to medical students. NVA Bharat Printers, and traders, Madras.

REFERENCE BOOK(S)

1. Agarwal GR. Meerut. 2014. TextBookof Biochemistry .KrishnaPrakashanMedia(p)
2. Conn EE. Stumpf PK. 1981. Outlines of Biochemsirty. 4th. Ed. Wiley Eastern Ltd, New Delhi.
3. Harvey R. Ferrier D. Lippincott’s Illustrated Reviews Biochemistry. 6th edition, Lippincott Williams and Wilkins, Philadelphia.Ltd.
4. Murray, R.K.,Granner,D.K. and Rodwell, V. W. 2006.Harper’s Illustrated Biochemistry. 27th ed. The McGraw-Hill Companies, USA.
5. Satyanarayanan ,U .2014. Biochemistry. Elsevier India PrivateLimited,NewDelhi.

E- RESOURCES

1. <http://eagri.org/eagri50/GBPR111/lec16.pdf>
2. <https://courses.lumenlearning.com/boundless-microbiology/chapter/the-citric-acid>
3. <http://watcut.uwaterloo.ca/webnotes/Metabolism/Gluconeogenesis.html>
4. <https://www.nhs.uk/conditions/phenylketonuria/>
5. [https://dducollegedu.ac.in/Datafiles/cms/ecourse%20content/B.Sc.%20\(H\)%20Bot%20VI%20sem_Dr%20Sandeep%20Kumar%20Botay.pdf](https://dducollegedu.ac.in/Datafiles/cms/ecourse%20content/B.Sc.%20(H)%20Bot%20VI%20sem_Dr%20Sandeep%20Kumar%20Botay.pdf).

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S
COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**



Semester: IV CP – IV: Nutritional Biochemistry Practical

Ins Hrs./Week:3

Course Credit: 2

Course Code:22ND408P

CONTENTS

- Qualitative Tests for Carbohydrates – Glucose, Fructose, Lactose, Maltose, Starch
- Qualitative Test for Protein – Caesin, Egg albumin.
- Qualitative Tests for Lipids – Coconut oil, Gingelly oil.
- Qualitative Tests for Minerals – Copper Sulphate, Ammonium Phosphate.
- Quantitative Estimation of Glucose – BQR method
- Quantitative Estimation of Protein – Biuret Method
- Quantitative Estimation of Phosphorus – Fiske and Subarrow Method
- Quantitative Estimation of Ascorbic Acid – 2,6 Dichloro Indophenol Dye Method
- Determination of Iodine Value.

REFERENCE BOOK(S)

1. Oser BL. 2001. Harke's Physiological Chemistry. XIV Edition. Tata McGraw Hill Publishing Company Ltd, Bombay.
2. Raghuramulu N. Madhavannair K. and Kalyana Sundaram. 2003. A Manual of Laboratory Techniques, National Institute of Nutrition, Hyderabad, 500007.
3. Sadasivam S and Manickam A. 2003. Biochemical Method. Second Edition. New Age International P. Ltd Publishers, New Delhi.
4. Varley H. Gowenlak AH. and Hill M. 2000. Practical Clinical Biochemistry. William Itinmaon Medical Books, London.

E - RESOURCES

1. <https://youtu.be/fQ1hSNGnXYY>
2. <https://youtu.be/ZN3bz3EftJ0>
3. <http://www.chem.boun.edu.tr/wp-content/uploads-415-Experiment-1.pdf/2014/04/Chem>
4. <https://portlandpress.com/biochemj/article-abstract/62/4/675/50235/The-use-of-p-chloromercuribenzoic-acid-in-the?redirectedFrom=PDF>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester: IV AC – IV: Basic Food Processing and Preservation

Ins Hrs./Week: 3

Course Credit: 2

Course Code: 22AND407

OBJECTIVES

- Apply different techniques used in the preservation of foods.
- Understand the processing techniques for food products.
- Understand and learn basics of foods, food composition, nutritive value, functions and roles of foods in relation to human consumption.

UNIT- I: Food Preservation and Processing (08 Hours)

Definition and scope of food preservation, principles and role of preservation, preservatives and its types, shelf life of food products, Permitted Preservatives, FPO Specification. Principles of fresh food storage : storage, effect of cold storage and quality – storage of grains – Water activity, spoilage- Types of Spoilage ,Factors influencing the spoilage.

UNIT-II: Processing of Cereals and Millets (08 Hours)

Milling products and by products of wheat, rice, corn, barley, oats, sorghum and other millets, whole wheat atta, blended flour, fortified flour, flaked, puffed and popped cereals, malted cereals, processed foods – bakery products, pasta products and value added products.

UNIT-III: Processing of Milk and Milk Products (10 Hours)

Milk – manufacture of different types of milk, drying of whole and skim milk, cream separation, churning of butter, processing of different types of cheese, Probiotic milk products- yoghurt, dahi and ice-cream, indigenous milk products – khoa, burfi, kalakhand, gulab jamun, rasagola, srikhand, channa, paneer, ghee,lassi

UNIT- IV: High Temperature – Processing and Preservation (09 Hours)

Blanching, pasteurization, sterilization and Ultra High Temperature(UHT) processing, canning, dielectric heating microwave heating, baking, roasting and frying. Retort processing of Ready to Eat (RTE) products.

UNIT-V: Low Temperature Processing and Preservations (10 Hours)

Refrigeration, Freezing and thawing, Food irradiation: Introduction, freezing point and freezing rate, comparison of Freezing and thawing process; freezing methods: Air freezing, plate freezing, liquid immersion freezing and cryogenic freezing. Freezer selection. Advantages and disadvantages of freezing. Freezing curve and changes in food during freezing storage.

Total Lecture Hours- 45

COURSE OUTCOME

The students should be able to

1. Integrate knowledge on food preservation and spoilage.
2. Understand the fundamental principles of food processing.
3. Comprehend the role of milk in indigenous milk products.
4. Infer knowledge on high temperature food processing and preservation
5. Exemplify the low temperature food storage and preservation

TEXT BOOK(S)

1. Avantina Sharma. 2019 Textbook of Food Science and Technology, 3rd edition, CBS publishers, ISBN-10: 9789386478009, ISBN-13:978-9386478009.
2. Sivasankar. 2002. Food Processing and Preservation, Prentice Hall India Learning Private Limited. ISBN-10: 8120320867; ISBN-13:978-8120320864
3. Subbulakshmi G. 2006. Food Processing and Preservation . First edition. New age publishers; ISBN-10: 8122412831, ISBN-13:978-8122412833
4. Vijaya Khader. 2001.Text book of Food Science and Technology. Indian Council of Agricultural Research, NewDelh.
5. Warris DS. 2020. Food Processing and Preservation .2 –Vol, ISBN-10: 9389688590 ISBN-13:978-9389688597.

REFERENCE BOOK(S)

1. Arthey D and Ashurst PR. 1996. Fruit processing, Blackie academic and professional. London.
2. Fellows PJ. 2016. Food Processing Technology. Second edition, Principles and Practice, CRC Wood head publishing Ltd, Cambridge.
3. Gould GW .1995. New methods of food preservation. Blackie academic and professional. London.
4. John, Kingslee. 2014. A professional text to Bakery and Confectionary, New Age International (P) Limited.
5. NeelamKhetarpaul,RajBalaGrewalandSudeshJood.2013.Bakery science and cereal technology, Daya publishing house.

E- RESOURCES:

1. <http://labgraos.com.br/manager/uploads/arquivo/cap--26-handbook-of-food-preservation-pdf>
2. <http://www.uop.edu.pk/ocontents/Lecture%20no%202.pdf>
3. https://www.canr.msu.edu/smprv/uploads/files/Safe_Practices_for_Food_Processes_Chpt._3_Factors_that_Influece_Microbial_Growth.pdf
4. <https://www.medicalnewstoday.com/articles/318630>
5. <https://www.ifst.org/resources/information-statements/food-irradiation>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester: IV AP – IV: Basic Food Processing and Preservation Practical

Ins Hrs. /Week: 3

Course Credit: 2

Course Code: 22AND408P

CONTENTS

- Stages of preparation and observation of sugar syrup
- Preparation of Bakery Products – Cakes, Cookies, Breads, Pies, Pastries
- Extrusion Cooking – Preparation of Pastas
- Dehydration & Evaporation – Preparation of Condensed Milk & Salted Dry Fish
- Fruit & Vegetable Processing; Use of Chemical Additives for Preservation;
- Thermal Processing of Foods – Preparation of Jams, Jellies, Squashes, Pickles, Chutneys, Sauces (Preservation by salt, sugar and oil)
- Emulsions and Emulsifying Agents – Preparation of Mayonnaise and Vinaigrette
- Fermented Foods – Preparation of idlis and curds/ yoghurt
- Frozen Foods – Preparation of Ice Cream & Fruit/ Vegetable Pulp

E – RESOURCES

2. <https://youtu.be/DnwC8t8aCAQ>
3. <https://youtu.be/V5pddQGbHKQ>
4. <https://www3.epa.gov/ttn/chief/ap42/ch09/final/c9s09-5.pdf>
5. <https://www.indianhealthyrecipes.com/masala-pasta/>
6. <https://www.allrecipes.com/article/making-mayonnaise/>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester: IV NME – II: Women's Health and Nutrition

Ins Hrs./Week: 2

Course Credit: 2 Course Code: 22NMEND42

OBJECTIVE:

- Identify nutrition principles to women's health choices and behaviors.
- Plan proper dietary intake during pregnancy and throughout the lifetime.
- Critically analyze and transfer current nutrition trends in women's health.
- Recommend approaches to disorders, medical conditions, and weight management.

Unit- I: Concept and definition of nutrition (06 Hours)

Common nutritional disorders among women and children and their preventive measures. Importance of Women's Health, Psycho social aspects of women's health.

Unit –II: Normal nutrition through life cycle (06 Hours)

Nutrition in adolescence, diet, Adolescent pregnancy, eating disorders, food consumption patterns in women, nutritional needs of elderly women, Nutrition for female athlete.

Unit- III: Nature and use of Health care Delivery System (06 Hours)

Nature and use of Health care Delivery System: Problems & Prospects Reproductive health and Reproductive rights. Nutrition and reproduction: Diet, menstrual cycle and sex steroid hormones, nutrition concern during pregnancy and lactation, nutritional concerns in pre and post menopausal phase, hormone replacement therapy, use of oral contraceptives and nutrition.

Unit- IV: Health Education (06 Hours)

Health Education special reference to rural women Family Welfare methods of Gender bias Practices. Food processing techniques and its merits and demerits.

Unit- V : Communicable diseases in women (06 Hours)

Health Concept and definition, Spread of sexually transmitted diseases, HIV/AIDS and its impact on women; preventive measures. Common Communicable diseases and their preventive measures, National Health Programmes

Total Lecture Hours- 30

COURSE OUTCOME

The students should be able to

1. Understand the various factors influencing health and nutritional status of women .Plan and undertake various activities to improve the status of women
2. Understand the implications of women's health on family, community and national development.
3. Understand the importance of maternal nutrition on foetal outcome
4. Infer knowledge on impact of communicable diseases in women's life.

TEXT BOOK(S)

1. Arpita Verma. 2017. Women's Health and Nutrition. Role of State and Voluntary Organizations, Rawat publishers, ISBN-10: 8131609138 ISBN-13:978-8131609132.
2. Mahtab S. Bamji KamalaKrishnaswamy, G.N.V., Brahman. 2012. Text book of HumanNutrition.3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd,New Delhi.
3. Srilakshmi E. 2014. Dietetics. Seventh multicolour edition, New Age InternationalPublishers, New Delhi.
4. Srilakshmi E. 2017.Nutrition Science. Sixth edition .New Age International Publishers,New Delhi.
5. Swaminathan M. 2010.Hand book of Foods and Nutrition. Bappco Publisher

REFERENCE BOOK(S)

1. Mahan Kathleen L. Krause.2004.Food, Nutrition and Diet Therapy. 11th Edition. W.B.Saunders.
2. Gordon M. Wardlaw Anne M. 2006.Smith contemporary Nutrition. Mc Graw – HillInternational Edition.
3. Vishwannath M. Sardesai.2011.Introduction to clinical Nutrition.3rd edition.CRC Press.
4. Roberta Larson Duyff. 2002.Complete food and Nutrition guide. 2nd edition. John wiley &sons, Inc American Dietetic Association.
5. Gopalan C.Rama Sastri BV. Balasubramanian SC. 2014. Nutritive Value of Indian Foods.National Institute of Nutrition, ICMR, Hyderabad.
6. Krause MV.and Hunscher MA.,Food,Nutrition and Diet Therapy, 14th EditionW.B.Saunders.

E- RESOURCES

<https://www.betterhealth.vic.gov.au/health/healthyliving/food-and-your-life-stages>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6349991/>

<https://apps.who.int/iris/bitstream/handle/10665/204764/B0239.pdf;sequence=1>

https://niti.gov.in/planningcommission.gov.in/docs/plans/planrel/fiveyr/10th/volume2/v2_ch2_10.pdf

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3329060/>

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTAL, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester IV – SBE – I Bakery and Confectionary

Ins Hrs. /Week: 2

Course Credit: 2

Course Code:22SBEND1

OBJECTIVES

- Understand the principles & methods of baking.
- Acquire basic skills in baking and confectionery.
- Understand the role of various food components in baking and the interaction of the elements used for baking.
- Expand their knowledge related to the art of decoration of baked foods and confectionery items.

UNIT-I: Basic Baking & Equipments (06 Hours)

Baking: Meaning, process and scientific principles involved. Classification of baked products. Basic plan and layout of a bakery unit. Equipments used in bakery: Large and small equipments and tools; types of ovens. Nutritional aspects of bakery products Storage and evaluation (objective and subjective methods) of baked products.

UNIT-II: Baking Ingredients (07 Hours)

Ingredients used in bakery: Functional classification of ingredients- structure builders, tenderizers, moisteners, driers and flavors. Flour: Composition, types and quality characteristics. Sugar.

Fats: Fats used as shortenings- Butter, margarine, emulsified fats and flavored oils; properties and uses of shortenings. Leavening agents: Definition and classification- physical; chemical- baking powder and its types, baking soda; biological- yeast- types and role in baking.; Moisturizing agents: Egg, water and milk- their role in baking.

UNIT-III: Bread & Cakes (06 Hours)

Bread: Ingredients used, steps in bread making process, processing methods, characteristics of good bread (external and internal), faults in shape, texture, crust and flavor of bread. Cakes: Ingredients, types, cake making methods, test for doneness, characteristics of good cake (external and internal), cake faults and remedies. Icing: Meaning, types, ingredients used and preparation guidelines.

UNIT-IV: Cookies & Pastries (05 Hours)

Cookies: Characteristics, preparation methods and problems in cookie making. Biscuits: Steps involved in biscuit making. Pastries: Types and method of preparation.

UNIT-V: Sugar Confectionaries

(06 Hours)

Sugar confectionery – Types, role of sugar in preparation, Candies –Fondant like toffee, fudge, marshmallows, gums, jellies, chocolates – properties of these candies.

Total Lecture Hours- 30

COURSE OUTCOME

The students should be able to

1. Explain the properties and functions of various ingredients in bakery science.
2. Understand the role and use of equipments in the production of baked foods.
3. Apply, Prepare, variety of doughs, batters, and fillings for baking with a sound understanding of mixing methods and baking techniques.
4. Classify and prepare basic confectionary products.
5. Infer knowledge on role of sugar in confectionaries.

TEXT BOOK(S)

1. Avantina Sharma . 2019. Textbook of Food Science and Technology. 3rd edition. CBS publishers, ISBN-10: 9789386478009, ISBN-13:978-9386478009.
2. Dubey SC. 2002. Basic Baking. society of Indian Bakers, New Delhi.
3. John Kingslee.2006. A professional text book to Bakery and Confectionary. New Age International Pvt Limited Publisher, New Delhi.
4. Uttam K. Singh. 2011.Theory of Bakery and Confectionary An operational approach. Kanishka Publishers and Distributors, New Delhi.
5. Yogambal Ashokkumar. 2012. Bakery and Confectionary. PHI publication.

REFERENCE BOOK(S)

1. John Kingslee. 2014. A professional text to Bakery and Confectionary. New Age International (P) Limited.
2. Lilian Hiagl and Meyer.2004. Food chemistry. CBS publishers and Distributors.
3. Shakunthala Manay N and Shadak sharaswamy M. 2005. Food Facts and Principles, New Age International (P) Ltd Publishers.
4. Neelam Khetarpaul, Raj Bala Grewal and Sudesh Jood. 2013. Bakery science and cereal technology. Daya publishing house.
5. Vijaya Khader. 2001.Text book of Food Science and Technology. Indian Council of Agricultural Research, New Delhi

E- RESOURCES

1. <https://www.sihmbalangir.org/upload/Cakes%20&%20Pastries%20Book.pdf>
2. <https://www.cookingandme.com/2010/05/31/types-of-ovens-how-tochoose-oven/>
3. <https://www.chinimandi.com/types-of-sugar/>
4. <http://penyrheol-comp.net/technology/wpcontent/uploads/sites/2/2014/06/Cake-Making-Methods.p>
5. <http://ecoursesonline.iasri.res.in/mod/resource/view.php?id=5880>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Semester V – CC-V: Dietetics - I

Ins Hrs./Week: 6

Course Credit: 6

Course Code: 23ND509

OBJECTIVES

- Provide comprehensive knowledge on principles and planning of therapeutic diets.
- Acquire knowledge on nutritional needs of normal and sick persons.
- Assess the nutritional problems of community and effectively manage the nutritional needs of community.
- Develop capacity and aptitude for taking up dietetics as a profession.

UNIT-I: Dietician and Nutrition Care Concept (19 Hours)

Introduction to term Dietician: Definition; Educational Qualification of Dietician, Types and Role of dietician, Difference between registered dietician and Nutritionist, tools used by dietician.

Introduction to Nutrition Care Process: Definition, Steps of Nutrition Care Process, Nutrition Assessment: -Definition, Methods of Nutrition assessment. Nutrition Interventions: - Definition, objectives, Nutrition Monitoring and Evaluation: - Definition, components, goals and objectives, evaluation of Nutrition care.

UNIT –II: Diet Therapy (20 Hours)

Definitions and Principles of Diet Therapy, Concepts and objectives of therapeutic diet, Therapeutic Adaptation of Normal Diet: Definition; therapeutic adaptation: Special feeding methods- Enteral nutrition- methods- nasogastric, gastrostomy and jejunostomy, types of food, infusion techniques. TPN- Types of infusion, TPN formula for adults.

Normal diet, Routine Hospital Diet: - clear liquid diet, full fluid diet/liquid diet, semi-solid diet, soft diet, normal diet, bland diet, high and low-calorie diet, high and low protein diet, high and low fiber diet, low cholesterol diet.

UNIT –III: Febrile Condition and Life Style Disorders / Diseases (18 Hours)

Causes, symptoms, dietary management of Febrile conditions: Acute and Chronic (Typhoid, influenza, malaria, tuberculosis). Obesity, Underweight, Diabetes mellitus, Cardio vascular diseases – hypertension, atherosclerosis, congestive cardiac failure

UNIT –IV: Diet in Deficiency Disorders (16 Hours)

Causes, symptoms, dietary management based of Protein Energy Malnutrition – Kwashiorkor and marasmus, Constipation, Vitamin A, C and D, Mineral – Calcium, Iron

UNIT –V: Diet in Addictive Behavior (17 Hours)

Anorexia nervosa and Bulimia nervosa: – Introduction, Definition, types, symptoms, causes, risk factor, effect, treatment, nutritional management. Alcoholism: – Introduction, symptoms, causes, diagnosis, treatment, nutritional management. Nutrient and drug interaction classification of

nutrient drug, effect of drug on nutritional status, stages of drug absorption, nutrient drug interaction list. Common Nutrient Deficiencies in Recovering Addicts, nutritional planning for pre and post rehabilitation

Total Lecture Hours- 90

COURSE OUTCOME

The students will be able to

1. Comprehend the role and need of dieticians in nutritional care process.
2. Apply knowledge on changing needs of normal and therapeutic nutrition.
3. Assess, formulate and prepare diet for specific conditions of life style disorders
4. Interpret the role of nutrients to combat malnutrition.
5. Understand knowledge on drug addiction and need of the nutritional requirement for the addictive behaviours.

TEXT BOOK(S)

1. Antia FP. 2008. Clinical dietetics and nutrition. Oxford University Press, New Delhi.
2. Gopalan SC. Balasubramanian SV. 1971. Diet Atlas. ICMR, New Delhi, India.
3. Shubhangini A. Joshi. 2011. Nutrition and Dietetics. 3rd edition. Tata McGraw Hill Education private limited, New Delhi.
4. Srilakshmi B. 2014. Dietetics. New age international publishers, New Delhi.
5. Swaminathan M. 1993. Principles of Nutrition and Dietetics. Bappeo 88, Bangalore.

REFERENCE BOOK(S)

1. Davidson, Passmore R and Brock JB. 1976. Human Nutrition and Dietetics. The English Languages Book Society and Churchill Living stone.
2. Krause MV and Mahan, M.A. 1992. Food Nutrition and Diet Therapy. W.B. Saunders Company, Philadelphia, London.
3. Maurice E. Shils James A, Olson Moshe Shike. 1994. Modern Nutrition in health and disease. eighth edition, Febiger Philadelphia, A waverly company.
4. Micheal J. Gibney I. Macdonald A and Helan M. Roche. 2004. Nutrition and Metabolism. Blackwell Publishing Company, Bangalore.
5. Robinson CH. Lawles MR. Chenoweth WL. Garwick AE. 1990. Normal and Therapeutic Nutrition. The Macmillan Company, New York.

E - RESOURCES

1. <https://youtu.be/VC8e8r3OxCs>
2. <https://youtu.be/ZD5yze3bGEI>
3. <https://youtu.be/oc7XLrKp-yA>
4. <https://www.mdpi.com/2072-6643/12/11/3521/pdf>
5. [https://www.nios.ac.in/media/documents/SecHmsscicour/english/Home%20Science%20\(Eng\)%20Ch-8.pdf](https://www.nios.ac.in/media/documents/SecHmsscicour/english/Home%20Science%20(Eng)%20Ch-8.pdf)

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

Semester V – CC- VI: Food Service Management – I

Ins Hrs. /Week: 6

Course Credit: 6

Course Code: 23ND510

OBJECTIVES

- Understand the basic principles of management in food services units.
- Develop managerial skills among the learners.
- Understand the concept and principles of management.

UNIT- I: Food Service Systems

(19 Hours)

Food Service Industry: Definition – types of catering- Hotel, Motel, Restaurant, Cafeteria Bar, Pub and Fast Food Restaurant and chain hotels. Welfare catering– Hospital, School lunch, Residential establishment and Industrial catering. Transport catering– Air, Rail, Sea and Space.

UNIT – II: Management Tools and Organization

(20 Hours)

The organization Chart - Definition, types of organization, Process and principles and theories of organization. Job Description and specification, Work schedule, Job Analysis, staff analysis, Budget, leadership style, decision making and communication. Principles of management Definition, Evaluation of management, tools, principles and functions types and theories of management.

UNIT – III: Food Plant Layout, Material and Resource Management

(18 Hours)

Food Plant Layout: Types and characteristics of a typical food service layout, space allocation for the various areas; flow of traffic through receiving, storage, preparation, service and dish washing areas; arrangements of equipment in work centres; optimum working heights.

Material and Resource Management:

Material Management- Food materials, cleaning, table ware, staff, Fuels – Type, advantage, fuel saving practices. Equipment: Classification of equipment, factors involved in selection of equipment; purchase of equipment, Base materials used for equipment.

Inventory management- assessing requirements, receiving of stock, release of stocks. .Record maintenance. systems for maintaining quality in food preparation and service Kitchen control and maintenance of Kitchen records.

UNIT – IV: Personnel Management

(17 Hours)

Definition, development and policies, sources of recruitment, selection induction, training, development, motivation supervision and leadership. promotion, personnel records, work appraisals. Employee facilities fringe benefits: Labour policies and legislation – labour laws governing food service establishment.

UNIT – V: Financial Management

(16 Hours)

Definition, application of Management Accounts of catering operators, cost concepts, book keeping and accounting – systems of book keeping, book of account maintenance of account books, balance sheets and inventor budgetary control. Break-even analysis.

Total Lecture Hours- 90

COURSE OUTCOME

The students will be able to

1. Understand the role and importance of food service industry.
2. Understand the concept of management, principles and techniques or effective execution in catering establishment.
3. Impart knowledge of various tangible and intangible tools used in management and techniques for work improvement.
4. Infer knowledge on resource management.
5. Interpret the role of personnel management in catering establishments
6. Apply financial management in maintenance on accounts in catering establishment.

TEXT BOOK(S)

1. Andrews S. 2008. Text book of Food and Beverage Management. Tata McGraw-Hill Publishing Company Limited.
2. Jyoti S. Sharma. 2006. Food Service Modern Technique and Practices. Akansha Publishing House.
3. Mary B. Gregoire, Marian C. Spears. 2007, Food Service Organizations. Pearson Prentice Hall.
4. Sethi M. 2011. Institutional Food Management. Second edition. New age International (P) Limited. New Delhi.
5. Swaminathan M. 1979. Food Service and Experimental Foods. Ganesh and Co, Madras.

REFERENCE BOOK(S)

1. Davis B. Lockwood. A and Stone. S 2008. Food and Beverage Management. Third Edition. Elsevier Publication. New Delhi.
2. Kinton R and Ceserani V. 1992. The Theory of Catering. ELBS Publishers.
3. Manay Shakunthala N and Shadakshaiswamy M. 1987. Foods, Fats and Principles. Wiley Eastern Ltd, New Delhi, Bangalore.
4. Mohini Sethi and Surjeet Malhan. 2007. Catering Management – an integrated approach. 2nd edition, Wiley Eastern Limited, New Delhi.
5. Mudambi SR. and Rao SM. 1986. Food Science. Wiley Eastern Ltd. New Delhi,
6. Pechkam G.C. 1979. Foundations of food preparation. The Macmillan Publishing Co., New York.
7. West BB and Wood L. 1979. Food Service in Institutions. John Wiley, New York.

E- RESOURCES

1. <https://youtu.be/2EqbC4aC5kc>
2. <https://youtu.be/ce5kS9UCGGY>
3. <https://youtu.be/bO4d7V8Vcuo>
4. <https://youtu.be/HqzdWs3mprA>
5. http://vcmdrp.tums.ac.ir/files/financial/istgahe_mali/5D.pdf

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**



Semester V – CC VII: Family and Child Welfare

Ins Hrs./Week:5

Course Credit: 5

Course Code:23ND511

OBJECTIVES

- Aware of history, concept of family and child welfare.
- Understand different approaches to protection of children.
- Gain knowledge on the role of national and international agencies working for child and family welfare.

UNIT –I: Family as a Social Institution

(15 Hours)

Family as a Social Institution: Definition and concept of family, Family: Common characteristics, rituals, routines, traditions, functions, structures and dynamics, violence. Types of family with reference to India. Marriage: Definition and concept, Types of Marriage and changes in Marriage and family.

UNIT –II: Premise and Origin

(15 Hours)

Premise and Origin – Psychosocial Theories, Role theory, Structural theories, and Family development theory. The Family in the Context of Social Change: Concept and characteristics of social change. Impact of migration, industrialization, urbanization, liberalization, privatization and globalization of family.

UNIT – III: Work with Families

(14 Hours)

Work with Families: Family centered social work – Definition and concept, Principles of Family centered social work, Components of family centered social work, family therapy, crisis intervention in families- steps, prevention of family crisis.

UNIT – IV: Parenting and problems of Childhood

(16 Hours)

Parent-Child Relationships in Diverse Contexts –Planned parenthood and duties styles of parenting child rearing techniques small family norms.

Child – Concept and Definition, Psychoanalytic child development Theories, Piaget, Behavioural child development theory. Problems of Children - child labour, female foeticide, child trafficking, child abuse and child neglect.

UNIT – V: Welfare for family and child

(15 Hours)

Services for child welfare – Adoption services, foster care, Child guidance clinics, Integrated Child Development service(ICDS), CARE,UNICEF. Role of NGO's in the field of Child Development.

Institutions for Family Welfare: Ministry of Health and Family Welfare, National Institute of Health and Family Welfare, National Rural Health Mission, Planning Commission, Family Courts, Legal Service Authority, INGOs' and NGOs' role in empowering families.

Total Lecture Hours- 75

COURSE OUTCOME

The students will be able to:

1. Understand the family structures and family dynamics.
2. Develop a theoretical understanding of families and children.
3. Understand the National policy and board for child welfare.
4. Identify the Regulations and different institutional services in child welfare institutions.
5. Aware of Rights of the children and Gain knowledge on Different services for maternal and child care.

TEXTBOOK(S)

1. Ajit K. Singh. 2011. Family and Child Welfare Publisher, Centrum Press ISBN-10:9381293708, ISBN-13:978-9381293706
2. Michael J. Gibney, Barrie M. Margetts, John, M. Kearney and Lenore Arab. 2005. Public health nutrition. Blackwell publishing company.
3. Patel, Tulsi. 2005. The Family in India: Structure and Practice. Sage Publications. New Delhi.
4. Rao Shankar C.N. 2007. Indian Society. S. S. Chand and Company Ltd. New Delhi.
5. Roy, Kalpana. 2000. Women and Child Development. Commonwealth Publications. New Delhi.

REFERENCEBOOK(S)

1. Barik S. 2011. Domestic Violence in India. Adhyayan Publishers. New Delhi.
2. Erlbaum Heath, P. (2005). Parent-child relations: History, theory, research, and context. New Jersey: Prentice-Hall.
3. Goel Manju. 1997. Marital Disputes and Counselling Methodology. APH Publishing Corporation, New Delhi.
4. Khan MZ. 1991. Trends in Family Welfare Planning. International Publishers. New Delhi.
5. Lewis, David and Ravichandran, N. 2008. NGOs and Social Welfare. Rawat Publications, New Delhi.
6. Mathur, Hari Mohan. 1992. The Family Welfare Programmes in India. Vikas Publishing House, New Delhi.
7. McCurdy Karen and Jones, Elizabeth. 2000. Supporting Families Lessons from the Field. Sage Publications, USA.

E- RESOURCES

1. <https://youtu.be/Ef3GzFnEMYw>
2. <https://youtu.be/HKKVaZ8gzAc>
3. <https://youtu.be/oRVax88N16Y>
4. <https://youtu.be/87ZqKLVENpw>
5. http://mospi.nic.in/sites/files/Statistical_year_book_india_chapters/pdf
6. <https://education.gov.scot/improvement/Documents/par2-section9-mar19.pdf>
7. https://www.researchgate.net/publication/327078511_Family_Dynamics_and_Intergenerational_Relations_A_psycho-Social_Analysis



**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester V – CP V: Dietetics – I Practical

Ins Hrs./Week:3

Course Credit: 3

Course Code: 23ND512P

Planning, preparation and calculation of following diets:

- Therapeutic Diet -Normal, Clear fluid, full fluid and soft diet.
- Tube Feeding.
- High and low caloric diet.
- High and low Protein diet.
- High and low Fibre diet and
- High and low Cholesterol diet.
- Diet in febrile conditions - Typhoid, tuberculosis.
- Obesity.
- Under weight.
- Diabetes mellitus.
- Cardio vascular diseases – hypertension, atherosclerosis.
- Diet for Deficiency – Vitamin A., D, Ca, Fe, I.

REFERENCE BOOK(S)

1. Antia FP.1973. Clinical nutrition and Dietetics. Oxford University Press, Delhi, London, New York.
2. Davidson and Pass more R and Brock JB.1976. Human Nutrition and dietetics. The English Languages Book Society and Churchill Living stone.
3. Krause MV and Mahan MA. 1992. Food Nutrition and Diet Therapy. W.B. Saunders company, Philadelphia, London.
4. Maurice E. Shils James A. Olson, Moshe Shike.1994. Modern Nutrition in health and disease. eighth edition, Febiger Philadelphia, A waverly company.
5. Micheal J. Gibney I. Macdonald A and Helan M. Roche. 2004. Nutrition and Metabolism, Blackwell Publishing Company, Bangalore.
6. Robinson CH. Lawles MR. Chenoweth WL. Garwick A.E.1990. Normal and Therapeutic Nutrition. The Macmillan Company, New York.

E- RESOURCES

2. <https://youtu.be/gOOQR3BAuHE>
3. <https://youtu.be/zvbXjm2ThvQ>
4. <https://youtu.be/VC8e8r3OxCs>
5. <https://youtu.be/ZD5yze3bGEI>
6. <https://youtu.be/oc7XLrKp-yA>
7. <https://www.gillettechildrens.org/your-visit/patient-education/full-liquid-diet>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester V – MBE I: Changing Trends in Extension Education

Ins Hrs./Week:4

Course Credit:4

Course Code: 23MBEND1

OBJECTIVES

- Understand the role of extension workers in planning programmes for the community.
- Obtain necessary skills in extension teaching and field work.
- Understand the meaning and scope of rural development.
- Learn genesis, origin and development of rural development.

UNIT- I: Concept of Home Science Extension Education (12 Hours)

Concept of Extension Education: Meaning, objectives and principles of Extension Education, need, scope and Home Science Extension Education; Role of home science in developing a community.

Historical review of extension education in India and abroad; Role and qualities of an Extension worker; Role and Functions of Extension Educator; Qualities of extension educator; Role of Home Science in National Development.

UNIT-II: Community Development and Panchayat Raj (13 Hours)

Community Development and Panchayat Raj: Meaning, Principles, Objectives, Scope and Philosophy of community development in India. Historical review of community development in India; Evolution of Panchayat Raj set up and functions at the Central, State, District, Block and village level, Three tier system and the principle of Democratic decentralization; Problems of the community development and Panchayat Raj; Similarities and Dissimilarities between community Development and extension education.

UNIT- III: Community Participation (13 Hours)

Community Participation: Meaning, Importance, Factors influencing community participation, measures to improve community participation. Recent extension approaches: Participatory Rural Appraisal (PRA), Action plays, child-to-child approach, Woman-to-Woman approach, Rapid Rural Appraisal (RRA).

UNIT- IV: Communication (10 Hours)

Communication - concept, elements and their characteristics Forms and types of communication-. Communication Aids: Audio visual aids in extension work. Conventional aid - motion pictures, slides, flannel graphs, flash cards, graphs, puppet shows and Mass media. Communication process – concept

UNIT – V: Program Planning (12 Hours)

Program planning - Meaning and importance, Principles of programme planning, steps involved in programme planning. Evaluation: Meaning and types of evaluation. Five-year plans

and Social Welfare. Programmes National and International agencies for the development and welfare of women and children – UNICEF, CARE, WHO, IRDP, ANP, ICDS, ICPS, TRYSEM, DWCRA and NAEP. Special Programmes - POSHAN Abhiyaan, Rashtriya Mahila Kosh, Rajiv Gandhi Scheme for Empowerment of Adolescent Girls, Mother and Child Tracking System (MCTS) Pradhan Mantri Matritva Vandana Yojana, Sukanya samridhi yojana, Deen Dayal, Upadhaya Antyodaya yojana (Self employment programme), Kasturba Gandhi Balika Vidyalaya.

Total Lecture Hours- 60

COURSE OUTCOME

The students will be able to:

1. Gain knowledge on fundamental of rural development and community development.
2. Acquire knowledge on early experiments conducted in the field of rural development and its outcomes.
3. Understand the community development schemes for and apply the skill to assess the developmental status of rural area.
4. Gain knowledge on program planning and participatory methods in rural development programme.
5. Identify and utilize the National and International agencies for the development and welfare of women and children.

TEXT BOOK(S)

1. Addivi Reddy. 1987. Extension Education. Sree lakshmi press, Andrapradesh.
2. Bhattacharya SA. 1970. Community Development - An analysis of the Programme in India. Academic Publishers, Calcutta.
3. Bhattacharya SN. 1983. Rural Development in India and other Developing Countries, Metropolitan Publishers, New Delhi.
4. Gupta DK. 2010. Mass Communication in Information Era. Rajat Publications, New Delhi.
5. Khan PM. and Somani LL. 2009. Fundamentals of Extension Education. Agro tech Publishing Academy.

REFERENCEBOOK(S)

1. Dahama OP and Bhat Nagar OP. 1985. Extension and Communication for development. Oxford and IBH Publishing Company. New Delhi.
2. Desai AR. 1994. Rural Sociology in India. Popular Prakasham publishers.
3. Directorate of Extension, Ministry of Food and Agriculture, Govt. of India. 1961. Extension Education in Community Development. New Delhi,
4. NIRD .1991. Rural development Statistics. Rajendra Nagar, Hyderabad.
5. Patnayak Rama. 1990. Rural Development in India. Vikas Publishing House Pvt. Ltd, New Delhi .
6. Ray GL. 1991. Extension Communication and Management. Calcutta.
7. Reddy A. 2006. Extension Education. Sree Lakshmi Press, Bapatla, A.P.
8. Sharma SK and Malhotra SL. 1977. Integrated Rural Development. Abhinar Publications. New Delhi.
9. Shelat, KN. 1988. Evaluation of Rural Development. Kathan Education Communication Unit, Ahmedabad.

E- RESOURCES

1. <https://youtu.be/hEOzATJqByM>
2. <https://youtu.be/OBtkdXy4IPQ>
3. <https://youtu.be/8xCrd-tqB48>
4. <https://youtu.be/Lin5VqiFQfg>
5. <https://youtu.be/Tjri76reSSQ>
6. <http://accioneduca.org/admin/archivos/clases/material/planning1563990283.pdf>
7. http://ec.europa.eu/echo/files/evaluation/watsan2005/annex_files/WEDC/es/ES12D.pdf

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester V – SBE – II Food Standards Quality Control

Ins Hrs. /Week: 2

Course Credit: 2

Course Code:23SBEND2

OBJECTIVES:

- To study about quality control and common food standards.
- Understand the role of quality in food production.
- Become familiar with Food standards/ laws involved in food quality control.
- Understand the process involved in safe handling of food and production of quality food products

UNIT-I: Standard operating procedure and checklist

(07 Hours)

Preparing scope, quality policy and quality objectives of food processing company, Defining Standard operating procedure. SOP for purchasing raw materials, receiving raw materials, storage, cleaning, holding, cooling, freezing, thawing, reheating, personal hygiene, facility and equipments. Preparation of HACCP based SOP checklist- personal hygiene, food preparation, hot holding, cold holding, refrigerator, freezer and milk cooler, food storage and dry storage, cleaning and sanitizing, utensils and equipments, large equipments, garbage storage and disposal and pest control.

UNIT-II: Food Standard and Laws

(07 Hours)

Food Standards: Cereals and bakery products, Fruit Products, Oils and Fats, Milk and Products, Other products - coffee, tea, sugar, honey, toffees. Voluntary and Compulsory standards Packaging and labelling standards. ISO, HACCP, FSSAI and Government Regulations In Quality Control: FAO/WHO codex Alimentarius commission, Consumer Protection Act (CPA)PFA, AGMARK, BIS, FPO, fair average quality (FAQ) specification for food grains, ISO- 9000 series

UNIT-III :Concepts of Food Quality

(05 Hours)

Quality Control: Objectives, Importance, functions of quality control, stages of quality control in food industry. Quality Control Concepts as applied to the food industry; General Concepts of quality control and quality control FDA; Food quality indices – cereals, pulses, nuts and oil seeds, vegetables, fruits, milk and milk products, non – vegetarian foods, oils, spices and condiments, processed foods – canned foods, baked products and preserved foods.indicators of quality in different foods- specification for cereals, pulses, oil seeds, fruits and vegetables.

UNIT-IV: Perspectives of Food Quality

(05 Hours)

Factors affecting food quality- Pre and post-harvest factors- processing and production, storage, trade conditions, humidity, temperature and transportation. Determination of quality of food- Subjective method: types of sensory evaluation Objective method: instrumental, physical, chemical, physico chemical and microscopic.

.UNIT-V: Food Quality Assurance (FQA) and Management

(06 Hours)

Definition of Quality Assurance, Difference between QA and Quality Control. Definition of Total Quality Control, its nature, approaches and role of management. Definition of Statistical Quality Control (SQC), determining the need for SQC. Definition –control chart, uses process control. Quality Improvement techniques: Quality Improvement Plans (QIP), Quality Control Circles (QCC), Total quality management (TQM).

Total Lecture Hours- 30

COURSE OUTCOME

The students will be able to

1. Recognize the need and importance and functions of quality control unit in food industries.
2. Evaluate the methods used for checking the food quality.
3. Identify the food hazards.
4. Understanding of national and international organization enforcing food quality and safety.
5. Know the needs and importance of total quality management in food industry.

TEXT BOOK(S):

1. Dev Raj, Rakesh Sharma and Joshi, V.K. 2011. Quality Control for Value Addition in Food Processing. New India Publishing Agency, New Delhi.
2. Eillian H. Mayer, Food Chemistry, Affiliated East West Press Pvt.Ltd., New Delhi, 1973.
3. Mahindru SN. 2009. Food Science and Technology. Vol.II, APH Publishing Corporation, New Delhi.
4. Norman N. Potter and Joseph H. Hotchkiss. 1996. Food Science .CBS Publishers.
5. Prem Kumar Jaiswal. 2009. Food Quality and Safety, CBS Publishers and Distributors Pvt.Ltd, Noida. U.P.
6. Swaminathan M. Hand Book of Food Science and Experimental Foods, BAPCO, Bangalore, 1995
7. Swaminathan M. 2012. Food Science, Chemistry and Experiment Foods. Bappco Publishers.
8. Swaminathan M. Essentials of Food and Nutrition: Vol.II, BAPCO, Bangalore, 1992.

REFERENCE BOOK(S)

1. Bhatia R. Ichhpujan RL. 2004. Quality assurance in Microbiology. CBS Publishers and Distributors, New Delhi.
2. Desrosier, Desrosier. 1999. Technology of food preservation. Fourth edition, CBS Publishers.
3. J.H. Food Science, 5th Ed., CBS Publications and Distributors, Daryaganji, New Delhi, 1998.
4. Kher CP. 2000. Quality control for the food industry. ITC Publishers, Geneva.
5. Philip AC. 2001. Reconceptualizing quality. New Age International Publishers, Bangalore.
6. Sathé AY. 1999. A first course in food analysis. New Age Publications, New Delhi.
7. Srilakshmi, B. Food Science, New Age International Publishers, New Delhi, 2010 2. Potter, N. and Hotchkiss

E- RESOURCES

1. <https://youtu.be/jtgmm4lnhQg>
2. <https://youtu.be/HJY1XWSaLbk>
3. <https://youtu.be/6EvsZkt0xRM>
4. <https://youtu.be/abGudok3mxk>
5. <https://youtu.be/abGudok3mxk>
6. <https://athenaeum.libs.uga.edu/bitstream/handle/10724/12251/B997.pdf>

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester V – SBE – III Food Packaging

Ins Hrs./Week:2

Course Credit: 2

Course Code:23SBEND3

OBJECTIVES

- To identify the types of primary and secondary processing for different foods before packaging.
- To know the Objectives and functions of food packaging.
- To understand the need for food packaging and the recent packaging materials and labelling.
- Learn and gain knowledge on food packaging and applications during transportation.

UNIT-I: Basic of Food Packaging

(05 Hours)

Introduction of Food packaging; Definition, functions of packaging materials for different foods, Need of food packaging, Role of packaging in extending shelf life of foods. Designing of package materials. Testing of package materials.

UNIT-II: Packaging Materials

(07 Hours)

Packaging Materials: Introduction, purpose, requirements, types of containers. Types of packaging materials their characteristics and uses. Use of paper as a packaging material-Pulping Fibrillation, Beating, Types of papers, Use of glass as a packaging material-Composition, Properties, Types, Methods of bottle making. Use of metals as a packaging material-Tinplate container, Tinning process, Components of tinplate, Tin free steel (TFS), Types of cans, composite containers, aerosol containers, Aluminium containers, Lacquers. Use of plastics as a packaging material-Types of plastics, Plastic films, laminated plastic materials, rigid plastic packages.

UNIT-III: Advanced Packaging

(06 Hours)

Packages of Radiation Stabilized Foods: Introduction, rigid containers, flexible containers, general methods for establishing radiation stabilization. Radiation measurement of radiations. Biodegradable packaging material - biopolymer based edible firm.

UNIT-IV: Packaging Technology

(07 Hours)

Package accessories and advances in Packaging Technology-Introduction, Active packaging, Modified atmosphere packaging, Aseptic packaging, Packages for microwave ovens, Biodegradable plastics, Edible gums, Coatings. Packaging equipment and machinery- Vacuum packaging machine, CA and MA packaging machine, Gas packaging machine, Seal and shrink-packaging machine. Form and fill sealing machine, Aseptic packaging systems, Retort pouches, Bottling machines, Carton making machines, Package printing machines.

UNIT-V: Labeling and Standards

(05 Hours)

Packaging of Finished Goods: Weighing, filling, scaling, wrapping, cartooning, labeling, marking and trapping. Labeling: Standards, purpose, description, types of labels, labeling regulation barcode, Nutrition labeling, health claims, and mandatory labeling provision.

Total Lecture Hours- 30

COURSE OUTCOME

The students will be able to

1. Apply knowledge on Packaging requirement of food product and different types of food packaging system.
2. Identify various packaging materials used in packaging industry.
3. Know the Packaging technology and equipments /machinery used in packaging.
4. Understand the advanced packaging technology.
5. Understand the packaging rules, labeling techniques, packaging techniques, bar coding etc.

TEXT BOOK(S):

1. Charls L.2002. Cutting, Fish – Processing and Preservation. Agro bios, India.
2. John P. Jacob.2010. Handbook on Food Packaging .Daya Publishing House .ISBN-10: 9788170356493; ISBN-13: 978-8170356493.
3. Neelam Khetarpaul. 2008. Food Packaging .Daya Publishing House, ISBN-10: 9788170355427; ISBN-13: 978-8170355427.Potter, N.M. 2015.Food Science. The AVI Publishing Company Inc, West Post, USA.
4. Subbulakshmi G. Shobha AL. 2001. Food Processing and Preservation. New age international publishing.
5. Vijaya Khader. 2001.Text book of Food Science and Technology. Indian Council of Agricultural Research, New Delhi.

REFERENCE BOOK(S):

1. Crosby NT. Food Packaging materials. Applied Science Pub., Ltd, London.
2. F.A. and Paine HY. Leonard, Hill.2000. A hand book of Food Packaging.Balckie Sons Ltd, London.
3. NIIR Board of Consultants and Engineers. 2014. Modern Packaging Industries. National Institute of Industrial Research, New Delhi.
4. NIIR Board of Consultants and Engineers.2013. Food Packaging Technology Handbook. National Institute of Research, New Delhi.
5. NIIR. Food Packaging Technology hand book, Delhi.
6. Paine FA. The packaging media. Blackie and Sons Ltd, London.
7. Stanley Sacharous, Roger C.Griffin. Principles of Food Packaging .2nd Edition, AVI Publishers Co. Westport.

E- RESOURCES

1. <https://youtu.be/e8MclQODPmU>
2. <https://youtu.be/wt32GgQGTcI>
3. <https://youtu.be/8sdX5RCpBfc>
4. <https://www.fda.gov/files/food/published/Food-Labeling-Guide-%28PDF%29.pdf>
5. <https://polymerinnovationblog.com/wp-content/uploads/2017/02/pdf>

SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE

(AUTONOMOUS)

SUNDARAKKOTTAI, MANNARGUDI - 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



SOFT SKILLS DEVELOPMENT

Ins Hrs./Week:2

Course Credit: 2

Course Code:23UGSDC

Learning Objective

Today's world is all about relationship, communication and presenting oneself, one's ideas and the company in the most positive and impactful way. This course intends to enable students to achieve excellence in both personal and professional life.

Unit I

Know Thyself/ Understanding Self

Introduction to Soft skills-Self discovery-Developing positive attitude-improving perceptions-Forming values

Unit II

Interpersonal Skills/ Understanding Others

Developing interpersonal relationship-Team building-group dynamics-Net working-Improved work relationship

Unit III

Communication Skills / Communication with others

Art of listening-Art of reading-Art of speaking-Art of writing-Art of writing e-mails-email etiquette

Unit IV

Corporate Skills / Working with Others

Developing body language-Practicing etiquette and mannerism-Time management-Stress management

Unit V

Selling Self / Job Hunting

Writing resume/cv-interview skills-Group discussion- Mock interview-Mock GD – Goalsetting - Career planning

TEXT BOOKS:

Meena.K and V.Ayothi (2013) A Book on Development of Soft Skills (Soft Skills : A Road Map to Success), P.R. Publishers and Distributors, No, B-20 and 21, V.M.M. Complex, Chatiram Bus Stand, Tiruchirappalli- 620 002. (Phone No: 0431-2702824: Mobile No: 94433 70597, 98430 74472)

Alex K. (2012) Soft Skills – Know Yourself and Know the World, S.Chand and CompanyLTD,Ram Nagar, New Delhi- 110 055.

Mobile No : 94425 14814 (Dr.K.Alex)

REFERENCE BOOKS:

- (i) Developing the leader within you John c Maxwell
- (ii) Good to Great by *Jim Collins*
- (iii) The seven habits of highly effective people Stephen Covey
- (iv) Emotional Intelligence Daniel Goleman
- (v) You can win Shive Khera
- (vi) Principle centred leadership Stephen Covey

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester VI – CC VIII: Dietetics – II

Ins Hrs./Week:6

Course Credit: 6

Course Code:23ND513

OBJECTIVES

- Provide comprehensive knowledge on principles and planning of therapeutic diets.
- Acquire knowledge on nutritional needs of diseased persons.
- Assess the nutritional problems of diseased and effectively manage the nutritional needs.

UNIT - I: Diet Counseling and Disorders/Diseases of Gastro intestinal Tract (20 Hours)

Dietary counselling – clients and counselors, client responsibility, attributes of a successful counselor, steps in counseling process, counseling guidelines.

Gastro intestinal disease, peptic ulcer, Irritable bowel syndrome, diarrhoea and dysentery.

Diseases of liver, gall bladder -hepatitis, cirrhosis Cholecystitis and Cholelithiasis.

UNIT- II: Nutritional care in Respiratory Tract and Excretory System (16 Hours)

Aetiology, symptoms and modification of diet in - Upper respiratory infection - Common Cold, Lower respiratory infection - Bronchitis and Pneumonia.

Aetiology, symptoms and modification of diet in Disease of kidney - Glomerulo nephritis, nephritic syndrome, acute and chronic renal failure, dialysis - urinary calculi.

UNIT–III: Disorders/Diseases of Endo, Exocrine System and Inborn Errors of Metabolism (19 Hours)

Aetiology, symptoms and modification of diet in

Endocrine disorder - Hypo and Hyperthyroidism, and Addison's disease

Exocrine disorders - Cystic fibrosis, Acute and Chronic Pancreatitis

Inborn Errors of Metabolism - Galactosaemia (Carbohydrate metabolism), Phenyl ketonuria (Amino acid Metabolism), Niemann-Pick disease (lipid storage Metabolism)

UNIT- IV: Disorder/ Diseases in Special Conditions (19 Hours)

Aetiology, symptoms and modification of diet in

- a. Allergy
- b. Surgery
- c. Burns
- d. HIV/AIDS
- e. Cancer

UNIT – V: Nutritional Care for Children with Special Needs (16 Hours)

Overview of disability, Etiology, symptoms and modification of diet in Attention deficit hyperactivity disorder

- a. Autism
- b. Cerebral palsy
- c. Down's syndrome

Total Lecture Hours- 90

COURSE OUTCOME

The students will be able to

1. Predict the importance of computers in nutrition practice. Develop the capacity and attitude for taking dietetics as a profession.
2. Define the causes, symptoms and complications of diseases.
3. Explain the skills of dietary assessment, planning, management and evaluation
4. Utilize advanced principles of dietary management, including critical thinking skills, literature searches, data collection and interpretation, necessary for the implementation of therapeutic services in clinical settings.
5. Analyse the relationships between nutrition, health and food selection.

TEXT BOOK(S)

1. Gopalan S.C Balasubramanian S.V. Ramestri and Visweswara Rao Diet Atlas. 1971, ICMR New Delhi, India.
2. Shubhangini A. Joshi. 2011. Nutrition and Dietetics, 3rd edition, Tata McGraw Hill Education private limited, New Delhi.
3. Srilakshmi B.2010. Dietetics, New Age International Publishers, New Delhi.
4. Sumati R. Mudambi MV. Rajagopal.2015.Fundamental of food, nutrition and diet therapy. New age international publishers, New Delhi.
5. Swaminathan M.1993.Principles of Nutrition and Dietetics. Bappeo 88, Mysore Road, Bangalore.

REFERENCE BOOK(S)

1. Davidson and Passmore R and Brock JB.1976. Human Nutrition and dietetics. The English Languages Bood Society and Churchill Living stone.
2. Krause M V and Mahan MA.1992.Food Nutrition and Diet Therapy .W.B. Sanders company,Philadelphia London.
3. Maurice E. Shils, James A. Olson, Moshe Shike.1994. Modern Nutrition in health and disease. eighth edition, Vol I and II Lea and Febiger Philadelphia, A waverly company.
4. Micheal J. Gibney IA. Macdonald and Helan M. Roche. 2004. Nutrition and Metabolism.Blackwell Publishing Company, Bangalore.
5. Robinson CH. 2006. Normal and therapeutic Nutrition. Macmillan Pub. Company,NewYork
6. Robinson CH. Lawles MR. Chenoweth WL. Garwic AE. 1990. Normal and Therapeutic Nutrition.

E- RESOURCES

1. <https://youtu.be/E0IBMWQDEH4>
2. http://ams2.kku.ac.th/fileaf/suchat/UTI/Diseases_of_the_urinary_system.pdf
3. <https://youtu.be/4zUFV3m5uy8>
4. <https://youtu.be/JPO-uOPK5RI>
5. <https://www.friendshipcircle.org/blog/2012/12/03/the-top-10-diets-for- children-with-special- needs/>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS



Semester VI – CC IX: Food Service Management - II

Ins Hrs./Week:6

Course Credit: 6

Course Code:23ND514

OBJECTIVES

- Gain knowledge about various types of food services.
- Gain knowledge about the Principles and functions of Management.
- To understand about personnel Management, financial management and legal aspects of catering.
- To realise the importance of sanitation and hygiene in food service institutions.

UNIT –I: Classification Based on Delivery and Service of Food (19 Hours)

Method of Processing: Types of food service systems: Conventional systems, Commissary system, ready prepared system and assembly – service system. Styles of Service: English, Russian, French and American. Types of Service of food- self-service, tray service, Waiter –Waitress Service and portable service.

UNIT –II: Food Purchasing and Storage (18 Hours)

Purchasing: Purchasing officer, duties, purchasing procedures, selection of supplier, methods of purchasing, purchase specifications, Purchase records, Receiving: Procedure and forms. Storing and issuing: Objectives, types of store records, and stores issues. Inventory control

UNIT –III: Food Planning (17 Hours)

Meal/ Menu Planning Menu: Definition, need and functions of menu Planning, Types of menu, Principles involved in menu Planning, Factors in menu planning for large groups, techniques in writing menu card. Menu merchandising, menu pricing. Ways and means of creating good ambience (mise en place and mise en scene) Informal and formal table setting styles

UNIT –IV: Food Production and Food Cost (18 Hours)

Food Production: Production forecasting, production scheduling, Standardization of recipes, recipe files and adapting recipes , portion control, Utilization of left-over foods

Food Cost : Definition, meaning, principles of food cost ,elements of cost-food cost, labour cost and over head. Cost control: Factors responsible for losses in food service industry, methods of controlling goods costs leading to profit, costing of dishes, meals and events : methods of pricing items.

UNIT – V: Hygiene, Sanitation and Safety in Food Service Institutions (18 Hours)

Definition, importance, environmental hygiene and sanitation; hygiene in food handling; personnel hygiene of personnel; importance of pest and rodent control in food services. Safety in food procurement, storage, handling and preparation, control of spoilage, safety of left over foods, disposal of food waste Safety: Accidents in food service establishments, safety procedure, training, Education, legal responsibilities of food service manager.

Total Lecture Hours- 90

COURSE OUTCOME

The students will be able to

1. Know the different types of catering and food services, and the types of services used in the industry.
2. Be acquainted with the scope of the field of catering and food service management, and the career avenues available.
3. Understand the need for developing knowledge and different skills to become food service professionals.
4. Have a Thorough knowledge on ideal food service layout to utilize the optimum working environment.
5. Gain knowledge on proper resource utilization in terms of handling equipment, their maintenance and other furnishing materials.

TEXT BOOK(S)

1. Andrews S .2008. Text book of Food and Beverage Management. Tata McGraw-Hill Publishing Company Limited.
2. Jyoti S. Sharma. 2006. Food Service Modern Technique and Practices. Akansha Publishing House.
3. Mary B. Gregoire, Marian C. Spears. 2007. Food Service Organizations. Pearson Prentice Hall.
4. Norman G. Marriott , M. Wes Schilling , Robert B. Gravani, 2018. Principles of Food Sanitation, Cornell University Ithaca, New York, USA
5. Sethi M .2011. Institutional Food Management. Second edition, New age International(P) Limited.
6. Sethi M. and Malhan SM. 2007. Catering Management an Integrated Approach. Wiley Eastern Limited, Mumbai.
7. Subba Rao P. 2014. Management Theory and Practice, Himalaya publication.
8. [Sunetra Roday](#), 2017. Food Hygiene and Sanitation, McGraw Hill Education.
9. Swaminathan M.1979. Food Service and Experimental Foods, Ganesh and Co., Madras.

REFERENCE BOOK(S)

1. Bennion M and Hughes D. 1975- Introductory foods, Macmillan publishing Co. Inc- New York.
2. Davis B. Lockwood A and Stone S .2008. Food and Beverage Management. Third Edition, Elsevier Publication.
3. Kinton R And Ceserani V. 1992. The Theory of Catering. ELBS Publishers.
4. Mohini Sethi and Surjeet Malhan. 2007. Catering Management – integrated approach”, 2nd edition, Wiley Eastern Limited, New Delhi.
5. Mudambi SR. and Rao SM. 1986. Food Science. Wiley Eastern Ltd. New Delhi, Bangalore.
6. Pechkam GC. 1979 .Foundations of food preparation. The Macmillan Publishing Co, New York.
7. Ramaswamy T. Principles of Management Himalaya Publication.
8. Shakunthala Manay N and Shadakshaiswamy M. 1987. Foods, Fats and Principles. Willey Eastern Ltd. New Delhi, Bangalore.
9. West BB and Wood L. 1979. Food Service in Institutions. John Wiley, New York.
10. Yasmine Motarjemi , 2013. Encyclopedia of Food Safety , Gerald Moy, Ewen Todd ; Publisher, Academic Press ISBN: 0123786134

E- RESOURCES

1. <https://youtu.be/E2ZV3YLulu8>
2. <https://youtu.be/uwWQSRM-63U>
3. <https://youtu.be/rrqZchGe0bo>
4. <https://youtu.be/4Bb1rOiQcLk>
5. <https://www.agrimoon.com/wp-content/uploads/Food-Processing-Plant-Design-layout.pdf>
6. <https://ncert.nic.in/textbook/pdf/lehe104.pdf>
7. <http://open.lib.umn.edu/principlesmanagement/chapter/1-5-planning-organizing-leading-and-controlling-2/>
8. https://www.managementstudyguide.com/management_functions.htm

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester VI – CP VI: Dietetics – II Practical

Ins Hrs./Week:6

Course Credit: 5

Course Code:23ND515P

1. Planning, preparation and calculation of following diets:

- Common cold and pneumonia.
- Peptic ulcer, IBS, diarrhoea and dysentery.
- Hepatitis, cirrhosis.
- Cholecystitis ,Cholelithiasis
- Nephritis, Nephrosis, Urinary calculi.
- Hyper and Hypothyroidism.
- Pancreatitis.
- Inborn Errors of Metabolism – Galactosemia and PKU.
- Allergy, Burns, Cancer, AIDS.
- Autism.
- Down syndrome.

E- RESOURCES

1. <https://youtu.be/Ec1FVkp2P2U>
2. <https://youtu.be/E0IBMWQDEH4>
3. <https://youtu.be/0fJbNN1577k>
4. https://www.researchgate.net/publication/5289279_PhenylketonuriaAnInborn_Error_of_Phenylalanine_Metabolism

**SENGAMALA THAYAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**

SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**



SEMESTER VI – MBE II: Textile Science

Ins Hrs./Week:5

Course Credit: 5

Course Code:23MBEND2

OBJECTIVES:

- To impart knowledge about basic science behind textiles.
- To acquaint learners with current scenario of the textile Industry.
- To be aware of properties and the sequence of developing fibres into fabric of textile fibre.

UNIT –I: Textile Fibers

(15 Hours)

Terms and definition related to textile, Importance of textile, Fibers, filaments, yarns- spun yarns, filament yarns, sewing threads, Fabrics- woven, knitted, non-woven, Classification and nature of fibers

UNIT– II: General Fiber Properties

(14 Hours)

Fiber length, Fiber strength, Flexibility, Spinnability, Uniformity, Density, Luster, Moisture and Moisture regain, Elasticity, elastic recovery, elongation. Water- repellent fibers. Resiliency and compressibility. Chemical, Environmental and other properties

UNIT– III: Manufacturing Processes and Properties of Textile Fibers

(15 Hours)

Brief introduction about manufacturing processes and physical and chemical properties of following textile fibers. Cotton, Silk, Wool, Polyester, Acrylic, Nylon.

UNIT– IV: Yarns

(16 Hours)

Definition of yarn. Types of yarn. Yarn twist. Yarn count (definition, unit of yarn count), Texturization – types. Sequence and types of spinning processes - Conventional yarn spinning - Cotton system and Unconventional yarn spinning.

UNIT-V: Conversion of Yarn Into Fabric

(15 Hours)

Processing - Woven fabric -Basic loom and its structure, Warp and weft yarns, grain line , Basic weaves.(Plain weave, Rib weave, Variation of plain weave, Basket variation of plain weave, Twill weave, Satin weave, Sateen weave) Decorative weaves.(Dobby weaves, Jacquard weave, Leno weaves, Surface figure weave, Pile, Double weave) Draft and peg-plan of weave. Fabric count. Knitted fabric. Non-Woven fabric. Other fabric construction process. Braided fabric Nets, Laces, Film fabric, Tufted fabric.

Total Lecture Hours- 75

COURSE OUTCOME

The students will be able to

1. Gain knowledge in textile production and processing.
2. Acquire knowledge about different types of fabric and structure.
3. Understand the fibre extraction procedures and processing.
4. Identify natural and man-made fibres and Understand basic textile fabrication techniques.
5. Acquire knowledge of basic weaving in the textile industry.

TEXT BOOK(S)

1. Bernard P. Corbman.2005. Textiles Fiber to Fabric. Sixth edition, McGraw Hill International Editions, New Delhi.
2. Deepali Rastogi and Sheetal Chopra. 2017. Textile Science, Orient Black-Swan Private Limited, Hyderabad.
3. Kaplan NS. 2008. Textile Fibres. Abhishek Publications, Chandigarh.
4. Kothari VK. 2010. Progress in Textile Science. Vol I, II and III, IAFL Publications, New Delhi.
5. Seema Sekhri. 2011. Textbook of Fabric science. Fundamentals to finishing, PHI Learning Private limited, New Delhi.

REFERENCE BOOK(S)

1. Banner NN. Mechanism of Weaving, Vol– I and II, Textile Institute
2. Corbman B P and Potter MD.1984. Textiles fiber to fabric. International Edition, McGraw-hill book Co, New York.
3. Gohl EP and vilensky LD. 1983. Textile Science. 2nd Ed., Publishers, New Delhi.
4. Joseph J. Pretal.1990.Fabric Science. 5th edition, Fairchild Publications, New york.
5. Klein WD. A Practical Guide to Ring Spinning Textile Institute, Manchester.
6. Mark and Robinson, Principles of weaving, Textile institute Manchester.
7. Premony Ghosh. 2004. Fibre science and Technology. Tata McGraw- Hill Publishing Company limited, New Delhi.

E- RESOURCES

2. <https://youtu.be/CaoQWOaIUuE>
3. <https://youtu.be/PDuiSnBYCQc>
4. <https://youtu.be/bVjFP8LTa6c>
5. <https://youtu.be/JvLykvVV2sk>
6. <https://youtu.be/2aCT4Kk2P5U>
7. <https://youtu.be/5UBhRgRyxi8>
8. https://www.researchgate.net/publication/41651190_Fancy_yarns_-_An_appraisal
9. <https://link.springer.com/content/pdf/10.1186/s40691-015-0027-8.pdf>

**SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)**



SUNDARAKKOTTAI, MANNARGUDI – 614016

(For the candidate admitted from the academic year 2021-2022)

**DEPARTMENT OF NUTRITION AND DIETETICS
B.Sc., NUTRITION AND DIETETICS**

Semester VI – MBE III: Dietary Internship

Ins Hrs./Week:6

Course Credit: 5

Course Code:23MBEND3

OBJECTIVES

- Gain hands on experience of applying theoretical concepts in a practical setting and understand the working of hospital/ wellness centre.
- Relate to, interact with and learn from current professionals in the field and strengthen their professional skills and interpersonal relationships.
- Broaden the knowledge and plan for future career.

CONTENTS

Dietary internship for a period of 15 Days

Works under each specialty included in the hospital

- Different Wards
- Dietary Department layout
- Organization chart
- Duties and Responsibilities
- Store keeping (receiving and holding of provision, stock levels in the stores, supervision of the kitchen area, pre-preparation area and preparation of patient diet and hospital made enteral feeds, quality Control, kitchen hygiene and patient tray service.

General Guidelines:

- Every student of this courses will be required to undergo a practical training in an organization approved by the Institute for Weeks, normally during
The candidates shall be required to undergo training in the various areas of the organization concerned.
- The organization may assign a specific project to the candidate, which will be completed by him/her during the period of training. The work done by the candidate during the training period shall be submitted in the form of a report as per the guidelines provided by the Department/ Hospital/Organization
- The Chief Dietitian/ concerned in charge is asked to evaluate the student based on her performance as well as their conduct for Marks. The report has to be sent to the HOD of the concerned college department

SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)

SUNDARAKKOTTAI, MANNARGUDI - 614016

(For the candidate admitted from the academic year 2021-2022)

DEPARTMENT OF NUTRITION AND DIETETICS

B.Sc., NUTRITION AND DIETETICS

(Applicable to the candidates admitted from the Academic year 2019-20 onwards)



Gender Studies

Ins Hrs./Week:1

Course Credit: 1

Course Code:23UGGS

Objectives

- ❖ To make boys and girls aware of each others strengths and Weakness.
- ❖ To develop sensitivity towards both genders in order to lead an ethically enriched life.
- ❖ To promote attitudinal change towards a gender balanced ambience and women empowerment.

Unit – I: Concepts of Gender

Sex – Gender – Biological Determinism – Patriarchy – Feminism – Gender Discrimination – Gender Division of labour – Gender Stereotyping – Gender Sensitivity – Gender Equity– Equality– Gender Mainstreaming - Empowerment.

Unit – II: Women's Studies vs Gender Studies

UGC's Guidelines – VII to XI Plans – Gender Studies: Beijing Conference and CEDAW – Exclusiveness and Inclusiveness.

Unit – III: Areas of Gender Discrimination

Family – Sex Ratio – Literacy – Health – Governance – Religion Work Vs Employment – Market – Media – Politics – Law – Domestic Violence – Sexual Harassment – State Policies and Planning .

Unit – IV: Women Development and Gender Empowerment

Initiatives – International Women's Decade – International Women's Year – National Policy for Empowerment of Women – Women Empowerment Year 2001 – Mainstreaming Global Policies

Unit – V: Women's Movements and Safeguarding Mechanism

In India National /State Commission for Women(NCW) – All Women Police Station – Family Court – Domestic Violence Act – Prevention of Sexual Harassment at Work Place Supreme Court Guidelines – Maternity Benefit Act – PNDT Act – Hindu Succession Act 2005 – Eve Teasing Prevention Act – Self Help Groups – 73rd and 74th Amendment for PRIS

References

1. Agarwal Bina, Humphries Jane and Robeyns Ingrid(ed.,) Capabilities , Freedom , and Equality:
2. Amartya Sen's Work from a Gender Perspective, New Delhi : Oxford University Press ,2006
3. Arya Sadhna Women ,Gender Equality and the State ,New Delhi :Deep andDeep Publication,2000
4. Bhasin Kamala , What is Patriarchy? : Gender Basics, New Delhi:Women Unlimited ,1993
5. Bhasin Kamala, Exploring Masculinity: Gender Basics , New Delhi: Women Unlimited,2004
6. Bhasin Kamala, Understanding Gender : Gender Basics , New Delhi : Women Unlimited,2004
7. Bhattacharya Malini , Sexual Violence and Law ,Kolkata; West Bengala Commission for Women ,2002
8. Chari Leelavathi ,Know Your Rights ,Madras; Tamilnadu Social Welfare Board,1987
9. Krishna Sumi, (ed.),Livelihood and Gender : Equity in Community Resource Management, New Delhi : Sage Publication ,2004
10. Mishra .O.P,Law Relating to Women andChild ,Allahabad :Central Law Agency,2001
11. Misra Geetanjali, Chandiramani Radhika (ed.,) Sexuality , Gender and Rights: Exploring Theory and Practice in South and Southeast Asia, New Delhi : Sage Publication ,2005
12. Mohanty Manoranjan(ed.,) Class ,Caste ,Gender : Readings in Indian Government andPolitics – 5,New Delhi : Sage Publications ,2004.
13. Pernau Margrit, Ahmad Imtiaz, Reifeld Hermut (ed.,)Family and Gender : Changing Values in Germany and India ,New Delhi :Sage Publications,2003
14. Pludi.A Michele(ed.,) praeger Guide to the Psychology of Gender ,London :Praeger Publisher ,2004
15. Rajadurai. S.V,Geetha.V,Themes in Caste Gender and Religion, Tiruchirappalli : Bharathidasan University ,2007
16. Rao Anupama (ed.,) Gender andCaste : Issues in Contemporary Indian Feminism, New Delhi, ,2004
17. Saha Chandana , Gender Equity and Gender Equality : Study of Girl Child in Rajasthan, Kali for Women, 2003
18. Sexual Harassment at the Workplace – A Guide , New Delhi ;Sakshi,1999
19. Wharton .S Amy , The Sociology of Gender : An Introduction to Theory and Research, Jaipur: Rawat Publication ,2003.
