DR AMBEDKAR GOVERNMENT ARTS COLLEGE (VYSARPADI CHENAI 600039)

DEPARTMENT OF HOME SCIENCE – NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS

MEETING OF THE BOARD OF STUDIES –B.SC NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS

Date: 10.6.2019

Time: 10 AM

Agenda:

1. To review the existing syllabus.
2. To discuss the course content of the newly framed syllabus and its applicability to the changing trends and demands in the market.
3. To suggest suitable modifications if any,

Members of the Board of Studies

S. No	Members	Names
	Chairperson	Dr.Anna Ranjini Chellappa
	University Nominee	Dr.Suganthi
	Subject expert	Mrs. Jayanthi
	Subject expert	Dr.Meena
	Industrialist	Dr.Parthiban
	Alumni	Ms.Nirmala
	Faculty	
		Mrs Y. Vijayalakshmi priya
		Dr A Lalitha

Chairman 10/6/19

Dr. ANNA RANGINI CHELLAPPA
Associate Professor & Head
Department of Nutrition, FSM and Dietetics
Dr. Ambedkar Govt. Arts College (Autonomous)
Vyasarpadi, Chennai - 600 039

DR AMBEDKAR GOVERNMENT ARTS COLLEGE (VYSARPADI CHENAI 600039)

DEPARTMENT OF HOME SCIENCE – NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS

MINUTES OF THE MEETING OF THE BOARD OF STUDIES –B.SC NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS

- The meeting of the board of studies in Department of Home Science – Nutrition, Food Service Management and Dietetics was held on 10th June 2019 at 10 AM in the department at Dr. Ambedkar Government Arts College.
- The syllabus was revised based on the guidelines laid down by Tamil Nadu State Council for Higher Education.
- The syllabus of the parent university and its suitability to the course offered in the college was considered.
- The members of the board discussed the course content in detail and deliberated on the changes incorporated.

The following are the changes introduced in the syllabus,

S.NO	CHANGES	JUSTIFICATION
1.	Microbiology in the first semester was replaced with Food Preservation and Processing	As per TANSHE guidelines. This was done to provide job opportunities for both boys and girls in food preservation, processing industries
2.	The family Meal Management paper in semester II was renamed as Nutrition through family cycle	As per TANSHE guidelines.
3.	In the previous syllabus, nutrition was offered as two papers in semester III and IV. Now, it is offered as one paper	As per TANSHE guidelines. Instead of nutrition II interior design from semester was brought to semester VI.
4.	Clinical nutrition has been introduced as new paper in semester V.	As per TANSHE guidelines. This paper will provide job opportunities as well as higher education opportunities in clinical nutrition and in labs.
5.	In Semester VI diet counseling has been newly introduced and replaced the paper food preservation which is now introduced in the first semester	Diet counseling is very important subject for students pursuing jobs in community nutrition and healthcare

S.NO	CHANGES	JUSTIFICATION
6.	Non major electives have been newly introduced as it will be offered to students of other departments NME 1. HEALTH AND PHYSICAL FITNESS NME 2. FOOD SAFETY AND HYGIENE	These papers have practical relevance and are of critical importance for healthy living. Imparting basic knowlegde about health, physical fitness, food safety and hygiene. Will surely enhance the overall health profile of the students

Suggestions by the members

1. Food science – The course content present in the syllabus drafted in 2017 appears to more relevant and may be retained
2. In the Food Preservation paper in semester 1, practical demonstration is required
3. Health and physical fitness- " Exercise Physiology, Physical and Sports Nutrition" by Dr.Suganthi to be included in the references.
4. The paper Nutritional Assessment can be replaced with the paper Diet Counseling as many aspects of nutritional assessment are covered in community nutrition.
5. Clinical Nutrition – related laboratory techniques to be included and students may be sent to a lab for practical clinical laboratory exposure.
   The units can be as follows :

   Units I- Digestive System and related test

   UNIT - II Liver Disorders and Liver Function Test

   Unit – III Renal disorders and renal function test

   Unit - IV Metabolic disorders

   Unit V- cardiovascular disorders, clinical signs and related test

6. Interior design –
   The principles of design in Unit I to be elaborated
   In unit II color systems – Prangs, Munsell and color psychology can be include
7. Physiology – Sense organs may be deleted. In practical, the first practical can be removed (related to tissues)
8. Therapeutic Dietetics – The sub units food allergy and congestive cardio failure may be removed for the under graduate course .
   Under Weight may be included.
   Cancer – causes of cancer to be included.
9. Therapeutic dietetics- theory and practical may be shifted to semester IV and nutrition practical can be brought to semester VI.

10. In the two core papers Quantity food production and service and food service management it was suggested that the contents of the syllabus framed in 2017 is relevant, coherent, and appropriate and may be retained.
11. The textbook Food Service Management by Dr A. Suganthi can be included in the reference.
12. In Textile science –
    Unit I – sewing threads may be deleted.
    Unit – III may be limited to manufacturing process and properties of selective fibers such as cotton, silk, wool, polyester.
    Unit –IV- sequence of spinning process may be removed and steps in processing of cotton yarns may be included
    Unit –V- Basic weaves alone may be included
13. Human nutrition – Unit I – malnutrition – types and symptoms to be specified
14. Unit –II – review of digestion, absorption and metabolism of carbohydrates may be deleted
    Dispensible and indispensable amino acids may be removed
    Unit –III – can be revised as follows
    Units of energy, definition, gross calorification value and physiological fuel value; thermogenic foods (SDA), determinants of energy value of foods, direct method –Bomb calorimetry, human respiration chamber, indirect method- benedict's Roth calorimeter. Basal metabolism – definition, factors affecting, determinants of total energy requirements.

    15 Biochemistry – The syllabus framed in 2017 may be retained as it is more coherently presented. a few changes may be include d

    Unit 2 Properties of amino acid isomerism and amphoteric and isoelectric pH can be deleted

    Unit IV- Part b – related to mitochondrial electron transport chain may be deleted

15. Family Resource Management – The old syllabus (2017)contents may be retained
16. Human development- In unit 1 – History, multidisciplinary scientific nature scope of human development can be replaced and concepts and importance of human development can be included.
    Under unit lll – breast feeding weaning and supplementary foods can be removed. The sub head need for children etc. can be removed
    Adulthood –Physical and emotional development to be included. Stress coping with family and workplace to be included. Adjustments in old age to be included

MEMBERS PRESENT

S.NO	NAME	DESIGNATION	SIGNATURE
1.	Dr. Anna Ranjini Chellappa M.Sc., M.Phil., PhD.	**CHAIRPERSON** Associate Professor and Head Department of Home Science – Nutrition, Food service management and Dietetics Dr. Ambedkar Government Arts College, Chennai.	10.6.19
2.	Dr.Suganthi	**UNIVERSITY NOMINEE** Associate Professor and Head Department of Nutrition and Dietetics Anna Adarsh College for Women, Chennai.	suganthi 10/06/19
3.	Mrs. Jayanthi	**SUBJECT EXPERT –I** **EXTERNAL MEMBER** Associate Professor Department of Home Science – Nutrition, Food service management and Dietetics Quaide Millat College for women Chennai – 600 002.	10/6/19.
4.	Dr.Meena	**SUBJECT EXPERT –II** **EXTERNAL MEMBER** Associate Professor and Head Department of Interior Decoration Kanniga Parameshwari College, Chennai.	10/6/19
5.	Dr.Parthiban	**INDUSTRIALIST** Scientist Indiseq Genomics Chennai	10/6/19
6.	Ms. Nirmala	**POST GRADUATE ALUMNUS** M.Sc Food Service Management and Dietetics, Womens Christian College, Chennai. (2016-2018 batch) B.Sc- Department of Home Science – Nutrition, Food service management and Dietetics Dr. Ambedkar Government Arts College, Chennai (2013-2016 Batch)	10/6/19.
	FACULTY MEMBERS		
7.	Mrs.Y.Vijayalakshmi Priya	**Associate professor**	10/6/19
8.	Dr. Lalitha.A	**Guest faculty**	

DR. AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS)

Vyasarpadi, Chennai – 600 039.

(Accredited by NAAC at level "B")

B.Sc. HOME SCIENCE -NUTRITION FOOD SERVICE MANAGEMENT AND DIETETICS

Under Choice Based Credit System

(With effect from 2019)

DEPARTMENT OF HOME SCIENCE – NUTRITION, FOOD SERVICE MANANGEMENT AND DIETETICS

Dr. Ambedkar Government Arts College (Autonomous)

Vyasarpadi, Chennai – 600 039.

Dr. AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS)

VYASARPADI, CHENNAI - 600 039

(AFFILIATED TO UNIVERSITY OF MADRAS)

B.Sc. DEGREE COURSE IN Home Science- Nutrition Food Service Management and Dietetics

(Choice Based Credit System)

Regulations

(Effective from the Academic year 2019 onwards)

1. ELIGIBILITY FOR ADMISSION:

Candidates for admission to the Degree of Bachelor of Science course in Home Science- Nutrition Food Service Management and Dietetics shall be required to have passed the Higher Secondary Examination (HSE), conducted by the Government of Tamil Nadu, or an examination accepted as equivalent thereto by the Syndicate of University of Madras by the Union with Chemistry as a subject of study.

2. ELIGIBILITY FOR THE AWARD OF DEGREE:

A Candidate shall be eligible for the award of the Degree only if he/she has undergone the prescribed course of study in a college affiliated to the University for a period of not less than 3 academic years, passed the examination of all the six semester prescribed earning 140 credits (in Parts I, II,III,IV,V).

3. DURATION

(a) Each academic year shall be divided into two semesters. The first academic year shall comprise the first and second semester, the second academic year the third and the fourth semester and the third academic year the fifth and sixth semester respectively.

(b) The odd semester shall consist of the period from June to November of each year and the even semester from December to April of each academic year. There shall be not less than 90 working days for each semester.

4. COURSE OF STUDY

The course of study of Part l to Part V courses.,

Part I- TAMIL AND OTHER LANGUAGE comprise the study of:

Tamil or any of one the following modern (Indian or foreign) of or classical languages at the of the optional candidate, according to the syllabi and text books prescribed from time to time.

1. Indian- Tamil, Kannada, Malayalam, Hindi and Urudu.
2. Foreign- Chinese, French, German, Italian Japanese and Russian.
3. Classical – Sanskrit, Arabic and Persian

And

Part II - ENGLISH According to the syllabi and textbooks prescribed form time to time.

Part III - CORE COURSE- Comprise the study of (A) Main subject., (B) Allied Subject.,

(C) Project/Electives with three courses.

(B) ALLIED SUBJECTS

Each candidate shall chose the allied subject prescribed in the scheme of examinations

(C) PROJECT/ ELECETIVES with three courses

Part IV

1.(a) Those who have not studied tamilupto XII standard and taken a non- tamil language under Part l shall take Tamil comprising of two courses (Level will be at 6^{th}std)

(b) Those who have studied Tamil upto XII th standard and taken a non- tamil language under Part l shall take advanced Tamil comprising of 2 courses.

(c) Others who do not come under (a) and (b) can choose non-major elective comprising of two courses.

2. SKILL BASED SUBJECTS (ELCECTIVES)- (SOFT SKILL)

3. ENVIRONMENTAL STUDIES

4. VALUE EDUCATION

PART V - EXTENSION ACTIVITIES:

A candidate shall be awarded a maximum of 1 credits for compulsory extension service.

All the students shall have to enroll for NSS / NCC/ NSO (Sports and games) Rotract/ Youth Red Cross/ or any other service organization in the college and shall have to put in compulsory minimum attendance of 40 hours which shall be duly certified by the Principal of the college before 31st March in year. If a student LACLS 40 HOURS ATTENDANCE in the first year he/ she shall have to compensate the same during the subsequent years .

Student those who complete minimum attendance of 40 hours in one year will get HALF a credit and those who complete the attendance of 80 or more hours in two years will get ONE CREDIT.

SCHEME OF EXAMINATION

SEMESTER I

S. No	Course Component	Code	Name Of Subject	Instruction hours		Exam Hrs.	CIA	SE	credits
				Theory	Pract.				
1.	PART- I	19UAFTA1	Paper I-Language	6	-	3	25	75	3
2.	PART- II	19UAFEN1	Paper I - English	4	-	3	25	75	3
3.	Part -III	19UANDC1	Paper I Food Science	3	2	3	25	75	4
4.	Part -III	19UANDC2	Paper II –Food preservation and processing	4	-	3	25	75	4
5.	ALLIED-I	19UACHA1	Allied Paper I Chemistry – I	4	3	3	25	75	3
6.	PART IV Non major elective -I	**19UANDN1**	Health and physical fitness	2		3	25	75	2
7	SOFT SKILL-I	**19UASBE1**	Essentials of Language and communication	2		3	25	75	3
TOTAL				**30 hours**			**700**		**22**

SEMESTER II

S. No	Course Component	CODE	Name Of Subject	Instruction hours		Exam Hrs.	CIA	SE	Credits
				Theory	Pract.				
1.	PART- I	19UBFTA2	Paper II-Language	6	-	3	25	75	3
2.	PART- II	19UBFEN2	Paper II - English	4	-	3	25	75	3
3.	Part -III	19UBNDC1	Paper III Nutrtion through life cycle	4	-	3	25	75	4
4.	Part -III	19UBNDC2	Paper IV Nutrtion through cycle Practical	-	5	3	40	60	4
5.	ALLIED-II	19UBCHA2	Allied Paper II Chemistry – II	4	-	3	25	75	3
6.	Allied Practical	19UBCHA3	Allied Chemistry Practical	-	3	3	40	60	4
7.	PART IV Non major elective -II	19UBNDN2	Food safety and hygiene	2	-	3	25	75	2
8.	Soft Skill-Il	19UBSBE2	Spoken and Presentation Skills	2	-	3	25	75	3
TOTAL				**30 hours**			**800 Marks**		**26**

SEMESTER III

S. No	Course Component	CODE	Name Of Subject	Instruction hours		Exam Hrs.	CIA	SE	Credits
				Theory	Pract.				
1.	PART- I	19UCFTA3	Paper III-Language	6	-	3	25	75	3
2.	PART- II	19UCFEN3	Paper III - English	4	-	3	25	75	3
3.	PART - III	19UCNDC1	Paper V- Human Nutrition	5		3	25	75	4
4.	PART - III	19UCNDC2	Paper VI- Human Development	4		3	25	75	4
5.	ALLIED	19UCNDA1	Paper III Human Physiology	4	3	3	25	75	5
6.	PART IV SS3	19UCSBE3	Personality Enrichment	2	-	3	25	75	3
7.	PART IV EVS	19UCEVS1	Environmental studies	2	-	-	25	75	2
Total				**30 hours**			**700 Marks**		**24**

SEMESTER IV

S. No	Course Component	Code	Name Of Subject	Instruction hours		Exam Hrs.	CIA	SE	Credits
				Theory	Pract.				
1.	PART- I	19UDFTA4	Paper IV-Language	4	-	3	25	75	3
2.	PART- II	19UDFEN4	Paper IV – English	6	-	3	25	75	3
3.	PART - III	19UDNDC1	Paper VII – Interior design	4	-	3	25	75	4
4.	PART - III	19UDNDC2	Paper VIII- Nutrition Practical	-	5	3	40	60	4
5.	ALLIED	19UDNDA1	Paper IV Biochemistry	5	2	3	25	75	5
6.	PART IV- SBE	**19UDSBE4**	Computer Basics and Office Automation	**2**	-	3	40	60	3
7	PART IV VBE	**19UDVBE1**	Value Education	**2**	-	-	25	75	2
8.	PART V- EA	**19UDEXT1**	Extension Activities	--	-	-	-	-	1
Total				**30 hours**			**700 marks**		**25**

SEMESTER V

S. No	Course Component	Code	Name Of Subject	Instruction hours		Exam Hrs.	CIA	SE	Credits
				Theory	Pract.				
1.	PART- III	19UENDC1	Paper IX –Clinical Nutrition	6	-	3	25	75	4
2.	PART- III	19UENDC2	Paper X – Therapeutic dietetics	6	-	3	25	75	4
3.	PART- III	19UENDC3	Paper XI- Quantity food production and service	6	-	3	25	75	4
4.	PART- III	19UENDC£	Paper XII- Sports Nutrtion	4	2	3	25	75	4
5.	Elective I	19UENDE1	Textile science	6		3	25	75	5
Total				**30 hours**			**500 Marks**		**21**

SEMESTER VI

S. No	Course Component	Code	Name Of Subject	Instruction hours		Exam Hrs.	CIA	SE	Credits
				Theory	Pract.				
1.	PART- III	19UFNDC1	Paper-Xlll Food service Management	6	-	3	25	75	4
3.	PART- III	19UFNDC2	Paper XV Community Nutrition	6	-	3	25	75	4
2.	PART- III	19UFNDC3	Paper XIV – Therapeutic Dietetics practical	4	2	3	25	75	4
4.	Elective II	19UFNDE1	Family Resource Management	6	-	3	25	75	5
5.	Elective III	19UFNDE2	Diet Counselling	6		3	25	75	5
TOTAL				**30 hours**			**500 Marks**		**22**
GRAND TOTAL				**180 HOURS**			**3900 MARKS**		**140**

INTERNSHIP- CATERING / DIETETICS / FOOD PROCESSING / MICROBIOLOGY/ FITNESS CENTRES

ONE MONTH INTERNSHIP IN THE SUMMER HOLIDAYS WHEN STUDENTS PASSES HIS/HER SECOND B.Sc COURSE AND GOES TO THE THIRD YEAR.

The following procedure is being followed for internal marks

Theory papers: Internal marks 25

INTERNAL MARKS

Tests (1 out of 2)	=10
Attendance	=5
Assignments	=10
Model	=25 (75 marks scaled down to 25
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	25 (50 scaled down to 25)

Break up details for attendance

Below 60%	- No marks
60%to 75%	-3 marks
76%-90%	- 4 marks
91-100%	- 5marks

Practical: **Internal marks: 40**

Attendance	= 5 marks
Practical tests(2 out of 3)	= 30 marks
Record	= 25 marks
Model examination	=20
Total	=80 scaled to 40

(Internal marks best 2 out of 3 presentations each 15 marks marks)

7. REQUIREMENTS FOR PROCEEDING TO SUBSEQUENT SEMESTER

1. Candidates shall register their names for the First Semester Examinations after the admission in the UG Courses.

ii Candidates shall be permitted to proceed from the First Semester up to Final semester irrespective of their failure in any of the semester Examinations subject to the condition that the candidate should register for all the arrear papers of earlier semester along with curremt (subsequent) semester papers.

iii. Candidates shall be eligible to go to subsequent semester, only if they earn sufficient attendance as prescribed therefore from time to time by the syndicate from time to time

Provided in case of a candidate earning les than 50% of attendance in any one of the semester due to any extraordinary circumstance such as medical grounds, such candidate who shall produce medical certificate issued by the Authorized Medical Attendant (AMA), duly certified by the Principal of the College, shall be permitted to proceed to the next semester and to complete the Course of study. Such candidates shall have to repeat the missed Semester by rejoining after completion of Final Semester of the Course, after paying the fee for the break of study as prescribed from time to time.

8. PASSING MINIMUM

A candidate shall be declared to have passed:

a. There shall be no Passing Minimum for Internal.

b. For External Examination, Passing Minimum shall be of 40% (Forty Percentage) of the maximum marks prescribed for the paper for each Paper/Practical/Project and Viva-voce.

c. In the aggregate (External + Internal) the passing minimum shall be of 40%.

d. He / She shall be declared to have passed the whole examination, if he/she passes in all the papers and practical's wherever prescribed / as per the scheme of examinations by earning 140 CREDITS in Parts-I, II, III, IV & V. He/she shall also fulfill the activities prescribed earning a minimum of 1 Credit to qualify for the Degree

9. CLASSIFICATION OF SUCCESSFUL CANDIDATES:

PART -1 TAMIL/ OTHER LANGUAGES

TAMIL/ OTHER LANGUAGES:

Tamil/ other languages: Successful candidates passing the examinations for the language and securing the marks (1) 60% and above and (ii) 50% and above but below 60% in the aggregate shall be declared to have passed the examination in tre FIRST and SECOND class respectively. All other successful candidates shall be declared to have passed the examination in the FIRST and SECOND class respectively. All other candidates shall be declared to have passed the examination in the THIRD class.

PART-ll ENGLISH Successful candidates passing the examination for English and securing the marks the marks (i) 60% and above and (ii) 50% and above but below 60% in the aggregate shall be declared to have passed the examination in the FIRTST and SECOND class respectively. All other successful candidates shall be declared to have passed the examination in the THIRD class.

Part lll consisting of CORE SUBJECTS, ALLIED SUBJECTS, PROJECT/ ELECTIVE with three courses:

Successful candidates passing the examinations for the CORE courses together and securing the marks (1) 60 % and above (ii) 50% and above but below 60% in the aggregate of the marks prescribed for the core courses together shall be declared to have passes the examinations in the FIRST and SECOND class respectively. All the other successful candidates shall be declared to have passed the examination in the third class

Part IV(consisting of sub items 1 (a), (b), and (c) , 2,3, (4) as furnished in the regulations Part lV supra

PART V EXTENSION ACTIVITIES

Successful candidates earning of 1 credit SHALL NOT be taken consideration for classification/ raking/ distinction

9(a) GRADING SYSTEM:

1. Passing minimum is 40% of the ESE and above 40% of the maximum of that Paper/ Course
2. Minimum credits to have earned

   For THREE year programme: Best 140 credits (Part 1 and II: Language Part lll Major, elective, Part IV soft skill and Part V : extension activities)

3. Marks and Grades
4. The following tables gives the marks , grade points and letter grades) performance in a course paper)

RANGE OF MARKS	GRADE PONTS	LETTER GRADE	DESCRIPTION
90-100	9.0-10.0	O	Outstanding
80-89	8.0-8.9	D+	Excellent
75-79	7.5-7.9	D	Distinction
70-74	7.0-7.4	A+	Very Good
60-69	6.0-6.9	A	Good
50-59	5.0-5.9	B	Average
40-49	4.0-4.9	C	Satisfactory
00-39	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

'C_i' is the credit earned for the course *i* in any semester;

'G_i' is the Grade Point obtained by the student for the Course *i*and '*n'* is the number of Courses **passed** in that semester.

N refers to the semester in which course was credited

For a semester :

$$Grade Point Average [GPA] = \frac{Sum of the multiplication of the grade points by the credits of the courses}{Sum of the credits of the courses in a semester}$$

$$GPA = \sum_i C_i G_i$$

For the entire programme

CUMILATIVE GRADE POPINT AVERAGE CGPA = $\sum_n \sum_i C_{ni} G_i / \sum_n \sum_i C_{ni}$

$$Cumulative Grade Point Average [CGPA] = \frac{Sum of the multiplication of grade points by the credits of the entire programme}{Sum of the credits of the courses of the entire programme}$$

CGPA	GRADE	Classification of Final Result
9.5-10.0	O+	First Class Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First Class with Distinction
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
4.5 and above but below 5.0	C	Third Class
4.0 and above but below 4.5		
0.0 and above but below 4.0	U	Re-appear

- **The candidates who have passes in the first appearance and within the prescribed manner of the UG programme (Major, allied and elective courses alone) are eligible**

10 RANKING

Candidates who pass all the examinations prescribed for the Course in the FIRST APPEARANCE ITSELF ALONE are eligible for classification/ Ranking/Distinction.

Provided in the case of Candidates who pass all the Examinations prescribed for the Courses with a break in the First Appearance due to the reasons as furnished in the Regulations 7(iii) supra are only eligible for Classification/ Distinction.

11. TRANSITORY PROVISION

Candidates who have undergone the course of the study prior to the academic year 2013-2014 will be permitted to appear for the examination under those regulations for a period of two years i:e upto and inclusive of April/May 2017 examinations. Thereafter, they will be permitted to appear for the examination only under the regulation then in force.

QUESTION PAPER PATTERN

SECTION –A(30 words)

10 out of 12 **10x2= 20 marks**

SECTION-B

5 out of 8 **5x5=25 marks**

SECTION-C (500 words)

3 out of 5 **3x10=30 marks**

TOTAL= 75 marks

QUESTION PAPER FOR PRACTICALS

The external examiner will prepare a question paper on the spot with the help of the question bank supplied by the controller's office

SEMESTER-I

Subject Code :19UAFTA1 Credits -4 Core paper : I

CORE PAPER l - FOOD SCIENCE

OBJECTIVES:

a) To enable students to obtain knowledge of different food groups and their contribution to nutrition.
b) To help them study the different methods of cooking and their advantages and disadvantages.
c) To enable them gain them to experience in the preparation of foods with attention to the preservation of their nutritive value oriented to Indian cooking.
d) To help them understand the scientific principles governing the acceptability of food preparations.

THEORY

UNIT I:FOOD GROUPS AND METHODS OF COOKING

a. Classification of food –Basic food groups- classification and functional foods, food plate

b. Methods of cooking

UNIT II:CEREAL AND CEREAL PRODUCTS

Composition and nutritive value ,products of cereals and millets,

UNIT III:PROTEIN FOODS

a Pulses - Nutritive value of pulses, effect of processing such as soaking and germination, toxic factors present in pulses.

b. Milk and Milk products -Composition and nutritive value ofmilks, types and uses of milk and milk products- non fermented- skim milk, khoa, standardized milk, ultra high temperature processed milk, cream -fermented- butter, cheese, curd, c. Eggs - Structure, composition and nutritive value, uses of egg in cookery

d**. Flesh foods** -Composition and nutritive value of meat andfish, selection of fish, post mortem changes in meat, ageing of meat.

UNIT IV: VEGETABLES AND FRUITS

a. Vegetables - Classification, composition, nutritive value and pigments –water insoluble and water soluble.

b. Fruits - Classification, composition, nutritive value, ripening and browning- enzymatic and non-enzymatic.

UNIT V:FATS, SUGARS, OILS, BEVERAGES AND SPICES

a. Fats and Oil-Types, role in cooking, hydrogenation, winterization and rancidity of fats.
b. Sugar-Products, stages of sugar cookery and role of sugar in cooking.
c. Beverages-Classification and uses in cookery.
d. Spices - Uses in cookery.

PRACTICAL

1. The measurement of food stuffs-use of standard measuring spoons & cups. Determination of edible portion of foods.
2. Cooking of rice – boiling, straining and pressure cooking, preparation of upma
3. Pulses and legumes – factors affecting cooking of pulses-soaking, effect of acid, alkali, hard water, preparation of dhal masiyal.
4. Vegetable and Fruits -Effect of cooking on colour and texture of vegetables, addition of acid & alkali, prevention of browning reaction in fruits, preparation of vegetable kurma & fruits salad.
   Milk and milk products –preparation of paneer.
   Egg – factors affecting foam formation, preparation of boiled egg and omelet.
5. Fats and oils –demonstration of smoking temperature of different fats & oils, preparation of chips and vadai.
   Sugar - Demonstration of different stages of sugar cookery, preparation of gulabjamun

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5. Srilakshmi B. 2011. Food Science, New Age International, Chennai.
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f) 7. Krishna.A 2005, Theory of Cookery, Frank Bros. & Co, New Delhi.
8.Peter Fellows 1997,Traditional foods processing for Profits, Intermediate Technology Publications, London.

g) **WEBSITES**
www.fda.org
www.foodsafety.org
www.ific.org

SEMESTER-I

Subject Code :19UAND2 Credits -4 Core paper : Il

CORE PAPER ll - FOOD PRESERVATION AND PROCESSING

COURSE OUTCOME:

The learners will be able to

1. Apply different techniques used in the preservation of foods.
2. Understand the processing techniques for food products

UNIT- I

Food Spoilage - Definition, causes, micro organisms involved in spoilage of bread, fruits and vegetables, meat, fish, egg, milk, juices and pickles.

Food preservation - Definition, principles and importance, classification – bactericidal and bacteriostatic methods.

UNIT- II

Processing and preservation by high temperature: blanching, pasteurization, sterilization and UHT processing, canning, extraction cooking, dielectric heating microwave heating, baking, roasting and frying. Retort processing of Ready To Eat (RTE) products. Drying &Dehydration.

UNIT-III

Processing and preservations by low temperature – refrigeration, freezing, dehydro freezing. Food irradiation

UNIT-IV

Processing and preservation by drying, concentration and evaporation: various methods sun – drying, tray or tunnel drying, spray drying, drum drying freeze drying, fluidized bed drying. Advantages and disadvantages.

UNIT-V

Processing and preservation by non – thermal methods: Use and application of enzymes and microorganism in processing and preservation by salt, sugar, chemicals smoking. Food additives: Definition, types and functions, permissible limits and safety aspects.

Reference

1. Gould .G.W (1995) New methods of food preservation. Blackie academic and professional. London.

2. Arthey, D and Ashurst, P.R (1996) Fruit processing, Blackie academic and professional. London.

3. Fellows, P.J (2016): Food Processing Technology: Principles and Practice, second edition, CRC Wood head publishing Ltd, Cambridge.

SEMESTER -l

Subject Code : **Credits -2 NME paper : I**

NON MAJOR ELECTIVE PAPER I - HEALTH AND PHYSICAL FITTNESS

COURSE OUTCOME:

The learners will be able to

To enable the students to

1) Understand the importance of health and physical fitness

2) Know the effect of exercise on health.

3) Understand the utilization of nutrients during exercise and physical activity.

THEORY :

Unit I : Health and physical activity –

Definition of health, physical activity and physical fitness and balanced diet.

Unit II : Energy usage and its balance

Foods supplying energy, proximate principles and energy utilization.

Unit III : Exercise and Energy

Types of exercise – Aerobic and anaerobic, energy usage during exercise.

Unit IV : Energy imbalance –

Obesity – definition, causes, types, assessment and complications of obesity.

Unit – V Benefits of physical activity-

Importance of physical activity, positive lifestyle modification.

REFERENCES

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2. Mosses.K.A.(1995) An introduction to exercise Physiology, Poompuhar Publications, Chennai.
3. Willlams.D.,Cardle.M ,Frank , I.K, Victor, L.K (1991). Exercise Physioplogy, 4th Ed, Lippincott Williams Wilkins, Maryland.

4. Wolinsky,IDriskell,J.E.(1997). Sports Nutrition-Vitamins and trace Elements. CRS Press , Boca Raton
5. Park,K.(2002). Preventive and Health Medicine .Banaridas ,Bhanot Publishers, Jabalpur.
6. Guyton A.C (1992), Human Physiology and Mechanism of Disease,Vthed, WB Sundus Company, London
7. Wardlow,G.MINsel P.M (199), Perspectives In Nutrition, II ed, Mosby Publishers, U.S.A
8. Largen V.L Bence, D.L (200) Guide to good foodThe good hart-Willcox co, Inc, Tinley Park, Ilinosis
9. Suganthi, (2107)Exercise Physiology And Sports Nutrition , New Age Publication

WEBSITES

www.healthybiz2000.com

en.wikipedia.org/wiki/Physical_exercise

www.health-and-physical-fitness.com

www.who.int/topics/obesity/en

www.estronaut.org

SEMESTER-Il

Subject Code :19UBNDC1 Credits -4 Core paper : I1l

CORE PAPER ll– NUTRITION THROUGH LIFE CYCLE

LEARNING OUTCOME:

The learners will be able to

1. Understand the need of the nutritional requirements for different age groups.
2. Develop the acumen in meal planning for meeting with the nutritional requirements of individuals.

Unit-I

Principles of meal planning- Food groups and food exchange list; Factors affecting meal planning Methods of assessment of nutrient requirements; Dietary guidelines for Indians.

Nutrition for adulthood- Food and nutrient requirements for adult man and woman, RDA, nutritional guidelines,

Unit-II

Nutrition during pregnancy- Physiological changes in pregnancy, RDA, nutritional guidelines, nutritional needs, effect of nutritional status on pregnancy outcome, optimal weight gain and its components, nutrition related problems in pregnancy and ways to control them, complications in pregnancy.

Nutrition during lactation- Physiology of lactation, RDA and nutritional needs of a nursing mother, nutritional guidelines, composition of breast milk and advantages, disadvantages of bottle feeding

Unit-III

Nutrition during infancy- Growth and development, food and nutrient requirements, breast feeding and weaning.

Nutrition for preschool children- Growth and development, food and nutrient requirements, eating habits and behavior.

Unit-IV

Nutrition for school children- Growth pattern, food and nutrient requirement, healthy food habits, school lunch programs.

Nutrition during adolescence- Changes in growth pattern, food and nutrient requirements, , changes in food habits, eating disorders.

Unit-V

Nutrition for old age- Physiological changes in elderly, food and nutrient requirements, nutritional and health concerns in old age and their management,.

PRACTICALS

1. Introduction to meal planning- Rich sources of nutrients; Use of food exchange list.
2. Planning and an calculating nutritious diet for
   - Young adult
   - Pregnant/ Lactating woman
   - Preschooler
   - School age child/ Adolescent
   - Elderly
3. Planning nutrient rich snacks and dishes for
   - Infants (Supplementary foods)
   - Children/ Adults

References

1. Bamji MS, Krishnaswamy K, Brahman GNV (2009). Text book of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Khanna K, Gupta S, Passi SJ, Seth R, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House.
3. Wardlaw GM, Hampi JS, DiSilvestro RA (2004). Perspectives in Nutrition, 6th edition. McGraw Hill.
4. Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, Delhi. 2015.
5. Gopalan C, Rama Sastri BV, Balasubramanian SC (1989). Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.

SEMESTER-Il

Subject Code :19UBNDC2 Credits -4 Core paper : IV

CORE PAPER lV - NUTRITION THROUGH LIFE CYCLE PRACTICAL

Objectives

1. To enable students to plan and prepare balanced diets for various age groups
2. To help students calculate diets to meet the ICMR recommended dietary allowances (RDA)

Practicals

1. Planning a balanced diet for an adult man and woman during different physical activities - sedentary, moderate, heavy worker. Preparation of above diet
2. Planning and preparation of a balanced diet for a pregnant woman – Nutrient requirements, menu planning and preparation of a balanced diet of pregnant women
3. Planning and preparation of a balanced diet for a lactating mother – Nutrient requirements, menu planning and preparation of a balanced diet of lactating mothers.
4. Nutrition during infancy – nutritional requirements during infancy, Supplementary feeding-preparation of weaning foods
5. Planning and preparation of diet for pre- school children – Nutrient requirements, menu planning and preparation of a balanced diet for pre-school children .
6. Nutrition during school age –Nutrient requirements, menu planning and preparation of a balanced diet for school aged children , planning and preparation of a nutritious packed lunch
7. Nutrition during adolescence –Nutrient requirements, menu planning and preparation of a balanced diet for adolescents .
8. Planning a diet for a senior citizen – Nutrient requirements, menu planning and preparation of a balanced diet for senior citizens

REFERENCES

1. Guthrie H.A. & Others, “Introductory Nutrition”, 1986, 6th ed. Times Mirror/Mosby college pub Louis.
2. Anderson L. et al., “Nutrition in Health and Disease’, 1982, 17thed, J.B Lippincott Co Philadelphia.
3. Whitney E.N., Hamilton E.N. &Raffes S.R., “Understanding Nutrition”, 5th ed. West pub. Co. New York.
4. Recommended Dietary Intakes for Indians, I.C.M.R. 1989.
5. Mudambi, S.R. & M.N. Rajagopal – “Fundamentals of food and Nutrition’, 3rd ed. Wiley Eastern Ltc New Delhi- 19.
6. Guthrie, H.A, “Introductory Nutrition”, 6th ed., Times Mirror/ Mosby College publ. – St Louis 1989.
7. Worthington Roberts, Bonnie S & others – “Nutrition in pregnancy & Lactation’, 3rd ed. Time Mirror Mosby College, St. Louis, 1985.

SEMESTER ll

Subject Code :19UBNDN2 Credits -2 NME paper : Il

NON MAJOR ELECTIVE PAPER ll - FOOD SAFETY AND HYGIENE

OBJECTIVES

To enable the students to

1. To understand safe food handling practices.
2. To gain knowledge on personal hygiene.

THEORY

Unit I :

Environmental Hygiene**:** Site, structure, ventilation, lighting, water supply and waste disposal.

Unit II :

Safe food handling: Safety in food procurement, storage, handling and preparation.HACCP

Unit III :

Cleaning of equipment and premises: Usage of detergents and sanitizers.

Unit IV :

Personal hygiene**:** Importance of personal hygiene for food handlers

Unit V:

Food safety education**:** objectives, teaching methods, training..

REFERENCES

1 Nambiar. V., 2004. Food Contamination and Safety, Anmol Publication Pvt .Ltd. NewDelhi.

2.Sethi, M., 2004. Institutional Food Management, New Age International Publishers Ltd New Delhi.

SEMESTER-Ill

Subject Code :19UCNDC1 Credits -4 Core paper : V

CORE PAPER V – HUMAN NUTRITION

COURSE OUTCOME:

The learners will be able to

1. Understand the importance of various macronutrients in relation to health.
2. Understand the dietary guidelines for various nutrients and contribute towards a better lifestyle for prevention of non-communicable diseases.
3. Develop skills pertaining to practical experiments.

THEORY

1. **UNIT I**

INTRODUCTION TO NUTRITION

History of Nutrition – Development of Nutrition as a Science

Food as a source of nutrients, definition of nutrients, dietary guidelines for good nutrition

Signs and symptoms of adequate, optimum and good nutrition, malnutrition (Under nutrition, and over nutrition).

WATER

As a nutrient, functions, sources, requirements. Distribution of water in the body,

Water balance, dehydration, water intoxication, Role of ADH , vasopressin in water balance.

2. **UNIT II**

CARBOHYDRATES

Classification, Sources, Requirements and Functions of carbohydrates in the body. Rdigestion, absorption and metabolism. Hormonal control of Blood sugar.

Dietary fibre- Definition, soluble and insoluble fibres, sources of fibre, Role of fibre in human nutrition

PROTEINS

Amino acids -. Classification, Sources, Requirements and functions of protein. Mutual supplementation of proteins.

Protein deficiency-Protein Energy Malnutrition- Kwashiorkor and Marasums – etiology, clinical features, treatment and prevention

Evaluation of protein quality- PER, BV, NPU and NPR, chemical score.

UNIT III

LIPIDS

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

ENERGY

Units of Energy -Kilocalories, Kilojoules, Conversion of KJ to Kcal, determination of energy value of foods using Bomb calorimeter, , gross calorific values. Physiological energy, value of foods, relation between oxygen used and calorific value.

Basal metabolism, factors affecting BMR - Determination of energy requirements, Direct and Indirect calorimetry direct calorimetry. Relation between Respiratory quotient and energy output – Specific dynamic action of food (Thermogenic food in REE), Benedict Roth basal Metabolism Apparatus, determination of energy metabolism, during work-energy requirements for various types of activities, energy, calculation of energy value of foods, Energy requirements for different age groups.

3. **UNIT IV**

FAT SOLUBLE VITAMINS

Metabolism, Functions, effects of deficiency, food sources, requirements, unit of measurements and hypervitaminosis of vitamins A, D, E and K.

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, Biotin and Pantothenic acid to the body.

4. **UNIT V**

MACRO MINERALS- Calcium, Phosporous, Magnesium, Potassium, Sodium and Chloride-

Distribution in the body; functions, effects of deficiency, food sources and RDA.

MICRO / TRACE MINERALS in human nutrition - Iron, Zinc, Iodine, Selenium, Manganese, Chromium, Fluoride and Copper

Distribution in the body; functions, effects of deficiency, food sources and requirements for different age groups.

REFERENCES

1. Guthrie H.A. – Introductory Nutrition C.V. Mosby Co. St. Louis.
2. Bogert, J.G.V. Briggs, D.H. Calloway Nutrition and physical fitness (1985), 11th edition – W.B. Saunders Co., Philadelphia, London, Toranto.
3. Wardlaw, G.M. Insel, P.H. – Perspectives in Nutrition (1990) Times Mirror / Mosby College Publishing Co. St. Louis, Toronto, Boston.
4. William, S.R. – Nutrition and Diet Therapy (1985) 5th edition, Mosbey Co. St. Louis.
5. M. Swaminathan "Principles of Nutrition and Dietetics", 1993, Bappco 88, Mysore Road, Bangalore-560 018.
6. 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.

SEMESTER-Ill

Subject Code :19UCNDA1 Credits -4 Core paper : Vl

CORE PAPER Vl – HUMAN DEVELOPMENT

COURSE OUTCOME

To enable the students to:

- Familiarize with the growth process from conception to confinement
- Understand the physical, psychological and social development of the individual from infancy to old age

UNIT - I

Introduction to Human Development: Definition, Stages of Human Development. Principles of growth and development.

UNIT - II

Prenatal Development and Post natal Care: Birth and the Neonate (newborn)-. Conception – signs and symptoms of pregnancy, prenatal development – stages of development, factors affecting development, birth process – signs of labour, stages, birth injuries, postnatal care – adjustment of the newborn.

UNIT - III

Infancy : Development during infancy – Physical, social, emotional, cognitive and language. Infant care and hygiene – Breast feeding, weaning, complementary feeding, immunization schedule, habit formation. Minor ailments and preventive measures. Need for children – Physiological and psychological. Role of Child care centres.

Early and Late Childhood : Physical, motor, emotional, language, moral, social and intellectual development.. Habit formation. Behavior problems – causes, prevention and treatment.

Preschool education – importance, objectives, programmes. Play – definition, types, characteristics and play hazards.

UNIT - IV

1. **Adolescence –** definition, physical, emotional, intellectual and motor development, personal adjustment and maladjustment.
2. Delinquency – causes, prevention and rehabilitation. Role of Parents and Society. Factors influencing Personality Development, Drug addiction and alcoholism – rehabilitation.

Unit - V

1. **Adulthood** – characteristics and developmental tasks.
2. **Old Age** – physical and psychological changes, problems of the aged, family attitude towards aged, place of the aged in Indian Society.

REFERENCES

- Charles, S.P.(1983). Adolescent Psychology, New Delhi: Vikas House.
- Duvall,M.E., (1972). Marriage and Family Development, New York: J.P. Lippincott Co.
- Hurlock E.B., (1972). Child Development, New York : McGraw Hill Book company.
- Hurlock, E.B., (1995): Developmental Psychology - A Life Span Approach, 5th (Ed.) New York: McGraw Hill Book Co.,.
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- Nanda V.K., (1998): Principles of Child Development, New Delhi: Anmol Publications Pvt. Ltd.
- Papalia, D.E. (1997). Human Development, New Delhi: Tata McGraw Hill Publishing Company Ltd.
- Parikh, S; Sudarshan, R. (1993). Human Development and Structural Adjustment, Delhi: UNPP.
- Rajammal P. Devadas and Jaya N. Muthu (2002). A Text Book of Child Development, New Delhi: Macmillan Publishers.
- Sapra, R. (2007): Integrated Approach to Human Development. New Delhi Vishwabharathi.
- Singh, A. (2015). Foundations of Human Development: A Life Span Approach. New Delhi: Orient Black Swan.
- Suriakanthi A., (1997). Child Development – An Introduction, Tamil Nadu: Kavitha Publishers.
- Swaminathan, M (1998). The First Five Years : A Critical Perspective on Early Childhood Care and Education in India. New Delhi : Sage Publications.

SEMESTER-Ill

Subject Code :19UCNDA1 Credits -5 Allied paper : lll

ALLIED PAPER lll– HUMAN PHYSIOLOGY

COURSE OUTCOME:

b. To help students obtain a better understanding of the principles of nutrition and dietetics through the study of physiology.
c. By understanding the anatomy and physiology of various organs, management of diseases will be better understood.
d. Metabolism of nutrients with respect to physiological functions will enable the prescription of the right diet for different clinical conditions.

UNIT I

CELL AND TISSUES - Structure of Cell and functions of different of different organelles. Classification, structure and functions of tissues.

BLOOD- Constituents of blood- RBC, WBC and Platelets and its functions. Erythropoiesis, Blood clotting, Different Blood groups.

2) UNIT II

NERVOUS SYSTEM

General anatomy of nervous system, functions of the different parts

3) UNIT III

HEART AND CIRCULATION

Anatomy of the heart and blood vessels, properties of cardiac muscle, origin and conduction of heart beat, cardiac cycle, cardiac output, blood pressure - definition and factors affecting blood pressure, and description of ECG.

RESPIRATORY SYSTEM

Anatomy and physiology of respiratory organs. Gaseous exchange in the lungs, mechanism of respiration.

4) UNIT IV

DIGESTIVE SYSTEM

Anatomy of Gastro-intestinal tract, Structure and functions of Liver and Pancreas. Digestion and absorption of carbohydrates, proteins and fats.

EXCRETORY SYSTEM

Structure of kidney, functions of Nephron

5) UNIT V

ENDOCRINE SYSTEM

Functions of hormones secreted by Pancreas, Pituitary gland, thyroid, parathyroid and adrenal glands. Effects of hypo and hypersecretion of these glands.

REPRODUCTIVE SYSTEM

Anatomy of male and female reproductive organs, Ovarian and Uterine cycle, influence of hormones on pregnancy and lactation.

PRACTICALS

1 Microscopic studies of different tissues. Epithelial, connective, muscular and nervous tissues.

2 Microscopic study of blood, WBC, RBC estimation, Hemoglobin estimation.

3 Blood of different groups of people. Blood pressure.

4. Respiratory rate and pulse rate.

REFERENCES

1. Beck, W.S. (1971) Human Design. Harcourt Brace Jovanovich Inc., New York.
2. Best, C. H. and Taylor, N. B. (1980) Living Body. 4th ed. BIP, Bombay.
3. Creager, J. G. (1992) Human Anatomy and Physiology. 2nd ed. WMC Brown Publishers, England.
4. Guyton, A.C. (1979) Physiology of the Human Body. 5th ed. Saunders College of Publishing, Philadelphia.
5. Subramaniam, S. and MadhavanKutty, K. (1971) The Text Book of Physiology. Orient Longman Ltd., Madras.
6. Vander, A. J., Sherman, J. H. and Luciano, D. S. (1994) Human PhysiologytheMechanisms of Body Functions. 2nd ed. TMH Publishing Co., Ltd., Boston.
7. Waugh A and Grant A. (2012) Ross and Wilson Anatomy and Physiology in Health and Illness. 11th ed. Churchill and Livingston, Elsevier
8. Wilson, K. J. W. (1987) Anatomy and Physiology in Health and IllnIllness. 6th ed. ELBS, Churchill Livingstone, Londo

SEMESTER-IV

Subject Code :19UDNDC1 Credits -4 Core paper : Vll

CORE PAPER Vll –INTERIOR DESIGN

OUTCOME

1. Recognize the effective use of resources and learn skills in using principles elements of art & design
2. Students will acquire the ability to conceptualize and design interior spaces for homes, retails, hotels, offices
3. Interior Design course teaches the students how to work as an interior designer, visual merchandiser and interior decorator.

UNIT I

Design – elements of design – line, shape, size, space, texture, pattern, colour and light, Types and characteristics of design. Principles of design – Harmony, Balance, Rhythm, proportion, Emphasis.

UNIT II-COLOR

Qualities of colour – Hue, Value, and intensity, colour harmony, developing color schemes For different rooms.Prangs colour chart, Psychological colour chart

UNIT IIFURNITURE AND FURNISHINGS

Selection and arrangement of furniture in different rooms. Different types of furnishing materials – factors considered in their selection. Floor coverings, Curtains and Draperies, Window treatment.

UNIT IV-ACCESSORIES

Accessories – selection, Use and care of accessories, Types- traditional and modern – art objects – pictures, flower arrangement- Types, use and care- flower arrangement for different rooms. Indoor plants- use and care.

UNIT V -LIGHTING

Lighting – importance of lighting – principles and types of Lighting – Lighting needs for various activities.

PRACTICALS

1. Analysis of design for their qualities

2. Arranging various areas using the different principles of design

3. Special area arrangement-Hotels, Restaurant, Auditoriums, Airports etc.

4. Harmonious combination of colour in different areas

BOOKS & REFERENCES

1. The making of interiors – An introduction- Allen Tate- Harper & Row Publishers, New York, 1987.
2. Interior Design & Decoration, Fourth Edition, Sherrill Whiton- Prentice Hall, 1974.
3. Interior lighting for Designers, Third edition – Gary Gordon &Jamco L. Nuckolls – John Wiley & Sons, New York, 1995.
4. The Encyclopaedia of Decorative Styles – William Hardy & Steve Adams – New Burlington books, London, 1988.

PRACTICALS

- ✓ Preparing port folios and developing drawing sheets to study the principles and elements of design
- ✓ Planning & preparation of colour charts, developing 3D models to apply the color systems/ harmonies case study – color psychology approach
- ✓ Portfolio preparation - types of Lighting. Making 3D model on lighting fixtures - living, dining, bedroom, kitchen areas and other areas .
- ✓ Portfolio preparation - types of furniture. Making 3D model on furniture arrangements - living, dining, bedroom and kitchen areas .
- ✓ Making 3D models on different types of window/door treatments, Practicing different types of flower arrangements with different accessories

SEMESTER-IV

Subject Code :19UDNDC2 Credits -4 Core paper : Vlll

CORE PAPER Vlll –HUMAN NUTRITION PRACTICAL

OBJECTIVES

To enable the students to

1. Learn qualitative analysis of nutrients
2. Understand quantitative analysis of nutrients

PRACTICAL

1. Qualitative tests-
    a. For sugars: Glucose, fructose, lactose, maltose and sucrose.
    b. For protein- albumin
    c. For minerals-iron,calcium,phosphorous and sulphur.

2. Quantitative estimation of reducing sugar.
3. Quantitative estimation of vitamin C.-lime juice
4. Quantitative estimation of calcium.
5. Quantitative estimation of phosphorus.
6. Quantitative estimation of iron.

REFERENCES

1. ICMR. 1978. Laboratory techniques in Nutrition. Hyderabad, NIN.
2. Oser. B.L. 1965. Hawk's Physiological Chemistry. New Delhi,Tata McGraw Hill Publishing Co.
3. Pattabiraman. T.N. 1998. Laboratory Manual in Biochemistry. New Delhi, All India Publishers and distributors..
4. Varley (1969) Practical clinical Biochemistry' William Heinemarn Medical books-London Ltd., Inter Science books mc,New York
5. Talwar G P, SriVatsava L N and Moudgil KD (1989) Textbook of Biochemistry Human Biology Prentice Hall of India (P) Ltd, New Delhi

SEMESTER-IV

Subject Code :19UDNDA1 Credits -5 Allied paper : lV

ALLIED PAPER IV –BIOCHEMISTRY

COURSE OUTCOME:

The learners will 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

UNIT I

INTRODUCTION TO BOCHEMISTRY

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

UNIT II

CARBOHYDRATE – Structure, General reactions of mono, di, tri and oligo saccharides, interconversion of sugars, Metabolism of carbohydrate -glucose oxidation through Glycolysis, Krebs-TCA cycle, Pentose Phosphate Pathway, Gluconeogenesis.

Inborn errors of metabolism - Fructosuria and galactosemia- in brief.

UNIT III

AMINO ACIDS – classification, chemical properties due to amino and carboxyl groups. Chromatographic separation. Proteins-primary, secondary, tertiary structure of proteins, Hydrolysis of proteins-Denaturation, precipitation, coagulation. Nutritional classification of proteins

General pathways of 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 1V

LIPIDS AND LIPID METABOLISM – Classification of fats, β oxidation of fatty acids, Bio synthesis of fatty acids, ketogenesis. Nutritional importance of Saturated and Unsaturated fatty acids, Triacylglycerols, Phospholipids and Cholestrol

UNIT V

Nucleic acids- Structure and Functions

Inter relationship between carbohydrate, fat and protein metabolism – Hormonal regulation of metabolism.

REFERENCES

1. Conn, E.E. and Stumpf, P.K. (1981) Outlines of Biochemsirty. 4th ed. Wiley Eastern Ltd., New Delhi.

2. Harvey, R. and Ferrier, D., Lippincott's Illustrated Reviews: Biochemistry, 6th edition, Lippincott Williams and Wilkins, Philadelphia.

3. Lehninger, A.L. (1993) Biochemistry. 3rd ed. CBS Publishers, New Delhi.

4. Murray, R.K., Granner, D.K. and Rodwell, V. W. (2006) Harper's Illustrated Biochemistry. 27th ed., The McGraw-Hill Companies, Inc., USA.

5. West, E.S., Todd, W.R., Mason, H.S. and Van Bruggen, J.T. (1970) Text bookof Biochemistry. 4thed. The Macmillan Co., New York.

6.ShanmughamAmbika (1985) Fundamentals of bio-chemistry to medical students. NVA Bharat Printers, and traders 56, Peters Road, Madras-86. .

SEMESTER-V

Subject Code :19UENDC1 Credits -4 Core paper : lX

CORE PAPER IX–CLINICAL NUTRITION

COURSE OUTCOME:

- To enable students to understand the etiology, pathophysiology and metabolic anomalies of acute and chronic disorders/diseases
- To understand the biochemical changes due to these disorders and provide the right nutritional care in the management of these conditions.

THEORY

Unit I

Metabolism

Review of digestion and absorption of proximate principles
Carbohydrate - Glucose transport. glycolysis. metabolism of lactate and pyruvate. citric acid cycle. gluconeogenesis. pentose phosphate pathway.
Amino acid - Intermediary metabolism and urea cycle
Lipid - Intestinal resynthesis of TG, transport, oxidation of fatty acids, biosynthesis of cholesterol.

Unit II

Genetic control of metabolism

Nucleic acids, DNA replication, RNA – Synthesis, types and functions, Genetic code, protein biosynthesis, Recombinant DNA Technology

Unit III

Biochemical changes due to disorders of metabolism

Diabetes mellitus, Inborn errors of metabolism with respect to lactose, galactose, phenyl alanine and uric acid (Gout)

Unit IV

Digestive System

a. Diarrhoea, constipation. Gastritis, ulcers, colitis, malabsorption syndrome -Nutritional implications.

b. Metabolic and nutritional implications of Hepatitis. Cirrhosis of liver. Hepatic coma. Pancreatitis. Cholecystitis and Cholelithiasis.

Unit V

Renal System

a. Metabolic and nutritional implications of Nephritis. Nephrotic syndrome. Renal failure. Renal caliculi and Dialysis.

b. Water and electrolyte losses and replenishment. Effects of dehydration and water intoxication.

REFERENCES

1. Bamji et al. 1996. Text Book of Human Nutrition. New Delhi,Oxford and IBH Publishing Co. Pvt. Ltd.

2. Devlin. T.M.. 1997. Text book of Clinical Biochemistry. New York, John Wiley and Sons.

3. Harper. H.A.. 1997. Review of Physiological Chemistry. 21st edition. Los Angeles, Lange Medical Publications.

4. Leninger. A. L.. 1992. The molecular basic of cell structure and functions. New Delhi, Kalyani Publishers.

5. Ramakrishnan. S. and Venkat Rao.. 1995. Nutritional Biochemistry. Chennai, T.R. Publications.

6. Shils et al. 1994. Modern Nutrition in Health and Disease. Vol. I and II. New York, Lea and Febiger.

7. Williams S.R.. 1993. Nutrition and Diet Therapy. New York, Mosby Publishers.

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SEMESTER-V

Subject Code :19UENDC2 Credits -4 Core paper : X

CORE PAPER X – THERAPEUTIC DIETETICS

COURSE OUTCOME:

The learners will be able to

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

UNIT: I

Concept of diet therapy:

principle of therapeutic diets, modification of normal diet, classification of therapeutic diets. Different feeding techniques –enteral and parenteral feeding. Role of dieticians in nutritional care.

UNIT: II

Conditions/Disease of GI Tract- dietary modifications

a) Diarrhoea, dysentery and constipation
b) Peptic ulcer, Irritable bowel syndrome & inflammatory bowel disease (ulcerative colitis)

UNIT: III

Causes, symptoms, dietary management of

a) Disease of liver & Gall bladder- Hepatitis, cirrhosis, gall stones
b) Febrile conditions – Acute & Chronic (Typhoid, influenza, malaria, tuberculosis).

UNIT: IV

Life style disorders/diseases – causes, symptoms and dietary management

a. Obesity
b. Diabetes mellitus
c. Cardio vascular diseases – hypertension, atherosclerosis

UNIT: V

a. Diseases of excretory system– nephritis, nephritic syndrome, urinary calculi, renal failure.
b. Cancer – Dietary management

REFERENCE:

1.Antia F. P. Clinical Dietetics and Nutrition,2002 4th edition, Oxford university press.

2.Davidson and Passmore, Human Nutrition And Dietetics, Churchill Livingstone publication.

3.SueRodwell Williams , Basic Nutrition and Diet Theraphy, 2000 Mosby publication.

4.Garrow J.S, James W. P.T, (2000), Human Nutrition and Dietetics, 10th edition, Churchill Livingston, London.

5.Guthrie H. A, Picciano M. F (1995), Human Nutrition, Mosby, St. Louis Missorie.

6.Mohan K. L, Krause M.V (2002), Food , nutrition and Diet Therapy, W.B.Saunders Co, Philadelphia.

7.Srilakshmi B, Dietetics (2006), New Age International Publishing Ltd.

8.Robinson C.H., Lawler M.R, Cheweth W.L; and Gaswick A.E, Normal and Therapeutic Nutrition ,17 th edition, Mac Milan Publishers.

SEMESTER-V

Subject Code :19UENDC3 Credits -4 Core paper : Xl

CORE PAPER Xl – QUANTITY FOOD PRODUCION AND SERVICE

Course outcomes:

The learners will be able to:

1. Plan and select raw materials, use of appropriate equipment for various cooking methods
2. Use terminology appropriate to the culinary Industry.
3. Explain the benefits and uses of various culinary equipments and basic preparations.
4. Store and use foods in the correct way to yield to ensure it meets high standards of the culinary industry

THEORY:

Unit I:FOOD SERVICE FACILITIES

a. Designing food facilities - Basic units in plan design - Work centers, section and layout, flow of work.
b. Types of Kitchens – U shaped, L shaped, Rectangular, Square shaped and Straight line.

Unit II:EQUIPMENT

a. Classification - According to weight / size, order of use and mode of operation.
b. Factors influencing selection of equipment, Purchasing – Purchasing procedure – Methods of buying

Unit III:QUANTITY FOOD PRODUCTION

a. Menu planning - Advantages and factors affecting menu planning.

Types of menu - French classical menu, A la Carte and Table d' hote menu - Advantages and disadvantages

. b. Quantity cookery – Standardization, Portion control, Stepping up of recipes

Unit IV: **STYLES OF SERVICE AND TABLE SETTING**

a. Styles of service –Waiter service - banquet, restaurant and room service. Self service- Buffet and cafeteria. Vending.
b. Table - Rules for setting a table and cover

Unit V : SANITATION AND SAFETY.

a. Maintaining a clean environment - Structural features - Drainage, water supply, electricity, lighting and ventilation - Waste Disposal and Pest control.
b. Hygiene in food handling - Receiving, storage and production, personnel Hygiene, Implementation of HACCP in Food Service .

PRACTICAL

1. Standardization of selected recipes
2. Stepping up of standardized recipes to 10 servings
3. Demonstration of table setting and napkin folds
4. Demonstration of vegetable carving.

Text Books:

1. Bali, Parvinder S., Quantity food production operations and Indian cuisine, Oxford University Press, New Delhi,2011.
2. MohiniSethi, Institutional Food Management, New Age International Publishers, New Delhi, Third edition,2016.
3. Krishna Arora, Theory of cookery, Published by Frank Brothers & Company, 2008.
4. Knight J B &Kotschevar LH, Quantity Food Production Planning & Management 3rd edition John Wiley & Sons.2000.

Reference Books:

1. Jerald W.Chesser, The Art of Science of Culinary Preparation, Educational Institute of American Culinary Federation, 1992.
2. ThangamE.Philip, Modern Cookery for Teaching Trade Volume -1, 6 th Revised Edition, Orient Black Swan, 2010.

SEMESTER-V

Subject Code :19UENDC4 Credits -4 Core paper : Xll

CORE PAPER Xll – SPORTS NUTRITION

COURSE OUTCOME:
The learners will be able to

1. Plan diets for athletes involved in aerobic and anaerobic sports.
2. Understand the benefits of physical activity on different systems in the body.

THEORY

UNIT I: PHYSICAL ACTIVITY

Definition – Physical activity, Exercise, Fitness, Physical activity pyramid. Benefits of physical activity. Types of exercise – Aerobic, Anaerobic, Stamina building, Resistance training, Flexibility and Endurance. Effect of exercise on muscles and cardiopulmonary system.

UNIT II: CARBOHYDRATE, PROTEIN AND FAT

Carbohydrate, Protein and Fat as a source of fuel before, during and after competition and glycogen loading.

Unit III: VITAMINS AND MINERALS: Effect of exercise on vitamin and mineral requirements, Female athlete triad.

Unit IV: Water and Ergogenic Aids

Role of water in pre, during and post event meal. Dehydration – causes and effects. Nutritional Ergogenic aids.

Unit V: Energy System

Creatine Phosphate energy system, Anaerobic and Aerobic Pathway

PRACTICAL

Preparation of pre-event meal and nutritious health bar

REFERENCES

1. Fink H.H., Burgoon L.A., Mikesky A.E. Practical applications in Sports Nutrition. Jones and Bartlett Publishers. Sudbery, Massachusetts.
2. Mahan K and Sylvia E. Stump (2000) Krause's Food Nutrition and Diet Therapy, Saunders, USA.
3. McArdle .W.D., Frank. I. Katch, Victor L Katch (2005) Sports and Exercise Nutrition. Lippincott, Williams and Wilkins, Philadelphia
4. Whitney E.R. and Rolfes S.R. (1996) Understanding Nutrition. 7th Ed., West Publishing Company, USA
5. Asker E, Jeukendrup and Michael Gleeson (2004) 'Sports Nutrition: An introduction to
6. energy production and performance' Human Kinetics,
7. . Bean A (2000) 'The complex guide to sports nutrition' A&C Black Publishers, London
8. . Benardot (2006)"Advanced Sports Nutrition", Human Kinetics Ltd., U.S.A.
9. . Brouns F and Cargill C (2002) "Essentials of sports nutrition" John Wiley & Sons Ltd.,

England

10. . Clark N (2003) 'Sports Nutrition Guidebook', Human Kinetics, U.S.A.
11. . Dunford M and Doyle AJ, Nutrition for Sport and Exercise, Thomson Wadsworth, Australia.

SEMESTER-V

Subject Code :19UENDE1 Credits -5 Core paper : Xll

ELECTIVE PAPER l – TEXTILE SCIENCE

LEARNING OUTCOME:

The learners will be able to

Understand the properties of textile fibre, yarn and fabric
Understand the sequence of developing fibres into fabric
Acquire knowledge about different types of fabric and structure.

Unit I : TEXTILES FIBRES

Classification, general properties, use and care of the following fibres

a. Cellulose fibres – Cotton and
b. Protein fibres – Wool and Silk.
c. Thermoplastic fibres - Nylon and polyester

Unit II: YARN CONSTRUCTION

a. Yarn spinning – Mechanical and chemical, conventional and non-conventional, wet, dry and melt spinning.
b. Yarns- Classification based on numbering and twisting.
c. Types of yarns- Simple, Complex yarns

Unit III: FABRIC CONSTRUCTION

a. Weaving-Parts of simple loon and weaving steps.

b. Types of weaves- Basic weaves

Unit IV: FABRIC FINISHING

a. Basic finishes- Bleaching, tentering, singeing, sizing, mercerizing
b. Special finishes- Calendaring, napping, flocking, water repellency, sanforising, wrinkle resistance and fire retardant.

Unit V: SURFACE DESIGNING

a. Dyes- Classification and different methods of dyeing.
b. Methods of printing- Hand printing- Block, Stencil, batik, tie and dye Machine printing- Roller printing, screen printing

REFERENCES

1. Corbman B.P., 1987, Textiles- Fibre to Fabric. New York, Mc Graw Hill Book Co.

2. Dorothyseigeithyle., 1976, Modern Textiles. New York, London, John Wiley and sons lnc.
3. Hollen. N and Saddler. J., 1977. Textiles. New York, Mac Millan.
4. Mathews. M. 1974. Practical clothing construction- Part I and II. Thompson and Co Ltd.
5. Tortora P.C. 1976, Understanding Textiles, Mac Millan, London.
6. Vidyasagar. P.V. 1998. Hand Book of Textiles. New Delhi, Mittal Publications,
7. Wingate. I. 1976. Textile Fibres and their selection. Prentice Hall.

WEBSITE

www.Google.com.

SEMESTER-Vl

Subject Code :19UFNDC1 Credits -4 Core paper : Xlll

CORE PAPER Xlll – FOOD SERVICE MANANGMENT

COURSE OUTCOME:

The learners will be able to

1. Understand the basic principles of management in food services units.
2. Develop managerial skills among the students.
3. Understand the concept and principles of management.

THEORY

Unit I :ORIGIN OF HOTEL INDUSTRY

a. History of hotel industry.
b. Different types of catering establishments - Commercial and non commercial.

Unit II :ORGANISATION AND MANAGEMENT

a. Principle and functions of management
b. tools of management ,communication –types and barriers ,leadership quality and styles of leadership

Unit III : PERSONNEL MANAGEMENT

a. Recruitment and selection - Sources of recruitment. steps involved in selection.
b. Training – Importance and methods of training.
c. Performance appraisal - Promotion and dismissal of employees.

UNIT IV : FINANCIAL management

a.Elements of cost, cost control and pricing.
b.Principles of double entry book keeping, books of account,
c.Journal ,trial balance, profit and loss account,balance sheet.

Unit V : LAWS GOVERNING FOOD SERVICE ESTABLISHMENTS

a. Labour laws related to employee – industrial dispute Act, factories Act, minimum wages Act, shops and establishments Act.
b. Food laws – sale of goods Act, agricultural produce Act, prevention of food adulteration Act

RELATED EXPERIENCE: Visits to commercial and non-commercial food service institutions.

REFERENCES

1. Kington.C. Cesarani. 1984. The theory of catering. London, Arnold Heinemann.
2. Sethi. M. Malhan.S.. 1998. Catering Management. New Delhi, John Wiley and Sons.
3. Spears.M. Vaden.. 1988. Food service organizations - A managerial and systems approach. New York, Mac Millan and Co.
4. West et al. 1993. Food service in institutions. New Delhi, John Wiley and Sons.
5. Mohini Sethi . 2011 .Institutional Food Management .New Delhi, New Age International (P) Limited,

SEMESTER-Vl

Subject Code :19UFNDC2 Credits -4 Core paper : XlV

CORE PAPER XlV – COMMUNITY NUTRITION

COURSE OUTCOME

The learner will be able to

1. Gain knowledge about nutritional policies, programs and agencies involved in combating malnutrition.
2. Organizing Nutrition education programs for the community

Unit-I

Concept and scope of public nutrition –Definition, concept, scope and multidisciplinary nature of public nutrition.

Nutritional problems affecting the community- Etiology, prevalence, clinical features and preventive strategies for malnutrition related problem and deficiency disorders- Protein energy malnutrition, Obesity, Nutritional anemia, Vitamin A deficiency, Iodine deficiency disorders, Fluorosis.

Unit-II

Assessment of nutritional status- Objectives and importance, Methods of assessment: Direct (Clinical signs, nutritional anthropometry, biochemical tests, biophysical tests); Indirect (Diet surveys, vital statistics).

Unit-III

Nutrition education- Objectives, principles and scope of nutrition and health education and promotion.

Unit-IV

Nutrition policy and programs- National nutritional policy**;** Integrated child development scheme (ICDS), Midday Meal Program, National programs for the prevention of anemia, Vitamin A deficiency, Iodine deficiency disorders.

Unit-V

National and International agencies in combating malnutrition- International: WHO, FAO, UNICEF; National: FSSAI, ICAR, ICMR, NIN, FNB, CFTRI, NNMB.

PRACTICAL

1. Planning of low cost nutritious recipes for infants, preschoolers, pregnant/ lactating mothers for nutrition education.
2. Assessment of nutritional status
    - Anthropometry: Weight and height measurements
    - Plotting and interpretation of growth charts for children below 5 years
    - Identification of clinical signs of common nutritional disorders
    - Dietary assessment: FFQ and 24 hours recall
3. Visit to an ongoing nutrition and health promotion program

REFERENCES

1. Wadhwa A and Sharma S (2003). Nutrition in the Community- A textbook. Elite Publishing House Pvt. Ltd. New Delhi.
2. Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition. M/s BanarasidasBhanot Publishers, Jabalpur, India.
3. Jellife DB, Jellife ERP, Zerfas A and Neumann CG (1989). Community nutritional assessment with special reference to less technically developed countries. Oxford University Press. Oxford.
4. WHO (2006). Child Growth Standards: Methods and development: height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age (http://www.who.int/childgrowth/standards/en/).

SEMESTER-Vl

Subject Code :19UFNDC3 Credits -4 Core paper : XV

CORE PAPER XV – THERAPEUTIC DIETETICS PRACTICAL

OBJECTIVES

To enable students to

1. Gain knowledge and develop skills and techniques in planning and preparation of therapeutic diets.
2. Understand the r ole of dietitian and significance of diet counseling.
3. Apply principles in food preparation.

PRACTICALS

Planning, Calculation of nutrient content, Preparation and Service of diets for

1. Tube feeds
2. Fevers – Typhoid and Tuberculosis
3. Peptic Ulcer
4. Diorrhoea and constipation
5. Viral hepatitis
6. Cirrhosis of liver
7. Obesity
8. Diabetes Mellitus
9. Hypertension
10. Atherosclerosis
11. Chronic kidney disease

REFERENCES

1. Antia, F.B.,2010, Clinical Nutrition and Dietetics, Oxford University Press, London.
2. Davidson, S and Passmore, R.,1977, Human Nutrition and Dietetics, ELBS, London.
3. Joshi .S., 2002, Nutrition and Dietetics, Tata McGraw Hill Publishing Co., New Delhi.
4. Sri Lakshmi. B., 2011 Dietetics, New Age International Pub. Co, Chennai.
5. Williams. S.R.,1986, Essentials of Nutrition and Diet Therapy.Toronto, Times Mirror/ Mosby college Publishing.
6. Vimala.V,2009 Advances in Diet Therapy Practical Manual,New Age International Pub co, New Delhi
7. Kathleen M &, Sylvia E, 2012, StumpKrause's Food and Nutrition Therapy**,** Elsevier Saunders, Missouri.
8. Shils M, E., etal1999 Modern Nutrition in Health and Disease 9th edition, Lippincott, Williams & Wilkin

SEMESTER-Vl

Subject Code : 19UFNDE1 Credits -5 Elective paper : ll

ELECTIVE PAPER ll – FAMILY RESOURCE MANANGMENT

Course Outcomes:

The learners will be able to:

1. Recognize the importance of wise use of resources to achieve one's goals.
2. Become a good home maker.
3. Gain knowledge in various aspects in home economics.

Unit – I

Management – Definition, Principles and elements involved in management,

Process – planning, controlling and evaluation. Motivation in management.(Introduction to values, goals and standards)

Unit – II

Management Concepts - Goals and Values – their relationship to decision-making

Standard of Living – Definition, constituents – Means for raising the standard of living of families.

Unit – III

Decision Making – steps, importance, types of decisions, H Individual and group decisions, resolving conflicts in group decisions.

Resources – Human and non-human resources. Characteristics of Resources,

Unit – IV

Family - Concept, Role, stages of family life cycle.
Time Management – Time Demands during different stages of the family life cycle, Factors to be consider in making time and activities plans.
Energy Management – Work simplification Definition, techniques and Mundel's classes of changes.

b. Fatigue – Concept, types – Physiological and psychological fatique.

Unit – V

Family Income – Definition, Types - Money, Real and Psychic income, 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 institutions and schemes.
Consumer – meaning and definition of consumer, consumer rights. Problems faced by the consumer.

Text Books:

1. Neeru Garg Sushma Gupta, Textbook of Family Resource Management, 9th Edition 2008.
2. Sylvia M. Asay, Tami J. Moore, Family Resource Management, Third Edition, 2016. Varghese, M.A., N.N. Ogale, and Srinivasan, K., Home Management; Wiley

   Eastern Ltd., 1992

Reference Books:

1. Nickell.P. and Dorsey. J.M. – "Management in Family Living", John Wiley and Sons, Inc, New York, 1960.

2. Varghese,M.A et al. – "Home Management", (Second Edition), New Age International (P) Limited, Publishers, 7/30 A, Daryaganj, New Delhi – 110002.

3. Singal Savita Prof. and GandotraVeena Prof. Family Resource Management.
4. Historical and contemporary Developments, Dominant Publishers and Distributors, New Delhi – 11000

SEMESTER-Vl

Subject Code : 19UFNDE2 Credits -5 Elective paper : lll

ELECTIVE PAPER lll – DIET COUNSELLING

COURSE OUTCOME:

The Learners will be able to

1. Understand the psychology of the patient
2. Develop diet counseling skills
3. Create awareness among the communities about the importance of Diet and good health

UNIT I:

Role of a dietician in a hospital and community, team approach to nutritional care, ethical code and responsibility. Defining features of counselling psychology.

UNIT II:

Diet counseling skill: Tactics and techniques of counseling- evaluating and understanding the clients attitude, how to identify and express your feelings towards the client, utilizing prope rcounselling techniques- non verbal behavior, verbal behavior, covert behavior.

UNIT III:

Concepts and principles in communication and their application in developing skills in counseling. Use of communication aids, communication and interviewing skills.

UNIT IV:

Therapeutic relationships: psychology of feeding the patients- Assessment of needs, education ofthe patient and follow up and establishing rapport with the patient and the family member,

UNIT V:

Diagnosis and assessment :Eliciting clinical information- medical history, assessment of diet profile, techniques of obtaining relevant information; dietary diagnosis- 24 hour recall method, food diary, list of food likes and dislikes, lifestyle; interpreting clinical information, case study assessment

and evaluation.

Reference:

1)Gelso Charles,J. and Fretz Bruce, R. Counselling Psychology, a PRISM Indian edition Harcourt Brace College Publishers, 1995

2) Srilakshmi, B. Dietetics New Age International (P) Ltd, 1997