

BOARD OF STUDIES MEMBERS

1. Dr. Anu Joseph (Chair Person)
Associate Professor
Dept. of Home Science
St. Teresa's College Ernakulam
2. Mrs. Swapna George (University Nominee)
Head of the Department
Dept. of Clinical Nutrition and Dietetics
Alphonsa College, Pala

FACULTY MEMBERS WHO HAVE CONTRIBUTED TOWARD CURRICULUM AND SYLLABUS IN POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

1. Dr. Anu Joseph
Associate Professor
Dept. of Home Science
St. Teresa's College Ernakulam

2. Mrs. Swapna George
Head of the Department
Dept. of Clinical Nutrition and Dietetics
Alphonsa College, Pala

3. Mrs. Surya M. Kottaram
Assistant Professor on contract
Dept. Clinical Nutrition and Dietetics
St.Teresa's College, Ernakulam

4. Mrs. Ani Thomas Thottan
Assistant Professor on contract
Dept. Clinical Nutrition and Dietetics
St.Teresa's College, Ernakulam

5. Dr. Gireesh Kumar
Head of the Department
Dept. of Emergency Medicine
Amrita School of Medicine, Ernakulam

6. Mrs. Nisha Philip
Assistant Professor
Dept of Physical Education
St.Teresa's College, Ernakulam

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Dr.Anu Joseph
Chairperson

FOREWORD

The Higher Education environment is changing rapidly in India and particularly so in the year 2014-15, when the Government of Kerala decided to give autonomy to 13 educational institutions in the state with the aim of improving quality. Quality in Higher education has been a matter of high concern and priority in India especially after the National Policy on Education 1986 has very categorically questioned the impact of education and suggested many measures for bringing innovative practices in education.

The autonomous status asks for more responsibility and increased accountability to frame a curriculum keeping in mind the ever changing academic environment and the plethora of demands placed by the diversity of students who have a high literacy level when it comes to choosing their course.

Keeping in mind that the purpose of Higher Education is the development of the people, society and environment, special care has been taken by the IQAC team at St. Teresa's College to give the necessary Orientation and to conduct Workshops related to curricula and scientific syllabus design as part of the Faculty Development Programme. Curriculum relates to the total experience of the student and it should contain knowledge that is essentially valid. The Graduate and Post Graduate Departments have worked diligently to frame curricula and develop programmes that foster analytical ability and critical thinking and enable the students to acquire the skills required by employers. The pedagogy adopted within the context of curriculum is to facilitate valid transmission of knowledge and proper evaluation of the same. The Courses designed at the Graduate and Post Graduate Levels have defined the competencies to enable effective teaching/learning of all the modules of the courses, both Core (compulsory) and Designate (elective). The blueprint of the final assessment of every course guarantees that all modules are taught and furthers integrity. The details of the course curriculum and structure are set in accordance with the course specifications of the affiliating university.

With sincere gratitude I acknowledge the efforts of Dr. N. J. Rao and Dr. Rajan Gurukkal who extended to us their academic expertise, astute guidance and unstinting support. I also thank Dr. Achuthshankar S. Nair for his timely guidance. I specially thank all the faculty members and the IQAC coordinator Dr. Beena Job for their diligence, commitment and exceptional contribution towards this endeavour.

Dr. Sr. Celine E

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ST.TERESA'S COLLEGE (AUTONOMOUS)
ERNAKULAM
WOMEN'S STUDY CENTRE
DEPARTMENT OF CLINICAL NUTRITION AND DIETETICS

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

PREAMBLE

P.G Diploma in Clinical Nutrition and Dietetics is a 3 semesters full time program with an ultimate aim to produce dietetic professionals with wide exposure in the field of nutrition and dietetics. The program focuses on equipping the students to be competitive professionals.

Knowledge in physiology, basic nutrition, biochemistry and dietetics makes possible greater understanding of the changes in human body thereby modify the diets and practices in times of body changes and diseases. Education on diet counselling and communication skill trains the student to be competitive nutrition consultants who can provide their expertise to speciality clinics, pharmaceutical companies and other related fields. Not to forget social commitment, the students are educated on public nutrition deficits and their intervention programs. The students help empower the women folk of rural communities in and around the locality through community programs. The program introduces various courses on food microbiology and quality control and food service establishments where nutrition skills are required, thereby widening the job opportunities.

Electives provide add on knowledge which assist in their professional endeavour. The program is designed with theory papers, practicals, projects and internship that provide firsthand experience empowering students to be successful professionals.

GRADUATE ATTRIBUTES

After completing **P.G Diploma in Clinical Nutrition and Dietetics program** the following attributes will have been fulfilled:

- Equip with latest knowledge in the respective science.
- Create competitive nutritionists in various fields like space nutrition, sports nutrition and food companies.
- Socially committed nutritional educators in various institutions.
- Gain knowledge on food service establishments.
- Train on innovative recipe development considering the science of food
- Develop feasible solutions against major nutrition related health issues in the country.
- Cultivate awareness on national and international organisations supporting nutrition interventions.
- Systematic knowledge in proper utilization of communication aids.
- Inculcate interest in basic accounting and book keeping.
- Efficiency in communication skills for their career development.
- Proficiency in life style disease management.
- Develop confidence to handle classes in community through project
- Familiarise with work environment in hospitality industry through internship
- Give opportunity for job experience through hospital internships
- Acquaint with knowledge on emergency life support.
- Independent to access, analyse and plan nutritional management for disease, physiological conditions and special condition
- Inculcate interest in food safety and quality control
- Open a window towards food microbiology and preservation
- Equip students with speculative knowledge for Registered Dietician
- Bring about all round personality development through yoga

OBJECTIVES

End of First Semester

On completing the first semester the students will develop basic knowledge on physiology of human body and science of food, composition and changes during cooking. They are also taught structure, composition and functions of nutrients both micro and macro. Attain knowledge on the basics of planning and preparing menu for the various life cycles.

End of Second Semester

At the end of the second semester the students are trained in detailed nutritional biochemistry within the body and there by understand the requirement of diet modifications during times of disease or illness. Equipped with the appropriate skill and attitudes for nutritional diagnostic therapy and counselling services for the purpose of disease management. They also attain knowledge on the functioning of the hospitality industry.

End of Third Semester

On culmination of the program the students are equipped with skill in communication required in all aspects. The students are made aware of the various public health issues, national and international nutrition intervention schemes. Knowledge in various electives that assist in their job nature are also provided. Moulding them to be effective dietetic professionals.

STRUCTURE OF POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Post Graduate Diploma in Clinical Nutrition and Dietetics shall be a 3 semester full time programme extending to one and a half academic year consisting of 90 working days of instruction each semester. The third semester consists of three months course study and three months of hospital internship.

Theory

The PG Diploma Programme contains 13 compulsory core courses and 2 electives. All core courses have 4 credits except communication skills which has 2 credits. The final assessment of communication skills does not follow the regular 3 hours examination pattern as it includes mock interview and group discussion.

Practical

The programme consists of four practicals, 1 in the first and second semester each and two electives. Practicals in first and second semesters have 2 credits and the elective has 3 credits. The assessment of elective courses includes only practical oriented sessional assessment.

Internships and Projects

The projects include internships and community program. The hotel internship in the second semester has 3 credits and community programme (Project) and hospital internship in third semester carries 4 credits each.

- **Hotel internship:** After the 2nd semester students are expected to do a 7 days hotel internship at a three or four star hotel. This is for them to be informed on the practicality of the subject Food service management. Training is given in all departments of hotels
- **Community Programme:** During the 3rd semester community programs will have to be done among the rural population. It is a nutrition education program which includes awareness to public health issues and the need of the hour in health aspects as well as information on basic nutrition. Visual aids will have to be prepared and a project report will have to be submitted.
- **Hospital Internship:** During the last 3 months of the 3rd semester will be hospital internship. The hospital should be minimum 200 bedded multispeciality, with a well established Nutrition and Dietetics department.

Course Code

Every course in the programme should be coded according to the following criteria. The course code likes this CN1C01TPGD. The first two letters of the code indicate the programme i.e. CN for Clinical Nutrition and Dietetics. 1 digit to indicate the semester, i.e. CN1 (Clinical Nutrition and Dietetics, 1st semester). 'C' or 'EA' for core and elective course respectively. Two digits for the course number, i.e. CN1C01 (first core course), 'T' or 'P' for theory or practical and three letters from Post Graduate Diploma 'PGD'.

DETAILED DISTRIBUTION OF COURSES AND CREDITS FOR POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester	Title of the Course	No: of hours per week	No : of Credits	Total hours/ semester	Exam Duration	Total Marks	
						Sessio nals	Fina ls
I	Human bio mechanics (T)	5	4	90	3	25	75
	Food Science (T)	5	4	90	3	25	75
	Principles of Nutrition (T)	5	4	90	3	25	75
	Normal Nutrition (T)	5	4	90	3	25	75
	Normal Nutrition (P)	5	2	90	3	25	50

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II	Clinical Nutrition and Dietetics I (T)	5	4	90	3	25	75	
	Clinical Nutrition and Dietetics II(T)	5	4	90	3	25	75	
	Clinical Nutrition and Dietetics (P)	5	2	90	3	25	50	
	Nutritional Biochemistry (T)	5	4	90	3	25	75	
	Food Service Management (T)	5	4	90	3	25	75	
III	Public Health Nutrition (T)	7	4	63	3	25	75	
	Food Microbiology and Quality Control(T)	7	4	63	3	25	75	
	Communication Skills (T)	2	2	18		25	50	
	Electives							
	Yoga (P)	6	3	54	3	50	-	
	Basic Life Support (P)	6	3	54	3	50	-	
Internships And Project								
II	Hotel internship		3			10	15	
III	Community Programme (Project)	3	4			25	-	
	Hospital Internship		4			25	25	

SCHEME - CORE COURSE

Semester	Course Code	Title of the Course	No: of hours per week	No : of Credits	Total hours/ semester	Exam Duration	Total Marks	
							Sessio onals	Finals
I	CN1C01TPGD	Human bio mechanics (T)	5	4	90	3	25	75
	CN1C02TPGD	Food Science (T)	5	4	90	3	25	75
	CN1C03TPGD	Principles of Nutrition (T)	5	4	90	3	25	75
	CN1C04TPGD	Normal Nutrition (T)	5	4	90	3	25	75

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	CN1C05PPGD	Normal Nutrition (P)	5	2	90	3	25	50
II	CN2C06TPGD	Clinical Nutrition and Dietetics I (T)	5	4	90	3	25	75
	CN2C07TPGD	Clinical Nutrition and Dietetics II(T)	5	4	90	3	25	75
	CN2C08PPGD	Clinical Nutrition and Dietetics (P)	5	2	90	3	25	50
	CN2C09TPGD	Nutritional Biochemistry (T)	5	4	90	3	25	75
	CN2C10TPGD	Food Service Management (T)	5	4	90	3	25	75
	III	CN3C11TPGD	Public Health Nutrition (T)	7	4	63	3	25
CN3C12TPGD		Food Microbiology and Quality Control(T)	7	4	63	3	25	75
CN3C13TPGD		Communication Skills (T)	2	2	18	-	25	50

SCHEME- ELECTIVES

Semester	Course Code	Title of the Course	No: of hours per week	No : of Credits	Total hours / semester	Exam Duration	Total Marks	
							Sess iona ls	Finals
III	CN3EA1PPGD	Yoga (P)	6	3	54	3	50	-
	CN3EA2PPGD	Basic Life Support (P)	6	3	54	3	50	-

SCHEME- INTERNSHIPS AND PROJECT

Semester	Course Code	Title of the Course	No: of hours per week	No : of Credits	Total hours/ semester	Exam Duration	Total Marks	
							Sessio nals	Fina ls
II		Hotel internship		3			10	15
III		Community Programme	3	4			25	
		Hospital Internship		4			25	25

DISTRIBUTION OF CREDITS

Semester	Course	Credits	Total Credits
I	4 (T)	4x4=16	18
	1 (P)	1x2= 2	
II	4 (T)	4x4=16	21
	1 (P)	1x2=2	
	1 (Internship)	1x3=3	
III	3 (T)	2x4+1x2	10
	1 (E)	1x3	3
	2(1 Internship and 1Project)	2x4	8
Total			60

EVALUATION

The evaluation of each course shall contain two parts such as Sessionals and Final. The ratio between Sessional evaluation and Final evaluation shall be 25:75. The Sessionals and Final examinations shall be evaluated using marks.

Assessment Pattern

Item	Percentage
Sessional Assessment	25
Final Assessment	75

Sessional Assessment

Sessional evaluation is to be done by continuous assessments. The components of the sessional for theory and practical and their marks are as below:

Theory

Components	Marks
Attendance	5
Assignment	5
Seminar	5
Test papers	10
Total	25

Attendance

Percentage of attendance	Marks
90 and above	5
85-89	4
80-84	3
76-79	2
75	1

Attendance below 75 will not be permitted for exam

Assignments and Seminar:

Each student has to take 1 assignment and 1 seminar presentation per course.

Different components for the evaluation of Assignment

Components	Marks
Punctuality	1
Content	2
Conclusion	1
Reference	1
Total	5

Different components for the evaluation of Seminar

Components	Marks
Visual Aids used	1
Content	2
Presentation	1
Reference	1
Total	5

Test Paper

- Average mark of two test papers. No retests will be conducted.
- In exceptional cases with valid reasons retests will be allowed with a penalty of Rs.1000/- (Rupees one thousand only) per paper.

Practical

Component	Marks
Attendance	5
Laboratory involvement	5
Record	5
Menu Plan	10
Total	25

Attendance & Laboratory involvement

Attendance	Laboratory involvement
Same as shown in theory internal	Handling Equipments
	Personal and cooking hygiene
	Skill in preparation

Communication skills

The break up for sessional evaluation of communication skills is as follows:

Components	Marks
Attendance	5
Group Discussion and Debate	5
Mock Interview	15
Total	25

Distribution of marks for attendance- as per University rules

- Minimum attendance -75%
- Maximum leave that can be availed -22 days out of 90

- Union members/ sports students –attendance can be given on official letter of request from deans to the concerned teacher
- NCC/ NSS/ participants in youth festival –attendance– letter of request from teacher in charge/ dean after consultation with the principal
- 50% attendance for the days of absence up to a maximum of 10 days per semester may be granted on medical grounds. Proper medical certificate should be submitted for the same.
- Attendance may be given for exceptional cases on remittance of a fine of Rs. 10,000/- (Rupees ten thousand only) and on recommendation of the Academic Council.

Yoga/ Basic Life Support (Electives)

The 2 courses are elective in nature. Both the papers are practical oriented and hence only sessional assessment.

Final Assessment

The final examination of all semesters shall be conducted on the close of each semester. There will not be supplementary examinations. For reappearance / improvement as per university rules, students can appear along with the next batch.

PATTERN OF QUESTION PAPER FOR EXTERNAL EXAMINATION

Each theory question paper contains 3 parts: Part A, Part B and Part C

PART A

5 questions of 3marks each out of 7 (5x3=15)

PART B

6 questions of 5 marks each out of 9 (6x5=30)

PART C

2 questions of 15 marks each out of 4 (2x15=30)

The pass minimum for each paper will be 40 marks (out of 100) with a separate minimum of 30 marks out of 75 marks for final examinations and 10 out of 25 marks for sessional examinations

Examinations (Practical):

The examinations for the practical core courses shall be conducted at the end of each semester by the external and internal examiners appointed.

The marks allotted to various components within a practical exam are as follows:

Components	Marks
Menu	8
Preparation	25
Calculation	7
Record	10
Total	50

PROJECTS

Hotel internship

The breakup of sessional evaluation of Internship and final evaluation (from hotel authorities) is as follows:

Sessional Assessment

Components	Marks
Presentation	5
Report	5
Total	10

Final Assessment

Components	Marks
Punctuality	5
Attendance	5
Performance	5
Total	15

Hospital internship

The break up for sessional evaluation of hospital internship and final evaluation (hospital authorities) is as follows:

Sessional Assessment

Components	Marks
Presentation	10
Case study	10
Report	5
Total	25

Final Assessment

Components	Marks
Punctuality	5
Initiative	5
Performance	5
Assignment and Seminar	5
Report	5
Total	25

COMPUTATION OF CCPA

Grade and Grade Point is given to each course based on the percentage of marks obtained as follows:

Percentage of Marks	Grade	Grade Point
90 and above	A+ - Outstanding	10
80-89	A – Excellent	9
70-79	B - Very Good	8
60-69	C – Good	7
50-59	D – Satisfactory	6
40-49	E – Adequate	5
Below 40	F – Failure	4

Note: Decimal are to be rounded to the next whole number

CREDIT POINT AND CREDIT POINT AVERAGE

Credit Point (CP) of a course is calculated using the formula

$$CP = C \times GP, \text{ where } C = \text{Credit for the course; } GP = \text{Grade point}$$

Semester Credit Point Average (SCPA) is calculated as

$$SCPA = \frac{\text{TotalCreditPoints (TCP)}}{\text{TotalCredits(TC)}}$$

where **TCP = Total Credit Point; TC = Total Credit**

Grades for the different semesters / programme are given based on the corresponding SCPA on a 7-point scale as shown below:

SCPA	Grade
Above 9	A+ - Outstanding
Above 8, but below or equal to 9	A - Excellent
Above 7, but below or equal to 8	B - Very Good
Above 6, but below or equal to 7	C - Good
Above 5, but below or equal to 6	D - Satisfactory
Above 4, but below or equal to 5	E - Adequate
4 or below	F - Failure

Cumulative Credit Point Average for the programme is calculated as follows:

$$CCPA = \frac{(TCP)_1 + (TCP)_2 + \dots + (TCP)_6}{TC_1 + TC_2 + \dots + TC_6}$$

where **TCP₁....., TCP₆** are the **Total Credit Points** in each semester and **TC₁....., TC₆** are the **Total Credits** in each semester

Note: A separate minimum of **30% marks** each for Sessionals and Finals (for both theory and practical) and an aggregate minimum of **40 % is** required for the pass of a course. For pass in a programme, a separate minimum of Grade E is required for all the individual courses. If a candidate secures **F** Grade for any one of the courses offered in a Semester/Programme only **F** grade will be awarded for that Semester/Programme until he/she improves this to **E** grade or above within the permitted period. Candidate who secures **E** grade and above will be eligible for higher studies.

SYLLABI OF CORE COURSES

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE 1)
FIRST SEMESTER**

Name of the Core Course: CN1C01TPGD Human Biomechanics (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90(5 Hours/ Week)

Aim of the course: To enlighten the students on the structure, composition and functions of organ systems in the human body. From the molecular and cellular to the organ and body systems levels, to ultimately provide understanding of the integrated function of the whole body.

Course Overview and Context:

- Understand various organ systems of the body
- Gain knowledge about the significance of different organ systems
- Learn basic organ system mechanisms of the body

Syllabus Content:

Module I (8Hours)

Introduction to physiology and skeletal system. Structure and constituents of cells, tissues, muscles and bones. Functions and formation of bones. Muscle- structure and physiology of muscular action

Defence mechanism of the body-Types of immunity: First line and second line immunity, humoral and cell mediated. Localisation of infections, inflammations and immunization.

Module II (10 Hours)

Body fluids: Lymphatic system. Blood- introduction to haematology, functions of blood, functions of plasma proteins, erythrocytes, haemoglobin, important indices of RBC, leucocytes/WBC- functions and Platelets, blood groups, blood coagulation, blood transfusion and blood banks.

Module III (12 Hours)

Circulatory system- heart structure and functions, CV system, anatomy, cardiac cycle, heart sounds, heart rate and regulation, blood pressure- measurements and mechanism of maintenance of B.P, hemorrhage- compensatory changes, cardiovascular modifications during exercise, oedema, causes and types.

Module IV (8 Hours)

Respiratory system- Basic anatomy of the respiratory system, process of respiration, transport and exchange of oxygen and carbon dioxide in the body and different pulmonary volumes.

Module V (14 Hours)

Digestive system- Anatomy of digestive tract and process of digestion, absorption and assimilation of food, composition and functions and mechanism of secretion of digestive juices and accessory organs and glands- salivary, gastric, liver, gall bladder, intestine and pancreas, functions of bile salts, movements of stomach, small intestine, villi and defecation.

Module VI (10 Hours)

Excretory system- Structure and function of kidney, structure of nephron, GFR, stages of urine formation, selective reabsorption of different constituents and factors affecting urine volume, composition of urine and micturition

Module VII (8 Hours)

Endocrine system- structure and functions of pituitary, thyroid, parathyroid, adrenal body and pancreas, hormonal regulations of growth, disorders associated with endocrine system.

Module VIII (10 Hours)

Reproductive system: Anatomy of male reproductive system, anatomy of female reproductive system, menstrual cycle- conception, contraception and parturition. Brief anatomy of mammary gland

Module IX (10 Hours)

Nervous system- Anatomy and physiology, structure of neurons, nerve cell as a conducting tissue, transmission of nerve impulses, mechanism of impulse transmission, synaptic transmission and its affecting factors, various types of receptors and reflex action and arc.

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- 2) Chandra Sekar C.N,(2007),Manipal Manuel of Physiology, 1st Edition, CBS Publisbers and Distributors, New Delhi.
- 3) Chatterjee C.C (2005), Human Physiology, 11th Edition (Reprint),Vol 1& II Medical Allied Agency, Kolkata.
- 4) Guyton A.C(1991), Textbook of Medical Physiology, 8th, Philadelphia:W B Saunders

Competencies of the course:

- C1) Gain knowledge on applied physiology
- C2) Study the significance of multiple defence mechanism against pathogens
- C3)Analyse the unique features and functions of blood and other body fluids
- C4)Unfold the mysterious of the heart and its connecting blood vessels
- C5)Gain insight on the mechanism of respiration
- C6) Extrapolate on the respiratory organs and their functions.
- C7) Understand the structure and functions of different parts of digestive system
- C8)Identify the role of different secretory glands on digestion
- C9) Focus on the absorptive mechanisms of macronutrients
- C10) Understand the formation of urine and the organs involved in the same
- C11) Study the role of various endocrine glands in the regulation of body functions
- C12) Distinguish the effects of over and under secretion of hormones
- C13)Know the anatomy of human reproductive organ system
- C14) Understand the physiological changes in female reproductive organs
- C15)Gain insight on the morphology of neurons
- C16) Attain knowledge on process of impulse transmission through synapses and neurons and role of neuro transmitters in the same

CN1C01TPGD Human Biomechanics (T)

Blue print

Module	Hours	Mark-3 5/7	Mark-5 6/9	Marks15 2/4
1	8	-	1	1
2	10	-	1	1
3	12	1	1	1
4	8	1	1	-
5	14	1	1	1
6	10	1	1	-
7	8	1	1	-
8	10	1	1	-
9	10	1	1	-
Total	90	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM

(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- I

Core Course- CN1C01TPGD Human Biomechanics

Time: 3 hrs

Max.Marks:75

Part A

*Answer any **five** questions not exceeding **one page***

Each question carries 3 marks

1. Explain the term synaptic transmission and the neurotransmitters involved.
2. Describe the composition of urine with the factors affecting the same.
3. What is acromegaly and its symptoms?
4. Briefly write the movements involved in small intestine.
5. How does CO₂ transported in the body?
6. Write a short note on special junctional tissues of heart.
7. Which are the major male hormones involved in reproduction.

(5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Write a note on different blood grouping systems and blood bank.
9. Describe the structure of skeletal muscle.
10. Write a note on electro cardio gram. Explain the significances.
11. Explain the structure of female reproductive system.
12. Write a note on the endocrine functions of pancreas.
13. Describe the mechanism of urine formation and micturition.
14. Define the term receptors and write the salient features of the same.
15. Discuss the structure of respiratory tract and mechanism of respiration
16. Write the process of digestion and absorption.

(6X5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Discuss the structure of different plasma proteins and their functions.
18. Explain the term cardiac cycle and various special junctional tissues in the heart.
19. Write detailed information regarding the involvement of various digestive glands in the digestion process.
20. Define the term Immunity. How can you differentiate various types of immunity with suitable examples?

(15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE 1I)
FIRST SEMESTER**

Name of the Core Course: CN1C02TPGD Food Science (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: Open the wide horizons of the science of foods. This course helps to gain information on food groups, balanced diets and methods of establishing the same. The various sources of nutrients and the functions of different food groups. Enlighten the students on the newer expansions of this science.

Course Overview and Context:

- Enable the students to gain knowledge on nutritive value and properties of different foods
- Identify the changes in property during food handling
- Create awareness on recent trends and novel foods

Syllabus Content:

Module I

(10 hour)

Introduction to food and nutrients, food groups (ICMR). Basic methods of preparation of foods. Methods of cooking: dry, wet, solar, pressure and microwave cooking. Principles of sensory evaluation of food. Functional Foods: Prebiotics, Probiotics, Nutraceuticals, Novel Foods: Single celled proteins, protein isolate concentrates, leaf protein concentrates, genetically modified foods, convenience foods, junk foods

Module II

(10 hours)

Cereals and millets: Structure and types of cereals consumed, nutritive value of cereals, starch cookery, cereal processing.

Module III

(8 hours)

Pulses and Legumes: Nutritive value, pulse cookery, antinutritional factors in pulses. Nuts and Oilseeds: Nutritive value and processing, toxicity and antinutritional factors.

Module IV

(8 hours)

Milk and milk products: Nutritive value, milk cookery, coagulation, types of milk, processing and various fermented and non fermented milk products.

Module V

(20 hours)

Fish, Poultry, Meat and egg: Classification, grading and selection, nutritive value of fish poultry and meat. Methods of cooking, ageing, tenderization and rigor mortis. Egg: Composition, nutritive value, characteristics of fresh eggs, coagulation of egg proteins, egg cookery.

Module VI

(10 hours)

Vegetables and Fruits: Nutritive value, pigments, ripening and senescence. Enzymatic and non enzymatic browning reaction.

Module VII

(10 hours)

Oils and fats: Nutritive value, processing of fats and oils, rancidity, changes in fat on frying
Sugar and jaggery: Stages of sugar cookery. Crystallisation, factors affecting crystallisation, crystalline and non crystalline candies. Artificial sweeteners

Module VIII

(8 hours)

Beverages: Alcoholic and non alcoholic. Spices and condiments

Module IX

(6 hours)

Food Additives: - Role and types of Flavoring agents, leavening agents, emulsifiers, stabilisers. Food adulteration-food commonly adulterated, common adulterants used and harmful effects, methods for detecting food adulterants.

References

- 1) Griswold Ruth, M, Experimentals Study of Foods, Haughthan, Miffin Company N.Y. 1979.
- 2) ICMR, Nutritive Value of Indian Foods. New Delhi 1989
- 4) Marion Benion, Introductory Foods, Macmillan Co N.Y 1980
- 5) ShakuntalaManay, N and Shadaksharaswamy, Food- Facts and Principles, New Age International Pvt Limited, 1987.
- 6) Srilakshmi. B, Food Science, New Age International Pvt Limited, 1997.

Competencies of the course:

- C1) Understand the concepts food, nutrients and balanced food
- C2) Familiarise the methods of cooking
- C3) Analyse the principles of sensory evaluation
- C4) Introduce and familiarise the newer foods like functional foods, pre and probiotics, novel foods
- C5) Gain knowledge on structure, composition and nutritive value of cereals
- C6) Study changes during starch cookery
- C7) List the various cereal processing techniques
- C8) Distinguish between nutrient, composition of pulses, legumes, nuts and oilseeds.
- C9) Extrapolate on the anti nutritional factors in pulses, legumes, nuts and oilseeds
- C10) Study the significance of milk its composition and nutritive value
- C11) Distinguish the preparation of fermented and non fermented milk products
- C12) Understand the classification, grading and selection of meat, poultry and fish
- C13) Understand the changes post mortem in flesh foods
- C14) Identify the nutrients and role of egg in cookery
- C15) Analyse the quality of eggs
- C16) Focus on nutrients, pigments, ripening and post harvest changes of fruits and vegetables
- C17) Gain knowledge on enzymatic and non enzymatic browning reactions
- C18) Study the types of fats and oils
- C19) Enumerate the techniques of fats and oils processing
- C20) Infer the stages of sugar cookery and its role in cooking
- C21) Familiarise with artificial sweeteners and its effects.
- C22) Attain knowledge on classification and processing of beverages
- C23) Study the nutrient content and benefits of spices and condiments
- C24) Introduce food additives: flavouring, colouring, leavening agents, emulsifiers, stabilisers
- C25) Learn the functions and types of food additives
- C26) Disseminate food adulteration and methods to detect the same

CN1C02TPGD Food Science
Blue print

Modules	Hours	Mark-3 5/7	Mark-5 6/9	Marks15 2/4
1	10	2	1	-
2	10	1	1	-
3	8	1	-	1
4	8	-	-	1
5	20	-	2	1
6	10	1	2	-
7	10	-	1	1
8	8	1	1	-
9	6	1	1	-
Total	90	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)
POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- I
Core Course- CN1C02TPGDFoods Science

Time: 3 hrs

Max.Marks:75

Part A

*Answer any **five** questions not exceeding **one page**
Each question carries 3 marks*

1. Give the ICMR classification foods and nutrient composition of each group
2. Expand ARF and gives its importance and preparation methods
3. Explain textured vegetable proteins
4. Principles of sensory evaluation
5. What are emulsifiers? Write on its role in cookery
6. Effect of calcium salt on cooking of vegetables
7. Give the beneficial effects of spices

(5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Explain processing of coffee.
9. Define adulteration. Discuss methods of detecting adulterants any 2 food articles.
10. Explain spoilage of fats and methods to prevent it.
11. Discuss the moist heat effect on cereals
12. Elaborate on pigments in vegetables.
13. Write on classification and selection of fishes
14. Discuss post harvest changes in fruits.
15. Post mortem changes and tenderisation techniques of flesh foods
16. Illustrate and explain parts of microwave oven and principle of microwave cooking
(6X5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Write on stages of sugar cookery and crystalline and non crystalline food preparation
18. Discuss fermented and non fermented milk products.
19. Illustrate the structure of egg and discuss its role in cookery
20. Discuss on toxic constituents in pulses.

(15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE III)
FIRST SEMESTER**

Name of the Core Course: CN1C03TPGD Principles of Nutrition (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: This course emphasizes to provide a comprehensive knowledge of the various nutritional components of food and their action and interaction to maintain good health and avoid diseases. It enables to learn about the requirements of these nutrients for different age, sex and physiological groups.

Course Overview and Context:

- Understand the relationship between nutrition and human well being
- Know and understand the nutritional need and deficiencies.

Syllabus Content:

Module I (6 hours)

Introduction to study of nutrition: Definition of nutrition, food and its relation to health, growth of the science of nutrition. Recent trends in nutrition

Module II (8 hours)

Energy: Unit of energy, determination of energy content of foods, basal metabolic rate, determination of BMR and total energy requirement. Factors affecting energy expenditure: Calorimetry – direct and indirect, Noncalorimetry methods.

Module III (12 hours)

Proteins: Functions, sources, digestion, absorption, and metabolism, EAA Classification of food proteins, requirements, factors affecting protein needs, vegetables vs. animal protein. Quality of protein.

Module IV (12 hours)

Carbohydrates: Classification, sources, functions, digestion, absorption, metabolism, role of fiber in health and disease.

Module V (12 hours)

Lipids: definition, classification, sources, functions, digestion, absorption, metabolism, transport EFA, need, sources, effects of deficiency.

Module VI (14 hours)

Vitamins: Definition, classification, nomenclature, units of measurements. Fat soluble and water soluble vitamins- Functions, sources, requirements, digestion, absorption, transport, storage, deficiency and toxicity.

Module VII (14 hours)

Minerals: Functions, Deficiencies, Toxicity, Absorption, Transport and excretion, RDA, Food sources of macro and micro minerals. Macrominerals- calcium, phosphorus, magnesium, sodium, potassium, chloride. Microminerals-iron, zinc, copper, iodine and fluorine.

Module VIII (8 hours)

Water: Functions, sources, requirements, water and electrolyte balance and imbalance.

Module IX (4 hours)

Factors affecting nutrient absorption, Interrelationship between nutrients.

References

- 1) Bender, D. A, Introduction to Nutrition and Metabolism, 2nd Edition, Taylor and Francis Publishers 1997
- 2) Davidson. S. Passmore. R, Brock J.F and Truswell, A.s, human Nutrition and dietetics, English Language Book society 1985
- 3) Howe. F.S, Basic Nutrition in Health and Disease, W. b. Sanders Co, 1981
- 4) Swaminathan. N, Advanced Text book on Food and Nutrition Vol1 Pappco 1998

Competencies of the course:

- C1) Understand the definitions of nutrition, food , health and recent trends in nutrition
- C2) Analyse the importance of energy and different components of total energy expenditure
- C3) Identify various equipments used to determine energy expenditure
- C4) Gain knowledge on the functions, sources, digestion, absorption and metabolism of proteins
- C5) Get an idea about essential amino acids and assessment of proteins quality
- C6) Understand the classifications, functions, sources, digestion, absorption and metabolism of carbohydrates
- C7) Know the significance of dietary fibres in health and diseases
- C8) Extrapolate the classifications, functions, sources, digestion, absorption and metabolism of lipids.
- C9) Understand the significance of lipid transport in the body and effect of essential fatty acids
- C10) Familiarize the importance of both fat soluble and water soluble vitamins in our body
- C11) Attain knowledge about macro and micro minerals in human body
- C12) Identify the role of water in homeostasis.
- C13) Understand the importance of electrolytes in water balance and their abnormalities
- C14) Know the interrelationship of nutrients on utilization

CN1C03TPGD Principles of Nutrition
Blue Print

Module	Hours	Mark-3 5/7	Mark-5 6/9	Marks15 2/4
1	6	1	1	-
2	8	-	1	1
3	12	1	1	-
4	12	1	1	-
5	12	1	1	1
6	14	1	1	1
7	14	1	1	1
8	8	1	1	-
9	4	-	1	-
Total	90	7	9	4

Model Question Paper

**ST.TERESA'S COLLEGE, ERERNAKULAM
(Autonomous)**

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- I

Core course- CN1C03TPGDPrinciples of Nutrition

Time: 3 hrs

Max.Marks:75

Part A

Answer any five questions not exceeding one page

Each question carries 3 marks

1. Explain the functions of water and its distribution in the body.
2. Describe about brown adipose tissue and its composition.
3. What are essential amino acids? Write the role of any three amino acids.
4. Briefly write a note on different types of flurosis
5. What is vitamin toxicity? Explain the toxicity of vitamin D.
6. Write short note malnutrition and its various forms.
7. Which are different types of dietary fibres and their food sources? (5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Explain the biological significance of Vitamin A and its related disorders.
9. Explain significance of magnesium and the factors affecting the action.
10. Describe the term water regulation.
11. Write the working principle of human respirometer
12. Explain the digestion and absorption of carbohydrate.
13. Explain different quality assessment methods of protein.
14. Discuss the functions of essential fatty acids.
15. Which are main micro minerals act as antioxidants in the body?
16. What is the role of thiamine and riboflavin in energy metabolism? (6X5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Discuss the digestion, absorption and transport of lipids.
18. Define the term micronutrients. How does Iron metabolized and absorbed in the body?
What are the consequences of deficiencies?
19. How can determine the total energy expenditure of a normal adult. Write importance of various components in this calculation
20. Elaborate the interactions of Calcium and Vitamin D, their deficiencies, RDA and food sources. (15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE 1V)
FIRST SEMESTER**

Name of the Core Course: CN1C04TPGD Normal Nutrition (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: The course aims at giving a basic understanding of nutrition through various stages of life. Equip with skills in planning the menu for different age groups considering the physiological, psychological and social changes that occur with change in stages.

Course Overview and Context:

- Understand importance and principles of menu planning
- Familiarize with nutritive requirement of various age and physiological conditions
- Plan menu fulfilling the nutrient requirements

Syllabus Content:

Module I (10 hours)

Balanced diet, food guide pyramid, principles of menu planning and need of planning menu. RDA, factors affecting RDA and basis of its computation.

Module II (12 hours)

Infancy and preschool: Infancy- Preterm and LBW, Nutrient requirements, growth and development during infancy. Difference between human and animal milk. Importance of breast feeding. Bottle feedings advantage and disadvantage. Methods of formula preparation, supplementary foods.

Toddlers and preschoolers: Growth and development, nutritional requirements, balanced diets during preschool years, good food habits.

Module III (10 hours)

School going and Adolescence: School Children: nutritional requirements, school meal programs, packed lunches, diet for school children. Adolescence: growth and development, nutritional requirements of boys and girls eating disorders Diet for adolescence, nutritional care in anaemia

Module IV (10 hours)

Nutrition for adult: Nutritional requirements of sedentary, moderate and heavy worker. Causes of malnutrition among industrial workers, measures of improving their nutrition.

Module V (12 hours)

Pregnancy: Physiological changes during pregnancy, the desirable weigh gain, and nutritional requirements, complications during various stages of pregnancy, diet for pregnancy.

Module VI (8 hours)

Lactation: Nutritional requirements, Effects of mother's diet on composition and output of milk, effect of malnutrition on nutritional status of nursing mothers, methods to improve their nutritional status, diet for lactating women.

Module VII (8 hours)
Geriatric nutrition: Changes that occur during aging, nutritional needs, special care of old people. Nutritional and non nutritional problems

Module VIII (10 hours)
Sports Nutrition: Types of sport events, Nutritional requirements, meal planning, Carbohydrate loading. Ergogenic aids in sport

Module IX (10 hours)
Nutrition in special conditions: Space, high altitude, sea voyage cold/ polar environment. Changes in physiology, nutritional requirements, special food considerations.

References

- 1) BhanvanaSabarval, Applied Nutrition And Health, Common, Wealth, 1999
- 2) Gopalan.C, Rama Sastri, B.V, and Balasubramian, S.C Nutritive Value of Indian Foods, NIN, ICMR, 1989
- 3) Home Science Associations of India, Food Preparation Hand Book, 1973
- 4) Indian Council of Medical Research, Recommended Dietary Intake for Indians 1991
- 5) Kinder, F, Meal Management, Macmillan Co 1973
- 6) Nieman. C., Butler worth. E., and Catherine. N, Nutrition, WMC Brown Publishers. 1990
- 7) Swaminathan M, Advanced Text book on Food Nutrition Publishing Co. Ltd 1953
- 8) Robinson Carinne. H and lawler Marilyn C.R, Normal and Therapeutic Nutrition, Oxford and IBN Publishing Co Pvt Ltd, 1982

Competencies of the course:

- C1) Familiarise with balanced diet and skills in planning menu
- C2) Understand the concept balanced diet
- C3) Make use of the food guide pyramid to plan a balanced menu
- C4) Study the Recommended Dietary Allowances for the Indian population
- C5) Understand the factors affecting the RDA and its computation
- C6) Analyse the need for nutrients in pre term and low birth weight babies
- C7) Understand the growth and development of infants
- C8) Differentiate between advantages of breast feeding and bottle feeding
- C9) Learn to introduce weaning foods to infants
- C10) Understand the growth pattern and nutritional requirement of preschoolers
- C11) Study the nutritional requirements in school going children
- C12) Learn the aids in preparing food for school going
- C13) Familiarise with school meal programs by the government and NGO's
- C14) Study the transition of school children to adolescents
- C15) Analyse the physiological and psychological changes in adolescents
- C16) Understand the need for specific nutrients like Ca and Fe in adolescent girls
- C17) Gain knowledge on eating disorders, symptoms and causes
- C18) Differentiate the nutritional requirements among adults considering gender and nature of work such as sedentary, moderate and heavy
- C19) Illustrate the cause of malnutrition among heavy workers especially industrial workers

- C20) Find methods through low cost measures to intervene and prevent malnutrition
 C21) Gain knowledge on physiological changes during pregnancy
 C22) Alter the nutrient requirement considering the changes during pregnancy
 C23) Understand the complications during pregnancy
 C24) Be able to plan diet considering the changes and requirements during pregnancy
 C25) Get an idea on nutritional requirements during the two halves of lactation
 C26) Study the factors that affect milk production and secretion
 C27) Familiarise with lactogeous foods
 C28) Identify the effect of malnutrition on lactation
 C29) Understand the physiological changes during ageing
 C30) Alter the diet and nutritional requirement during old age considering the change in health, economical and social factors
 C31) Study the nutritional and non nutritional problems like osteoporosis, Alzheimer etc
 C32) Distinguish between different sports events and their energy requirement
 C33) Understand the nutritional requirement of various sport events
 C34) Be capable of planning pre event , on the day and post event menu
 C35) Understand need for ergogenic aids and its types
 C36) Familiarise with changes in physiology in special conditions like space flight, high altitude travelling, sea voyage and polar environment
 C37) Alter the menu in order to suite special travelling conditions
 C38) Study the special food considerations in preparing and storing

CN1C04TPGD Normal Nutrition
Blue print

Modules	Hours	Mark-3	Mark-5	Marks15
		5/7	6/9	2/4
1	10	1	1	-
2	12	1	1	1
3	10	-	3	-
4	10	1	1	-
5	12	1		1
6	8	-	1	1
7	8	1		1
8	10	1	1	-
9	10	1	1	-
Total	90	7	9	4

Model Question Paper

**ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)**

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- I

Core Course-CN1C04TPGD Normal Nutrition

Time: 3 hrs

Max.Marks:75

Part A

Answer any five questions not exceeding one page

Each question carries 3 marks

1. Expand RDA. Give factors affecting RDA.
2. Discuss weaning.
3. What are factors considered before planning menu for old age?
4. Brief nutrient requirement during and after cycling competition.
5. Write the RDA for adult based on their life style and gender
6. Brief on placenta.
7. What are physiological changes in human body at polar environment?

(5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Write a note on packed lunch for school going.
9. Discuss bottle feeding and disadvantage.
10. Write on stages of adolescence and physiological changes.
11. Discuss types of space foods.
12. Write on malnutrition among industrial workers. Discuss prevention methods
13. Classify sports events based on energy requirement. Brief on carbohydrate loading
14. Define balanced diet. What are the principles of menu planning?
15. Discuss factors affecting milk production and let down.
16. Expand and elaborate on ICDS.

(6X5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Discuss physiological changes and nutrients requirement of a pregnant woman.
18. Elaborate on nutritional and non nutritional problems in geriatric.
19. Write the RDA for infancy to preschool. Justify the difference in nutrient requirement.
20. Serena is the mother of a 2 month old baby. Give her awareness on diet in nursing and plan a day's menu for the same

(15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE V)
FIRST SEMESTER**

Name of the Core Course: CN1C05PPGD Normal Nutrition (P)

Total Credits: 2

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: Prepare the students to analyse, plan and calculate the nutritive value for stages and physiological conditions of human.

Course Overview and Context:

- Plan menu fulfilling the nutrient requirements
- Preparation and service of the diet

Syllabus Content:

Module I (10 Hours)

Standardisation of portion sizes for different food preparations, use of weights and measures (raw weight v/s cooked weight), use of food composition table, menu planning and calculation

Module II (10 Hours)

Preparation of supplementary foods for infancy

Module III (70 Hours)

Planning and preparing diets for:

- a) Preschool (1-3 years and 4-6 years)
- b) School going child (10-12 years, girl and boy)
- c) Adolescence: anaemic
- d) Adult: - sedentary, moderate and heavy
- e) Pregnant woman
- f) Lactating woman
- g) Old age
- h) Athlete

References

- 1) Bhanvana Sabarval, Applied Nutrition And Health, Common, Wealth, 1999
- 2) Gopalan.C, Rama Sastri, B.V, and Balasubramian, S.C Nutritive Value of Indian Foods, NIN, ICMR, 2012
- 3) Home Science Associations of India, Food Preparation Hand Book, 1973
- 4) Indian Council of Medical Research, Recommended Dietary Intake for Indians 1991

Competencies of the course:

- C1) Observe the use of weights and measurements
- C2) Analyse the change in raw and cooked weights and volumes of foods
- C3) Apply the principles of planning menu to prepare diets
- C4) Understand the need and plan nutrient rich supplementary foods for infants
- C5) Study the different conditions and plan the menu to meet nutritional requirements
- C6) Learn to meet nutritional requirements and prepare appetising meals

CN1C05PPGDNormal Nutrition
Blue Print

Module	Hours	Marks-7	Marks-8	Marks- 10	Marks-25
		1/1	1/1	1/1	1/1
1	10	1	1	1	1
2	10				
3	70				
Total	90	1	1	1	1

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- I

Core Course-CN1C05PPGDNormal Nutrition (P)

Time: 3 hrs

Max.Marks:50

Mrs.Radha is a retired employee from a bank she has problem getting sleep at night and often complains of back ache.

1. Plan a day's menu for the above patient (8 marks)
2. Calculate the Energy, Protein, Fat, Ca (7 marks)
3. Prepare dinner from planned menu (25 marks)
4. Record (10 marks)

POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE V1)
SECOND SEMESTER

Name of the Core Course: CN2C06TPGD Clinical Nutrition and Dietetics I (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: This course provides an in-depth review on proper diet, lifestyle strategies and therapeutic nutrient intervention to correct nutritional imbalances, promote optimal health and prevent and manage or correct medical problems.

Course Overview and Context:

- Understand the process of nutrition care in hospitals
- Analyse and modify the menu to therapeutic demands
- Develop the skill in the selection of foods for modification of diet

Syllabus Content:

Module I (10 hours)

Introduction to dietetics, Role of Dietician. Nutrition Care Process. Routine hospital diets. Modification of diet: principle and purpose.

Module II (10 hours)

Pre operative and post operative diets, special feeding methods- basic concepts, Enteral and Parenteral nutrition

Module III (12 hours)

Diet in weight imbalances: overweight/obesity and underweight/ leanness

- Types, health risks, causes, physiology of the obese/ lean state, complications, foods to avoid and include, diet plan.

Module IV (10 hours)

Diet in allergy: definition, classification, symptoms, mechanism of food allergy, common food allergies, test for allergy (diagnosis), dietetic treatment.

Module V (10 hours)

Diet in burns: Introduction, types of burns, skin structure, computation of degree of burns. Modifications of diet in burns.

Module VI (10 hours)

Diet in cancer: development of cancer, types and effects on metabolism, metastasis and nutritional status, nutrients and their relationship with cancer, recent developments in nutrition and cancer, carcinogenesis and Mutagenesis

Module VII (20 hours)

Diet for infectious diseases: Acute- typhoid, influenza, recurrent malaria; chronic- tuberculosis. Medical nutrition therapy for HIV infection and AIDS. Nutrition and immune response.

Module VIII

(8 hours)

Diet in special conditions: nerve and skin diseases

References

- 1) Antia. F.P, Clinical Nutrition and Dietetics, Oxford university press, 1973
- 2) BhavanaSabarval, Principles and Practics, Common wealth Publishers, 1999
- 3) Davidson.S. Passmore. R, Brock. L.P and Truswell A.S Human Nutrition and Dietetics, The English Language Book Society and Churchill Lingustone, 1977
- 4) Gopalan.C, Rama Sastri, B.V, and Balasubramian, S.C Nutritive Value of Indian Foods, NIN, ICMR, 2012
- 5) Krause, M.V and Huncher.A. Food Nutrition and Diet Therapy, W.B Saunders Co 1977
- 6) Robinson. C. H, Normal and Therapeutic Nutrition, The Oxford and IBH Publishing Co, 1982
- 7) Srilakshmi. B. Dietetics, Newage International (P) Ltd Publishers, 1997
- 8) Williams.S.R Nutrition and Diet therapy, Mobsy Co 1977
- 9) Williams. S.R, Mowry's Basic Nutrition and diet Therapy, Mobsy Co, 1978

Competencies of the course:

- C1) Identify the role of a dietician
- C2) Steps of nutrition care process
- C3) Gain knowledge on routine hospital diets
- C4) Understand the principles and need for modified diets
- C5) Study the need for preoperative diets and
- C6) Understand the need and modifications in post operative diets
- C7) Learn the need for special feeding methods like parenteral and enteral nutrition
- C8) Study the types of enteral feed based on route and mode of feeding
- C9) Study the types of parenteral feed based on route and mode of feeding
- C10) Understand the types of weight imbalances: overweight and underweight
- C11) Learn the types and cause of obesity
- C12) Analyse the cause of obesity and list out foods to be avoided and included
- C13) Understand the causative factors and dietary management of underweight
- C14) Study the definition and classification and symptoms of food allergy
- C15) Gain knowledge on common food allergens and mechanism of allergic reactions
- C16) Learn the dietary management of allergy
- C17) Study the skin layers and structure
- C18) Be able to differentiate between types of burns
- C19) Study on dietary management during burns
- C20) Familiarities with development of cancer
- C21) Gain knowledge on dietary management of cancers
- C22) Study the effect of nutrients on prevention of cancer
- C23) Familiarise with recent trends in treatment of cancers
- C24) Extrapolate on infectious diseases: acute , chronic and intermittent

- C25) Be able to plan diet for each febrile conditions considering its symptoms
 C26) Study on the term HIV and AIDS
 C27) Understand the stages of HIV, transmission and development of symptoms
 C28) Learn the various diagnostic test to identify HIV
 C29) Be able to plan menu for HIV
 C30) Identify nerve diseases and beneficial nutrients to relieve the condition
 C31) Study the different types of skin diseases and their symptoms.
 C32) Be able to plan menu to manage skin diseases

CN2C06TPGD Clinical Nutrition and Dietetics I
Blue print

Modules	Hours	Mark-3 5/7	Mark-5 6/9	Marks15 2/4
1	10	2	1	1
2	10	-	1	1
3	12	1	1	1
4	10	-	2	-
5	10	1	1	-
6	10	1	1	-
7	20	1	1	1
8	8	1	1	-
Total	90	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM

(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- II

Core Course – CN2C06TPGD Clinical Nutrition and Dietetics I

Time: 3 hrs

Max.Marks:75

Part A

*Answer any **five** questions not exceeding **one page***

Each question carries 3 marks

1. Discuss the formulas for energy computation during burns
2. Explain development of cancer
3. What is role of dietitian in a hospital?
4. Brief on causative factors of underweight.
5. State the relationship between nutrients and immune response
6. Discuss symptoms and management of skin diseases.
7. Brief on SOAP. (5X3=15)

Part B

*Answer any **six** questions not exceeding **two pages***

Each question carries five marks

8. Write on enteral nutrition.
9. Discuss types and management of obesity.
10. Write a note stages and diagnostic methods of HIV.
11. Explain treatment of second degree burn.
12. Define food allergy and mechanism of allergic reactions.
13. Discuss medical nutrition therapy in cancers.
14. Write on any two nerve disorders.
15. Discuss routine hospital diets and modified diets
16. Brief on diagnostic methods of food allergies. (6X5=30)

Part C

*Answer any **two** questions not exceeding **four pages***

Each question carries fifteen marks

17. Discuss NCP in hospitals.
18. Explain on chronic febrile conditions. Plan a day's menu for any one condition.
19. Ms Beena is a 30yr old she has a BMI of 16, with a height of 155cm and Hb=10. Plan a day's menu for Beena considering her conditions
20. Elaborate on importance of pre and post operative diets (15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE V1I)
SECOND SEMESTER**

Name of the Core Course: CN2C07TPGD Clinical Nutrition and Dietetics II (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: This course focuses on providing knowledge developing appropriate skills and attitudes in learners for nutritional diagnosis and therapy and counselling services for the purpose of disease management.

Course Overview and Context:

- Understand the various diseases and disorders
- Analyse and modify the menu to therapeutic demands
- Develop the skill in the selection of foods for modification of diet

Syllabus Content:

Module I (12 hours)

Pathogenesis of Upper Gastrointestinal tract diseases- Diseases of oesophagus and stomach- predisposing factors, treatment and dietary care – oesophagitis, ulcers, gastritis and gastro oesophageal reflux disease. Foods that stimulate GI secretions

Module II (12 hours)

Pathogenesis of Lower Gastrointestinal tract diseases - Diarrhoea, dysentery, constipation, flatulence, irritable bowel syndrome, haemorrhoids, steatorrhoea, diverticular disease, inflammatory bowel disease, ulcerative colitis, Crohn's disease, tropical sprue

Module III (12 hours)

Dietary care and diseases of liver: Viral hepatitis, jaundice, cirrhosis, hepatic coma, Wilson's disease.

Dietary care and diseases of gall bladder-, cholecystitis, cholelithiasis

Dietary care and disease of pancreas: Acute and chronic Pancreatitis

Module IV (12 hours)

Dietary management of Diabetes mellitus- classification, symptoms, risk factors, diagnosis and complications, glycosylated haemoglobin, special dietetic foods, artificial sweeteners, glycemic index, carbohydrate load. Treatment and management of diabetes mellitus

Module V (13 hours)

Nutrition in Cardio vascular diseases- Prevalence, pathophysiology aetiology, risk factors, prevention and treatment- Atherosclerosis, angina pectoris, myocardial infarction, hypertension, hyperlipidemia, congestive heart failure. Management, DASH.

Module VI (13 hours)

Principles of dietary management of Renal diseases: Glomerulonephritis, nephrotic syndrome, acute and chronic renal failure, dialysis. Different urinary stones.

Module VII

(10 hours)

Dietary management in Inborn errors of metabolisms: Glycogen storage, Phenyl ketonuria, maple syrup disease, galactosemia, tyrosenemia, celiac disease and lactose intolerance. Taysach's disease. Modification of diet in relation to gout

Module VIII

(6 hours)

Various organic function tests- RFT, LFT, Cardiac and Thyroid tests

References

- 1) Antia. F.P, Clinical Nutrition and Dietetics, Oxford university press, 1973
- 2) BhavanaSabarval, Principles and Practics, Common wealth Publishers, 1999
- 3) Davidson.S. Passmore. R, Brock. L.P and Truswell A.S Human Nutrition and Dietetics, The English Language Book Society and Churchill Lingustone, 1977
- 4) Gopalan.C, Rama Sastri, B.V, and Balasubramian, S.C Nutritive Value of Indian Foods, NIN, ICMR, 2012
- 5) Robinson. C. H, Normal and Therapeutic Nutrition, The Oxford and IBH Publishing Co, 1982
- 6) Williams. S.R, Mowry's Basic Nutrition and diet Therapy, Mobsy Co, 1978

Competencies of the course:

- C1) Understand various upper gastro intestinal diseases and their dietary modifications
- C2) Analyse the pathogenesis of lower gastro intestinal diseases and nutritional management.
- C3) Know dietary care of various liver diseases
- C4) Familiarize different gall bladder and pancreas diseases and their treatments
- C5) Gain knowledge about diabetes mellitus and its management
- C6) Understand the terms glycemic index and artificial sweeteners.
- C7) Attain knowledge on various cardio vascular diseases and nutritional management
- C8) Understand the principles of dietary management of renal diseases
- C9) Familiarize various inborn errors of carbohydrate metabolism.
- C10) Understand various protein metabolic disorders.
- C11) Know different fat metabolic in born errors.
- C12) Focus the organic function tests of liver, kidney and heart
- C13) Analyse the dietary modifications of gout

CN2C07TPGD Clinical Nutrition and Dietetics II

Blue print

Modules	Hours	Mark-3	Mark-5	Marks15
	90	5/7	6/9	2/4
1	12	1	1	1
2	12	1	1	-
3	12	1	1	1
4	12	-	2	-
5	13	1	1	1
6	13	1	1	1
7	10	1	1	-
8	6	1	1	-
Total	90	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM

(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- II

Core Course-CN2C07TPGD Clinical Nutrition and Dietetics II

Time: 3 hrs

Max.Marks:75

Part A

Answer any five questions not exceeding one page

Each question carries 3 marks

1. Explain viral hepatitis and its classification.
2. Write note on oesophagitis.
3. What is DASH diet? Explain
4. Differentiate between crohn's disease and ulcerative colitis.
5. Briefly explain peritoneal dialysis.
6. Write a short note on lactose intolerance.
7. What is the relevance of SGOT and SGPT estimation in liver disease?

(5X3=15)

Part B

Answer any **six** questions not exceeding **two** pages

Each question carries five marks

8. Write briefly on renal calculi
9. Hyperglycemia leads to ketoacidosis. Comment on this statement
10. Explain hypertension and dietary management.
11. Discuss about different types of gastritis
12. Describe both acute and chronic complications of diabetes mellitus.
13. Dietary care and management of gall bladder diseases
14. Suggest ways of managing constipation in an elderly man of 68 years of age.
15. Explain the term inborn errors of metabolism. Write any four protein metabolic disorders.
16. Write on recent diagnostic tests of cardiac disease.

(6X5=30)

Part C

Answer any **two** questions not exceeding **four** pages

Each question carries fifteen marks

17. Discuss in the detail the term hepatic coma and its management procedures.
18. Explain peptic ulcer on types, diagnostic tests, complications and dietary management.
19. Write different stages of atherosclerosis and discuss diet.
20. Describe nephrotic syndrome and dietary management.

(15X2=30)

POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE V1II)
SECOND SEMESTER

Name of the Core Course: CN2C08PPGD Clinical Nutrition and Dietetics (P)

Total Credits: 2

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: Equip the beneficiaries with skills to diagnose conditions, plan, prepare and calculate nutrient value for different disease conditions. Practically apply the different therapeutic diets according to health conditions.

Course Overview and Context:

- Analyse and modify the menu to therapeutic demands
- Develop the skill in the selection of foods for modification of diet
- Plan menu for specific therapeutic conditions

Syllabus Content:

Module I

(14 hours)

Normal routine diet, preparations generally served in the hospitals. Modifications in consistency and fibre

a. Different types of liquid diet	
b. Different types of semi solid/ soft diet	
Module II	(11 hours)
Diet preparation of cardiac diseases- modified diet with fat, sodium	
Module III	(12 hours)
Diet preparation of renal diseases- modified diet with protein, minerals and fluid.	
Module IV	(12 hours)
High calorie diet preparations for underweight, anaemia and fevers.	
Module V	(11 hours)
Diet preparation for peptic ulcer, Ulcerative colitis, Diverticulosis, Diarrhoea and Constipation	
Module VI	(6 hours)
Diet preparation for Diabetes mellitus with/without insulin therapy.	
Module VII	(10 hours)
Low calorie diet preparations for obesity and gout	
Module VIII	(14 hours)
Diet preparation for burn: diet stages of dietary modification.	
References	
1) BhanvanaSabarval, Applied Nutrition And Health, Common,Wealth, 1999	
2) Gopalan.C, Rama Sastri, B.V, and Balasubramian, S.C Nutritive Value of Indian Foods, NIN, ICMR, 2012	
3) Home Science Associations of India, Food Preparation Hand Book, 1973	
4) Indian Council of Medical Research, Recommended Dietary Intake for Indians 1991	
Competencies of the course:	
C1) Understand the need for modification of diet with change in consistency	
C2) Learn to plan high calorie diets for underweight patient	
C3) Enable to prepare diet for underweight patient	
C4) Learn to plan high calorie iron rich diet for anaemic patient	
C5) Be able to prepare iron rich diet for anaemic patient	
C6) Learn to plan high calorie diet for febrile conditions	
C7) Enable to prepare high calorie diet for febrile conditions	
C8) Learn to plan low calorie diet and prepare diet for obesity	
C9)Enable to plan and prepare diet for burns	
C10) Be able to plan and prepare diet for cardiac diseases	
C11) Enable to plan and prepare diet for renal diseases	
C12) Be able to plan and prepare diet for gastrointestinal diseases	
C13)Understand the modifications, plan and prepare diet for diabetes mellitus with or without insulin therapy	
C14) Enable to plan and prepare diet for gout.	

CN2C08PPGD Clinical Nutrition and Dietetics (P)
Blue Print

Module	Hours	Marks-7	Marks-8	Marks- 10	Marks-25
		1/1	1/1	1/1	1/1
1	14	1	1	1	1
2	11				
3	12				
4	12				
5	11				
6	6				
7	10				
8	14				
Total	90	1	1	1	1

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)
POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- II
Core Course- CN2C08PPGD Clinical Nutrition and Dietetics (P)

Time: 3 hrs

Max.Marks:50

Mrs.Radha is a bank employee with irregular food habits suffering from abdominal pain, heart burn and gastrointestinal bleeding. The symptoms has been Diagnosed as peptic ulcer

1. Plan a day's menu for the above patient (8 marks)
2. Calculate the Energy, Protein, Fat, Fiber, Fe (7 marks)
3. Prepare dinner from planned menu (25 marks)
4. Record (10 marks)

❖ Individual case studies will be given for each student

POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE IX)
SECOND SEMESTER

Name of the Core Course: CN2C09TPGD Nutritional Biochemistry (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: The course aims at providing an understanding of the merging of nutritional processes with chemistry. Explore the metabolic reactions that occur in the body which help us remain in good health.

Course Overview and Context:

- Understand the principles of Nutritional Biochemistry
- Study the metabolic pathways of nutrients

Syllabus Content:

Module I (10 hours)

Enzymes: Nature, mode of action, activation, inhibition classifications

Co-enzymes: Role of vitamins as co-enzymes in the metabolism of macro nutrients.

Enzymatic digestion and absorption and transport of bulk nutrients- carbohydrates, proteins and fats

Module II (12 hours)

Carbohydrate Metabolism: Interconversion of hexoses in the liver, aerobic and anaerobic metabolism of glucose- Glycolysis, TCA cycle, HMP shunt, Gluconeogenesis, Glycogenesis, Glycogenolysis and energetics of the pathways. Conversion of other monosaccharides to glucose.

Module III (15 hours)

Lipid Metabolism: Different types of Fatty acid oxidations, Synthesis of fatty acids, Triglycerides and phospholipids, fatty liver and lipotropic factors, cholesterol metabolism, bile acid synthesis

Module IV (20 hours)

Protein Metabolism: Essential and non essential amino acid metabolic reactions- transamination, deamination, transdeamination, transmethylation etc. urea cycle, Metabolism of individual amino acids- Glycine, Serine, Glutamic acid, Methionine, Cysteine, Phenyl alanine, Tyrosine and Tryptophan

Module V (5 hours)

Biological oxidation : Free energy, exergonic and endergonic reactions, high- energy compounds, electron transport chain, oxidative and subtraction level phosphorylation.

Module VI (12 hours)

Nuclear Proteins: Structure and functions of DNA and RNA, role of different RNAs in protein synthesis, genetic code.

Module VII

(10 hours)

Drug and nutrient interaction: Effect of drugs on nutrient intake, absorption and metabolism, requirement, summary of action of some common drugs, effect of nutrients and nutritional status on absorption and metabolism of drugs

Module VIII

(6 hours)

Xenobiotics- Detoxification and entoxication, different phases involved in detoxification

References

- 1) Conn, EE, Stump, P.K, Breuning, G and Doi, R.H(1987), Outlines of Biochemistry, John Wiley and Sons.
- 2) Dasgupta, S.K, Biochemistry Vol I,II,III(1987), The Mc Millan Co of India Ltd.
- 3) Deb A.C(2006), Fundamentals of Biochemistry, New Central Book Agency (p) Ltd, Kolkata
- 4) Murray R.K, Garnner, D.K, Mayers, P.A, and Rodwell, V.W(2000), Harpers Biochemistry 25th Edition, Appleton and Lange, Connecticut.
- 5) Pant, M.C,(1977), Essentials of Biochemistry, 2nd Edition Kedarnath Publishers.
- 6) Rama Rao, A.V.S.S, and SuryaLakhmi, A(1998), A Textbook of Biochemistry, 8th Edition V.B.S Publishers Distributors Ltd.
- 7) Vasudevan D.M, Sreekumari S,(2005), Text Book of Biochemistry, Jaypee Brothers Medical Publishers(P), Ltd, New Delhi

Competencies of the course:

- C1) Understand the significance of enzymes and coenzymes
- C2) Analyse the importance of vitamins as enzymes and co enzymes.
- C3) Identify various metabolic pathways of carbohydrate.
- C4) Gain knowledge on the functions of different metabolic pathways in the human body
- C5) Get an idea about anabolism and catabolism of fatty acid
- C6) Understand the endogenous production of cholesterol
- C7) Know the significance of bile acid production and its excretion
- C8) Extrapolate the classifications, functions and synthesis of phospholipids and prostaglandins
- C9) Understand the significance of non-essential amino acid synthesis in the body
- C10) Familiarize harmful condition such as fatty liver and benefits of lipotropic factors
- C11) Attain knowledge about different metabolic reactions of protein
- C12) Identify the role of amino acids in the synthesis of various body constituents.
- C13) Understand different types of phosphorylations
- C14) Know the synthesis of ATPs by electron transport chain
- C15) Attain knowledge on structure and functions of DNAs and RNAs
- C16) Analyse the role of different RNAs in protein production
- C17) Familiarize the effect of drugs on nutrient metabolism
- C18) Identify the effect of nutrients on drug metabolism.
- C19) Gain knowledge regarding the significance of drug nutrient interactions.
- C20) Understand the detoxification processes in the body

CN2C09TPGD Nutritional Biochemistry
Blue Print

Modules	Hours	Mark-3 5/7	Mark-5 6/9	Marks15 2/4
1	10	1	1	-
2	12	1	1	1
3	15	1	1	1
4	20	1	1	1
5	5	1	1	-
6	12	1	1	1
7	10	-	2	-
8	6	1	1	-
Total	90	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)
POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- II
Core Course-CN2C09TPGD Nutritional Biochemistry

Time: 3 hrs

Max.Marks:75

Part A

Answer any five questions not exceeding one page

Each question carries 3 marks

1. Explain the significance of thiamine in energy metabolism.
2. Describe the role of carnitine in fatty acid metabolism.
3. What is replication fork?
4. Briefly write lactic acid cycle.
5. How does epinephrine synthesised from amino acid?
6. Write a short note on entoxication.
7. Explain the term free energy.

(5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Write the relevance of TCA cycle on other two macronutrients.
9. Discuss the effect of various nutrients on drug absorption and utilisation.
10. Describe the role of mRNA in protein synthesis.

11. Explain the production and excretion of ammonia.
12. Discuss the term drug nutrient interaction.
13. Describe the synthesis of cholesterol.
14. How can the body do detoxification processes in the body?
15. Explain the co enzyme functions of FMN and FAD in various metabolisms
16. Differentiate substrate level and oxidative phosphorylations with examples.

(6x5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Explain HMP shunt pathway. Why is it important to the body?
18. Which are the major types of fatty acids? Write the β oxidation of palmitic acid and oleic acid
19. Elaborate about the steps involved in protein synthesis. How RNAs regulate this process.
20. Write in details about the following.
 - Role of Glutathione
 - Creatinine production
 - Metabolism of Methionine

(2x15=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE X)
SECOND SEMESTER**

Name of the Course: CN2C10TPGD Food Service Management (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 90 (5 Hours/ Week)

Aim of the course: Introduce functioning of food service establishments. Discuss the various management criteria in food service establishments: food service, financial management, personal management.

Course Overview and Context:

- Develop knowledge of efficient management of hospital; being a part of medical team
- Gain insight into every aspect of catering management, where a dietician is directly involved
- Learn administrative aspects of hospital management

Syllabus Content:

Module I

(10 hours)

Types of food service establishments (commercial and non-commercial) and their characteristic features. Planning for a food service unit- Planning, investment, Project report, Registration (License and Inspection).

Module II

(15 hours)

Food Service Organisation and Management: Types of organization, division of labour, organization chart, Tools of organization, principles of management, functions of management (Planning, Organising, Directing, Coordinating, Evaluate, Controlling). Management by objectives (MBO), Work Design, Job Design, Work study and simplification

Module III

(10 hours)

Planning of menu and Purchasing Procedure: Menu Planning- importance, functions of menu, types, steps in planning. Requisites in designing a menu card, sequence of courses in Indian and Continental menu. Methods of purchase (formal and informal), delivery, receiving, storage types.

Module IV

(10 hours)

Equipments: types, planning, factors affecting selection and purchase

Module V

(15 hours)

Food service: Food service delivery systems (centralized and decentralized), types of food service systems (conventional, commissary, ready prepared, assembly), service styles (table, counter, tray, silver, plate, cafeteria, buffet). Specialized forms of food service (hospitals, airline, rail, homedelivery, catering and banquet, room and lounge service)

Module VI

(20 hours)

Financial Management system: Book keeping (single and double), books of accounts, Journal, Ledger, trial balance, balance sheet. Type and behavior of cost, profit analysis, food cost control

Module VII

(10 hours)

Personal hygiene, garbage disposal, general hygiene practice in hospitals. Risk Management: types of accidents, preventive methods, treatment.

References

- 1) Antia. F.P, Clinical Nutrition and Dietetics, Oxford university press, 1973
- 2) BhavanaSabarval, Principles and Practics, Common wealth Publishers, 1999
- 3) Davidson.S. Passmore. R, Brock. L.P and Truswell A.S Human Nutrition and Dietetics, The English Language Book Society and Churchill Lingustone, 1977
- 4) Gopalan, C. Balasubramanian, S.C. Ramasastrri, B.V, The Nutritive value of Indian Foods ICMR, New Delhi, 1981
- 5) Robinson. C. H, Normal and Therapeutic Nutrition, The Oxford and IBH Publishing Co, 1982
- 6) Williams. S.R, Mowry's Basic Nutrition and diet Therapy, Mobsy Co, 1978

Competencies of the course:

- C1) Study on food service establishments

- C2) Differentiate between commercial and non commercial food service establishments
- C3) Familiarise with steps in starting food service establishments such as planning, investment, licensing etc...
- C4) Study on types of organisations
- C5) Learn on division of labour in an organisation
- C6) Understand the importance of organisation chart in managing food service organisation
- C7) Gain knowledge on elements of management
- C8) Gain knowledge on tools of management
- C9) Understand importance of menu planning
- C10) Learn to make an informative and attractive menu card
- C11) Familiarise with sequence of courses for Indian and continental menu
- C12) Understand the formal and informal methods of purchase in food service establishments
- C13) Familiarise with delivery and receiving procedures
- C14) Differentiate storage spaces based on perishability of foods
- C15) Identify the classification of equipments
- C16) Identify the factors affecting selection and purchase of equipments
- C17) Study the centralised and decentralised delivery systems
- C18) Familiarise with different food service systems
- C19) Gain knowledge on different styles of services
- C20) Attain awareness on specialised forms of food service
- C21) Introduce to accounting and its basic rules
- C22) Study difference between book keeping and accounting
- C23) Learn to make journal entry, posting etc
- C24) Understand the definition of cost and study its types
- C25) Analyse the factors that act as profit centres
- C26) Gain knowledge on food cost control
- C27) Study the importance and practices for personal hygiene
- C28) Learn about garbage disposal measures
- C29) Understand the need for general hygiene practices in hospitals
- C30) Study the different types of accidents in food service establishments
- C31) Attain information on causes and prevention of accidents
- C32) Familiarise with different types of extinguishers and their function

CN2C10TPGD Food Service Management
Blue print

Modules	Hours	Mark-3 5/7	Mark-5 6/9	Marks15 2/4
1	10	1	-	1
2	15	1	1	1
3	10	1	2	1
4	10	1	1	-
5	15	1	2	-
6	20	1	2	-
7	10	1	1	1
Total	90	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- II

Core Course – CN2C10TPGD Food Service Management

Time: 3 hrs

Max.Marks:75

Part A

Answer any five questions not exceeding one page
Each question carries 3 marks

1. Explain steps in planning for a food service establishments.
2. Write a short note on division of labour.
3. What are extinguishers, give the different types
4. Brief on rules for debit and credit in different accounts.
5. Explain the delivery and receiving commodities in food service establishments
6. Write a short note on personal hygiene
7. Discuss classification of equipments.

(5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Describe foods based on their perishability. Explain storage of the perishable foods
9. Brief on bio gas plant.
10. Write a note on types of organisation its merits and demerits.
11. Explain different types of cost involved in food production
12. Differentiate between book keeping and accounting.
13. Enumerate the sequence of courses in a continental menu.
14. Discuss conventional and commissary food service systems.
15. Define equipments and explain factors considered in selection of equipments
16. Write on centralised food service systems.

(6X5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Discuss accounting and its objectives; also illustrate the format of journal and ledger
18. Explain the commercial and welfare catering.
19. Discuss the formal and informal methods of purchase.
20. Explain the tools and elements of management

(15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE XI)
THIRD SEMESTER**

Name of the Course: CN3C011TPGD Public Health Nutrition (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 63 (7 Hours/ Week)

Aim of the course: The course focuses on the promotion of good health through nutrition and the primary prevention of nutrition related illness in the population. It deals with nutritional epidemiology, assessment, interventions and preventive measures. The learners will also be trained on nutrition education techniques.

Course Overview and Context:

- Gain insight into the national nutrition problems and the efforts taken to overcome them
- Understand the importance of nutrition education and integration of nutrition education with some aspect of diet counselling

- Interpret the impact of technological advancement on general health due to altered food habits/pattern

Syllabus Content:

Module I (7 hours)

Assessment of nutritional status: Direct methods- Anthropometric, Biochemical, Clinical, Dietary assessment, Indirect methods: mortality, morbidity rates.

Module II (10 hours)

Cost of Malnutrition: Ecology of malnutrition- dietary pattern, food and nutrient intake, socio-economical, socio-cultural factors, environmental change and pollutants, impact of technology on general health, agriculture, industry- positive and negative aspect.

Module III (10 hours)

Prevalence of morbidity and mortality rate, prominent nutritional problems faced by community- Anaemia, IDD, vitamin A deficiency, PEM, diarrhoea/ dysentery and flurosis. Prophylaxis programs.

Module IV (10 hours)

Strategies to overcome malnutrition: Need for an integrated approach to solve the problems of malnutrition – agricultural planning, food fortification and enrichment, immunization programmes.

Module V (5 hours)

Intervention programmes involved in Public Health Nutrition, national and international organization.

Module VI (10 hours)

Nutrition education: Definition and importance of nutrition education to the community, principles of planning, executing and evaluating nutrition education programmes.

Module VII (8 hours)

Public health and hygiene: Environmental sanitation and its implementation on health and nutritional status, safe drinking water, sewage disposal, personal hygiene and mental hygiene

Module VIII (3 hours)

Preventive nutrition: Importance of fibre, phytochemicals and antioxidants in preventing degenerative health problems and increasing longevity, herbal nutrition- medicinal herbs and its scope in improving health

References

- 1) Bedi Yashpal, Hygiene and public health
- 2) Bandila K.R,(1992), Food problems in India, Ashish Publishing House, New Delhi
- 3) Gopalan, C, Narasinga Rao B.S, and SubadraSeshadri(1992), Combating Vitamin A Deficiency through Dietary improvement , Special publication series 6 NFI.
- 4) Proceedings of the Nutrition Society of India, NIN, Hyderabad
- 5)Sabarwal, B,(1999), Public Health and Nutritional Care, Commonwealth Publishers, New Delhi
- 6)Sukla P.K,(1982), Nutritional problems of India, Vol II, Plintice Hall India(P) Ltd, New Delhi.

Competencies of the course:

- C1) Study the direct methods of assessment including anthropometric, biochemical, clinical and dietary
- C2) Study the indirect methods of assessment including mortality and morbidity rates
- C3) Identify the factors leading to malnutrition
- C4) Understand the dietary, socio economical and cultural factor that lead to malnutrition
- C5) Identify the effect of pollution and environmental changes on malnutrition
- C6) Recognise the positive and negative impact of technology on agriculture and industry
- C7) Study the symptoms and causes of anaemia
- C8) Study the stages, symptoms and causes of VAD
- C9) Study the causes, symptoms and classification of Iodine Deficiency disease
- C10) Differentiate between forms of PEM and its causes
- C11) Identify the symptoms and cause of flurosis among the population
- C12) Understand and study the prophylaxis programs against major deficiency diseases of India
- C13) Learn the strategies to prevent deficiencies through agriculture development
- C14) Gain knowledge on fortification, restoration and enrichment to prevent deficiencies
- C15) Familiarise with immunisation programs to infections
- C16) Study the various intervention programs by national organisations against public health issues
- C17) Gain knowledge on various intervention programs by international agencies towards public health issues
- C18) Understand the importance of nutrition education program
- C19) Study the steps involved in preparing for a nutritional education program
- C20) Understand the relationship between environment pollution and health issues
- C21) Gain knowledge on term safe drinking water and its sources
- C22) Analyse the need for personal hygiene to prevent infections
- C23) Recognise the need for proper sewage disposal
- C24) Understand the importance of fiber and phytochemicals from natural low cost foods to sustain good health.
- C25) Familiarise with medicinal herbs and its importance in preventing diseases

CN3C11TPGD Public Health Nutrition
Blue print

Modules	Hours	Mark-3	Mark-5	Marks15
		5/7	6/9	2/4
Module 1	7	1	-	1
Module 2	10	1	1	-
Module 3	10	1	2	-
Module 4	10	1	2	1
Module 5	5	-	2	1
Module 6	10	-	-	1
Module 7	8	1	2	-
Module 8	3	2	-	-
Total	63	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- III

Core Course –CN3C11TPGD Public Health Nutrition

Time: 3 hrs

Max.Marks:75

Part A

*Answer any **five** questions not exceeding **one page***

Each question carries 3 marks

1. Brief on economic consequences of malnutrition.
2. Discuss IDD.
3. What are the positive effects of technology on industrialisation?
4. Brief on scope of herbal nutrition in community.
5. Write on hard water and measures to remove hardness
6. Write on PDS.
7. Discuss importance of fibre and phytochemicals in diet.

(5X3=15)

Part B

Answer any six questions not exceeding two pages

Each question carries five marks

8. Brief on national immunization schedule.
9. Discuss on sewage disposal techniques
10. Explain Green Revolution and its impact on economy of India
11. Explain types of PEM.
12. What are causes and consequences of iron deficiency anaemia.
13. Brief on horticulture intervention against malnutrition.
14. Discuss importance of personal hygiene.
15. Discuss environment pollution in relation to malnutrition
16. List out any 5 malnutrition control programs in India and their beneficiaries.

(6X5=30)

Part C

Answer any two questions not exceeding four pages

Each question carries fifteen marks

17. Define nutrition education. Explain the various stages and significance of community nutrition education.
18. What are the causative factors of VAD. Discuss National Prophylaxis Program for prevention of Blindness due to Vitamin A deficiency.
19. Give a detailed account on the assessment of nutritional status.
20. Discuss on food based strategies to combat public nutrition problems.

(15X2=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE XII)
THIRD SEMESTER**

Name of the Course: CN3C12TPGD Food Microbiology and Quality Control (T)

Total Credits: 4

Duration: One Semester

Total Lecture Hours: 63 (7 Hours/ Week)

Aim of the course: The course is concerned with the relationship between microorganisms and food. It deals with the adverse and beneficial effects of microorganisms. It focuses on food safety methods for controlling major food borne pathogens through the application of traditional and newer techniques.

Course Overview and Context:

- Understand the significance of microbiology in food industry
- Know the action of different microorganisms in various food stuffs
- Understand the food safety measures used in food industry

Syllabus Content:

Module I

(7 hours)

Overview of the concepts of microbiology, General morphology of microorganisms- Bacteria, fungi, virus and parasites, Role of microorganism in food industry.

Effect of intrinsic and extrinsic growth factors of microorganisms- Effect of nutrients, pH, water activity, O₂ availability, temperature and others, Growth curve

Module II

(6 hours)

Methods of identifying microorganisms: culture techniques, laboratory identification of infectious microorganisms in blood and urine sample. E.coli test, immunological techniques- radial immune diffusion and immune electrophoresis.

Module III

(10 hours)

Microbial spoilage of foods- sources, types and effects of microorganisms on the followings:

- 1) Fruits and vegetables
- 2) Meat and meat products
- 3) Milk and milk products
- 4) Fish and other sea foods
- 5) Egg and poultry
- 6) Cereals and canned products

Module IV

(7 hours)

Food borne diseases and infections-Definition and types

Food Intoxication –Staphylococcal, Bacillus, botulism, Clostridium, E.coli, Vibrio cholera and sea food

Food borne infections- Salmonellosis, Shigellosis, Gastroenteritis, Hepatitis

Mycotoxins- aflatoxicosis, Ergotism, Citrulin, Ocrataxin, Patulin

Module V

(5 hours)

Food contamination- Naturally occurring toxicants- animal sources and plant sources

Environmental contaminants- biological and non biological sources

Module VI

(8 hours)

Food safety measures and Quality control- National and international agencies regulating food quality and safety, microbiological criteria of foods. Indicators of food quality. HACCP and Food standards: AGMARK, BIS, ISI, FPO.

Module VII

(8 hours)

Food preservation techniques- High temperature and low temperature methods, irradiation, dehydration, high pressure, chemical preservatives and canning, natural antimicrobial compounds, Definition of sterilization and disinfection. Food preservatives commonly used in homes

Module VIII

(4 hours)

Hygiene and sanitation in Food service establishments: cleaning agents, pest and rodent control.

Module IX

(8 hours)

Food packaging and labelling- Packaging concepts, importance and functions, Classification of packaging materials and packaging methods, packaging laws and regulations
Labelling requirements and bar coding

References

- 1) Banwart, G.J, Basic Food Microbiology, AVI, New York
- 2) Frazier W.C and Westhoff D.C (1992), Food Microbiology, Tata McGraw Hill
- 3) Marriot, G. Norman, Essentials of Food and Sanitation, Chapman & Hall
- 4) Mortimore, Sara and Wallance Carol, HACCP- Practical Approach, Chapman & Hall
- 5) Ray, B. Fundamentals of Microbiology, CRC Press, Boca Raton, FL.
- 6) The Prevention of Food Adulteration Act, 1954 and 1955.

Competencies of the course:

- C1) Familiarise with different micro-organisms
- C2) Understand the morphology of bacteria, fungi, virus and parasites
- C3) Analyse the role of microorganisms in food microbiology
- C4) Study the growth curve of microorganisms
- C5) Study culture techniques of microorganisms
- C6) Equip with knowledge on identification of infectious microorganisms in blood and urine
- C7) Understand and study the E.coli tests
- C8) Familiarise with various immunologic techniques
- C9) Understand the sources of microbial entry of various food items
- C10) Identify the types of microbial spoilage of different food items
- C11) Study the effect of microorganisms in perishable and non perishable foods
- C12) Analyse common food borne diseases and infections
- C13) Identify different mycotoxins
- C14) Gain knowledge on naturally occurring toxicants
- C15) Familiarise different sources of food contamination
- C16) Acquaint with knowledge on importance of national and international agencies monitoring food safety and quality
- C17) Enable to identify the indicators of food quality
- C18) Acquire knowledge on HACCP and other food standards
- C19) Familiarise with high and low temperature preservation techniques
- C20) Study on high pressure, chemical preservation and canning methods
- C21) Get knowledge regarding home preservation methods
- C23) Understand the need for sanitation in food service establishments
- C24) Familiarise with different cleaning agents
- C25) Enable to use proper pest control measure at various setup
- C26) Study the concepts, importance and functions of food packaging

- C27) Get an idea on classification of materials used for packing
 C28) Acquire knowledge on methods of packaging
 C29) Familiarise with food laws and regulations
 C30) Know the importance of food labelling and bar coding

**CN3C12TPGDFood Microbiology and Quality Control
 Blue Print**

Module	Hours	Mark-3	Mark-5	Marks15
		5/7	6/9	2/4
1	7	1	1	-
2	6	-	1	-
3	10	1	1	1
4	7	1	1	-
5	5	1	1	-
6	8	1	1	1
7	8	1	1	1
8	4	1	1	-
9	8	-	1	1
Total	63	7	9	4

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM

(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- III

Core Course- CN3C12TPGDFood Microbiology and Quality Control

Time: 3 hrs

Max.Marks:75

Part A

*Answer any **five** questions not exceeding **one page***

Each question carries 3 marks

1. Describe the bacterial spoilage of meat products.
2. Write on growth curve of microorganism.
3. Define mycotoxins and explain ergotism
4. Discuss the effect of physical factor on food safety.
5. What is sterilisation and explain the techniques?
6. Brief on cleaning agents in food service establishments
7. Write a note on environmental contaminants present in food stuffs

(5X3=15)

Part B

*Answer any **six** questions not exceeding **two pages***

Each question carries five marks

8. Brief on labelling requirement. Explain food packaging laws and regulations
9. Discuss factors affecting microbial growth.
10. Write a note on immunologic techniques commonly used
11. Explain effect of chemical preservatives on various foods.
12. Discuss the term food microbiology and explain the microbial spoilage of canned foods
13. Define the term food contamination. What are the major toxicants in animal foods
14. Define pest and enlist pest control measures.
15. Discuss international agencies monitoring food safety and quality
16. Differentiate between food intoxication and infection with suitable examples.

(6x5=30)

Part C

*Answer any **two** questions not exceeding **four pages***

Each question carries fifteen marks

17. Expand HACCP and how it serves as sophisticated food control options. Explain significance of food standards in our country.
18. Write an essay on food preservation techniques using high and low temperatures
19. Classify and explain the packaging materials.
20. Explain the sources, types and effects of microbes on animal foods

(2x15=30)

**POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (CORE COURSE XIII)
THIRD SEMESTER**

Name of the Course: CN3C13TPGD Communication Skill (T)

Total Credits: 2

Duration: One Semester

Total Lecture Hours: 18 (2 Hours/ Week)

Aim of the course: The course emphasises on prepare the students to approach for a formal interview. Improve their communication skills and familiarise with formats of resumes and letters.

Course Overview and Context:

- Improve the conversation and communication skills in English
- Equip students to face interview panel

Syllabus Content:

Module I

(3 hours)

1. Introduction to communication
2. Concept, definition
3. Functions and need of communication
4. Types of communication- Verbal, non verbal, Intra personal, Interpersonal, Group communication
5. Barriers to communication

Module II

(7 hours)

1. Art of small talk- initiating a conversation, sustaining a conversation, closing a conversation, interrupting a conversation.
2. Describing people, places, events and things
3. Participating in a conversation- interactional, transactional
4. Group Discussion- need for good communication skills, interpersonal skills, leadership skills, problem solving skills, types of group discussion (topic based, case based), Discussion etiquette (Do's and don'ts)

Module III

(8 hours)

1. Letter Writing
2. Resume and covering letter
3. Email application
4. Email etiquettes
5. Presentation skills
6. Interview skills- research- on topics, on company details, preparing for the interview- a day before, on the day of the interview, during the interview, after the interview, What no to do at an interview
7. Speech mannerism and body language

References

1. Rajendra Pal ,Essentials of Business Communications, Sultan Chand & Sons
2. Sanjay Kumar ,Lata Push, Communication skills ,Oxford
3. Dressing and Etiquette – Hand Book ,Guide India Publications
4. Meenakshi Raman ,Prakash Singh, Business Communications, Oxford Publishers

Competencies of the course:

- C1) Imbibe the significance of communication skills
- C2) Converse fluently
- C3) Actively interact
- C4) Participate in group discussion
- C5) Develop and practice writing skills
- C6) Learn to write Resume and covering letter
- C7) Understand the email etiquettes
- C8) Cultivate presentation skills
- C9) Learn interview skills
- C10) Attain the knowledge of mannerism and body language
- C11) Gain confidence

CN3C13TPGD Communication Skills
Blue Print

Module	Hours	Mark-5 1/1	Mark 10 2/2	Marks-25 1/1	Total Marks(50)
1	3	-	-	-	-
2	7		1		10
3	8	1	1	1	40

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)
POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- III
Core Course – CN3C13TPGD Communication Skills

Max.Marks:50

1. Prepare and present cover letter to apply for the post of dietician in a diabetic clinic.
(5 marks)
2. Prepare resume to apply for the post of nutritionist in a food industry.
(10 marks)
3. Mock interview: present the resume in front of interview board
(25 marks)
4. Group discussion on recent political advancements
(10 marks)

SYLLABI OF ELECTIVE COURSE

POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (ELECTIVE I)
THIRD SEMESTER

Name of the Course: Electives: CND3EA1PPGD Yoga (P)

Total Credits: 3

Duration: One Semester

Total Lecture Hours: 54 (6 Hours/ Week)

Aim of the course: The course aims at introducing yoga practices to its beneficiaries. It helps in harnessing the power of our mind towards healthy living. Knowledge in nutrition, dietetics and yoga will give a holistic approach towards management of disease conditions.

Course Overview and Context:

- Understand practices of yoga for all-round personality development
- Learn stress management techniques

Syllabus Contents:-

Module I	(5 hours)
Introduction to Yoga: definition, objectives, need and importance. Different streams of yoga, five points of yoga	
Module II	(5 hours)
8 limbs of yoga, general instructions for the practitioner. Do's and Don'ts	
Module III	(15 hours)
Kriyas, pranayama and meditation	
Module IV	(15 hours)
Basic asanas and benefits	
Module V	(14 hours)
Surya namaskara: Introduction steps of suryanamaskara	

References

- 1) B.K.S.Iyengar, "Light on Yoga" Schocken Publisher, 1995
- 2) Mary Nurriestearns, "Yoga for Emotional Trauma medications and practices for healing pain and suffering", Harbinger Publications
- 3) Dr. R Nagaratna and Dr. H.R Nagendra, " Yoga for Hypertension and Heart Diseases, Vivekananda Yoga Research Foundation
- 4) Rajeev Roy, "Yoga for Health and Happiness", Tiny Tot Publications
- 5) Yogacharya Govindan Nair, Yogapadavali, D.C Books, Kottayam

Competencies of the course:

- C1) Familiarise with definition and objectives of yoga
- C2) Understand the different streams of yoga
- C3) Study the five points of yoga
- C4) Understand the 8 limbs of yoga
- C5) Familiarise with Do's and Don'ts of yoga practices
- C6) Understand the kriyas of yoga

- C7) Study the pranayama and meditation techniques
 C8) Practice with basic asanas
 C9) Study the health benefits of asanas
 C10) Understand the steps of suryanamaskara
 C11) Study the benefits of suryanamaskara

CN3C13TPGD Yoga
Blue Print

Module	Hours	Mark-10	Marks-20
		3/3	1/1
1	5		-
2	5	1	-
3	15	1	-
4	15	1	-
5	14	-	1
Total	54	3	1

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM
(Autonomous)
POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS
Semester- III
Core Course –CN3C13TPGD Yoga

Time: 3 hrs

Max.Marks: 50

1. Write the Do's and Don'ts while practicing yoga (10marks)
2. Write one kriya to improve eye sight and demonstrate the same (10 marks)
3. Demonstrate any one asana
 Ardhasakrasana / bhujangasana / Vakrasana (10 marks)
4. Enlist the steps and demonstrate suryanamaskara (20 marks)

POST GRADUATE DIPLOMA PROGRAMME
CLINICAL NUTRITION AND DIETETICS (ELECTIVE II)
THIRD SEMESTER

Name of the Course: Elective: CN3EA2PPGD Basic Life Support (P)

Total Credits: 3

Duration: One Semester

Total Lecture Hours: 54 (6 Hours/ Week)

Aim of the course: The course is concerned with developing awareness in terms of first aid, which is important in professional as well as daily life.

Course Overview and Context:

- Understand the significance of emergency medicine
- Educate on basic first aid
- Inculcate presence of mind in times of accidents

Syllabus Contents:-

Module I	(7 hours)
<ul style="list-style-type: none">• Introduction to basic life support• Recognition of sudden cardiac arrest (SCA) and activation of the emergency response system• Learn to look for arterial pulse• Learn to look for breathing patterns	
Module II	(10 hours)
<ul style="list-style-type: none">• CPR: Adults, Infants• Chest compressions : Hands on training• Rescue Breaths• Early Defibrillation With an AED(optional)• Recovery position	
Module III	(8 hours)
<ul style="list-style-type: none">• BLS during choking• Relief of Foreign-Body Airway Obstruction	
Module IV	(6 hours)
<ul style="list-style-type: none">• Snake Bite : Primary care• Other bites and stings: Primary care	
Module V	(10 hours)
<ul style="list-style-type: none">• BLS during road accidents: Log roll, helmet removal, spine fractures• Basic trauma victim management• Basic wound management	
Module VI	(7 hours)
<ul style="list-style-type: none">• Burns, scalds, electric shock	
Module VII	(6 hours)
<ul style="list-style-type: none">• Basics of heart attack, stroke, hypoglycemia ,hypothermia	

References

- 1) Dr.Gireesh Kumar, Advanced emergency life support protocols, Paras books, 2015

Competencies of the course:

- C1) Study the importance of basic life support
 C2) Enable to check for arterial pulse
 C3) Understand CPR and need for the same
 C4)Familiarise with defibrillator
 C5) Train on recovery position after CPR
 C6) Study on the basic life support methods of choking
 C7) Identify snake bites and first aid steps
 C8) Enable identification of bits and stings
 C9) Familiarise with first aid :log roll, helmet removal and spine fractures in road accidents
 C10) Enable to be efficient trauma management persons
 C11) Study basic wound management
 C12) Acquire knowledge on first aid in burns, scald and electric shock
 C13) Gain knowledge on basics of heart attack, strokes and its effective life support methods
 C14) Acquire knowledge on basics of hypoglycaemia and hypothermia

CN3EA2PPGD Basic Life Support
Blue Print

Module	Hours	Mark-10 2/2	Marks-15 1/1	Total Marks(50)
1.	7	1	-	10
2.	10	-	1	15
3.	8	-	-	-
4.	6	1	-	10
5	10	-	1	15
6.	7	-	-	-
7.	6	-	-	-

Model Question Paper

ST.TERESA'S COLLEGE, ERNAKULAM

(Autonomous)

POST GRADUATE DIPLOMA IN CLINICAL NUTRITION AND DIETETICS

Semester- III

Core Course –CN3EA2PPGD Basic Life Support

Time: 3 hrs

Max.Marks: 50

1. Write different types of snake bite and treatments (10marks)
2. How will you remove helmet from an accident person's head.
Demonstrate (15 marks)
3. What is CPR. Demonstrate the same (15 marks)
4. How will you recognise sudden cardiac arrest and activate emergency
response system (10 marks)

SYLLABI OF INTERNSHIPS AND PROJECT

Internships and Projects

Hotel internship

After the 2nd semester students are expected to do a 7 days hotel internship at a three or four star hotel. This is for them to be informed on the practicality of the subject Food service management. Training is given in all departments of hotels. The students have to submit and present the report of their experience

Community Programme

During the 3rd semester community programs will have to be done among the rural population. It is a nutrition education program which includes awareness to public health issues and the need of the hour in health aspects as well as information on basic nutrition. Visual aids will have to be prepared and a project report will have to be submitted. A report has to be submitted with photos and visual aids.

Hospital Internship

During the last 3 months of the 3rd semester will be hospital internship. The hospital should be minimum 200 bedded multispecialty and a well-established Nutrition and Dietetics department. Minimum 5 case studies have to be done satisfying following conditions:

- Selection of minimum five inpatients from various specialities
- Study the clinical, nutritional and biochemical profile on admission during hospital stay and at discharge
- Critically evaluate the modification of diet
- Study acceptability and compliance of diet
- Plan sample menu on discharge and follow up for compliance and response to effective diet counselling
