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BENGALURU
CITY UNIVERSITY

Office of the Registrar, Central College Campus, Dr. B.R. Ambedkar Veedhi, Bengaluru – 560 001.
PhNo.080-22131385, E-mail: registrarbcu@gmail.com

No.BCU/BoS/Home Sci./333 /2022-23

Date: 13.12.2022.

NOTIFICATION

- Sub: Syllabus for M.Sc. III & IV Semesters Nutrition & Dietetics of Bengaluru City University.
- Ref: 1. University Notification No.BCU/BoS/ Home Sc/292/2021-22 dated.01.12.2021.
2. Recommendations of the BoS in Home Science (PG & UG).
3. Approval of the Academic Council in its meeting held on 29.10.2022.
4. Approval of the Vice-Chancellor dated.12.12.2022.

In pursuance to the resolution of the Academic Council and the orders of the Vice-Chancellor cited at reference (3 & 4) above, Syllabus for M.Sc. III & IV Semesters Nutrition & Dietetics of Bengaluru City University effective from the academic year 2022-23, is hereby notified for information of the concerned.

The copy of the Syllabus is notified in the University Website: www.bcu.ac.in for information of the concerned.

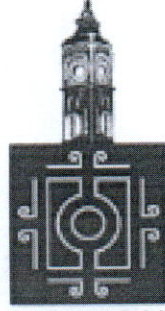

REGISTRAR

To:

The Registrar (Evaluation), Bengaluru City University, Bengaluru.

Copy to;

1. The Dean, Faculty of Science, BCU.
2. The Chairperson & Members of BoS in Home Science, BCU.
3. The P.S. to Vice-Chancellor/Registrar/Registrar (Evaluation), BCU.
4. Office copy / Guard file / University Website: www.bcu.ac.in



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BE BOUNDLESS

BENGALURU CITY UNIVERSITY

**SYLLABUS FOR MASTER SCIENCE
NUTRITION and DIETETICS**

(CBCS SEMESTER SCHEME)

2022-23 onwards

**Proceedings of the BOS in Home Science (UG& PG) for Bengaluru City University held on
16th September, 2022**

A meeting of the BOS in Home Science (UG& PG) for Bengaluru City University held on 16th September, 2022 between 10:30 am to 5:30 pm in Smt. V.H.D Central Institute of Home Science, Seshadri Road, Bengaluru – 560 001.

The following members were present for the meeting:

Name and Designation

1. Dr Usha Devi. C

Chairperson BOS in Home Science (UG, PG & PhD)
Bengaluru City University (BCU)
HOD, Dept. of Food and Nutrition & Research Centre,
Smt. V.H.D Central Institute of Home Science,
Seshadri Road, Bengaluru – 560 001.

U. Devi
16/9/22

2. Dr. Vijayalaxmi A.H.M.,

Member
Principal & Associate Professor,
Department of Human Development and Research Centre,
Smt. V.H.D Central Institute of Home Science,
Seshadri Road, Bengaluru – 560 001

ABSENT

3. Dr. Madhumathy S.,

Member
Associate Professor & HOD,
Department of Early Childhood Care and Administration,
Smt. V.H.D Central Institute of Home Science,
Seshadri Road, Bengaluru – 560 001

S. Madhumathy

4. Dr. Asha Jyothi U. H.,

Member
Associate Professor & HOD,
Department of Resource Management,
Smt. V.H.D Central Institute of Home Science,
Seshadri Road, Bengaluru – 560 001

Asha Jyothi

5. Dr. Grace Premela Victor.,

Member
Associate Professor & HOD,
Bishop Cotton Women's Christian College,
Field Marshal Kariyappa Road,
Bengaluru – 560 025

Grace Premela
16/9/22

Name and Designation

6. Dr. Marie Kavitha Jayakaran.,

Member
Associate Professor,
Bishop Cotton Women's Christian College,
Field Marshal Kariyappa Road,
Bengaluru – 560 025

Mkavitha
16/9/22

7. Dr. Shanta Maria B. V.,

Member
Associate Professor,
Home Science,
Mount Carmel College (Autonomous),
No. 58, Palace Road,
Bengaluru – 560 052

Shanta Maria
16/9/22

8. Dr. Sangeeta Pandey.,

Member
Associate Professor & HOD,
Food and Nutrition,
Mount Carmel College (Autonomous),
No. 58, Palace Road,
Bengaluru – 560 052

Sangeeta
16/9/22

9. Dr. Komala M

Member
Professor,
Department of Human Development,
University of Mysore,
ManasaGangothri, Mysuru – 570 006

Komala
16/9/22


The meeting began with Dr Usha Devi C., Chairperson BOS in Home Science, welcoming the members to the meeting and apprising the members of the agenda scheduled for the meeting. She also informed the members that at present two colleges listed below are offering BA/BSc Home Science as one optional and BSc ND courses at UG level and PG in Nutrition and Dietetics in one of the college.

- Bishop Cotton Women's Christian College – BA/BSc Home Science as one optional and ND course; and PG in Nutrition and Dietetics
- S B A N M College, Yelahanka - BSc CND

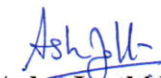
1. The Board reviewed the NEP Home Science UG syllabus of third and fourth semester, made the necessary minor changes in the syllabus and approved the same for the academic year 2022-2023 for all the courses

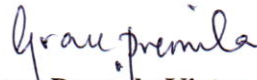
2. The board also reviewed M.Sc., Nutrition and Dietetics syllabus and made the necessary changes in the matrix and the blown up syllabus of III and IV semester and approved the same for academic year 2022-2023
3. The Board also constitutes the BOE (UG/PG) for approval by the BCU (Annexure-II).
4. The Board included panel of examiners from MCU, School of Home Science, Bishop Cotton Women's Christian College, Mount Carmel College to the Panel of Examiners sent by Bengaluru City University and recommended the same to BCU (Annexure-I) and an additional list of panel from other colleges.

The meeting ended with the Chairperson thanking the members for attending the meeting.


Dr. Vijayalaxmi A.H.M.

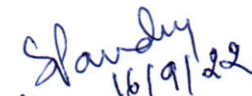

Dr. Madhumathy S.


Dr. Asha Jyothi U. H.



Dr. Grace Premila Victor.


Dr. Mary Kavitha Jayakiran.


Dr. Shanta Maria B. V.


Dr. Sangeta Pandey.


Prof. Komala M.


Dr. Usha Devi C,
Chairperson
Dr. USHA DEVI C., M.Sc., Ph.D., FISCA
Chairperson
BOS in Home Science (UG&PG)
Bangalore City University (BCU)
Central College Campus, Bangalore - 01



BENGALURU CITY UNIVERSITY

**SYLLABUS FOR
M.Sc. NUTRITION AND DIETETICS**

(III & IV SEMESTER)

2022 – 2023 ONWARDS

Ushade

Dr. USHA DEVI. C., MSc., Ph.D., FISCA
Chairperson
BOS in Home Science (UG&PG)
Bangalore City University (BCU)
Central College Campus, Bangalore - 01

BOARD OF STUDIES
HOMESCIENCE COMITTEE LIST

NAME AND DESIGNATION

1. Dr. Usha Devi C

Chairperson BOS in Home Science
Bengaluru City University (BCU)
HOD, Department of Food and Nutrition & Research Centre
Smt.V.H.D Central Institute of Home Science
Sehshadri Road, Bengaluru- 560001

2. Dr. Vijayalaxmi A.H.M.,

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HOD & Associate Professor
Department of Early Childhood Education and Administration
Smt.V.H.D Central Institute of Home Science
Sehshadri Road, Bengaluru- 560001

4. Dr. Asha Jothi U.H

Member
HOD & Associate Professor
Department of Resource Management
Smt.V.H.D Central Institute of Home Science
Sehshadri Road, Bengaluru- 560001

5. Dr. Grace Premila Victor

Member
Associate Professor
Bishop Cotton Women's Christian College
19,3rd Cross CSI Compound, Mission Road
Bangalore 27.

- 6. Dr. Marie Kavitha Jayakaran**
Member
Associate Professor
Bishop Cotton Women's Christian College
19,3rd Cross CSI Compound, Mission Road
Bangalore 27.
- 7. Dr. Shantha Maria B.V.**
Member
Associate Professor
Home Science
Mount Carmel College, Autonomous
N0.58, Palace Road
- 8. Dr. Sangeetha Pandey,**
Member
Associate Professor
Home Science
Mount Carmel College, Autonomous
No.58, Palace Road,
Bengaluru- 560052
- 9. Dr. Komal M**
Member
Professor
Department of Human Development
University of Mysore
Manasa Gangothri, Mysure-570006

M.Sc. NUTRITION AND DIETETICS SYLLABUS

BENGALURU CITY UNIVERSITY

CURRICULAM FRAME WORK

FOR TWO YEAR

POST GRADUATE PROGRAMME

(THIRD AND FOURTH SEMESTER)

IN

NUTRITION AND DIETETICS

2022-2023

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**BISHOP COTTON WOMEN'S CHRISTIAN COLLEGE
MISSION ROAD, BENGALURU-27**

TWO YEAR POST GRADUATE PROGRAMME

NUTRITION AND DIETETICS

SYLLABUS 2021-2022

Name of the course:	M.Sc., Nutrition and Dietetics
Duration of the course:	Two Years (Four semesters, CBCS)
Eligibility:	A candidate must have secured : a. 40% marks in the aggregate and studied Nutrition securing 50% in the subject at B.Sc level with Chemistry / Biochemistry. b. studied Science in +2 or pre university level.
Intake:	30 Seats [15 Management + 15 University]
Admission:	As per University Regulations

A) I SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS.

SUBJECTS		Paper	Instruction Hrs/Week	Duration of Exam	MARKS			Credits	Total Credits
					IA	Exam	Total		
CORE SUBJECTS	Nutrition and Dietetics	4T	4x4	4x3	4x30	4x70	4x100	4x4	16
		4P	4x4	4x4	4x15	4x35	4x50	4x2	8
SOFT CORE		1T	1x3	1x3	1x30	1x70	1x100	1x2	2
TOTAL CREDITS PER SEMESTER									26

B) II SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects		Paper	Instruction hrs/week	Duration of exam	MARKS			Credit	Total Credits
					IA	Exam	Total s		
CORE SUBJECTS	Nutrition and Dietetics	4T	4x4	4x3	4x30	4x70	4x100	4x4	16
		4P	4x4	4x4	4x15	4x35	4x50	4x2	8
SOFT CORE		1T	1x3	1x3	1x30	1x70	1x100	1x2	2
TOTAL CREDITS PER SEMESTER									26

C] III SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects		Paper	Instruction hrs/week	Duration of Exam	MARKS			Credits	Total Credits
					IA	Exam	Total		
CORE SUBJECTS	Nutrition and Dietetics	3T	3x4	3x3	3x30	3x70	3x100	3x4	12
		3P	3x4	3x4	3x15	3x35	3x50	3x2	06
Open Elective		1T	1x4	1x3	1x30	1x70	1x100	1x4	04
Hospital Internship		Report			1x15	1x35	1x50	1x2	02
TOTAL CREDITS PER SEMESTER									24

D] IV SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects		Paper	Instruction hrs/week	Duration of Exam	MARKS			Credits	Total Credits
					IA	Exam	Total		
CORE SUBJECTS	Nutrition and Dietetics	4T	4x4	4x3	4x30	4x70	4x100	4x4	16
		2P	2x4	2x4	2x15	2x35	2x50	2x2	4
		Dissertation	8	Report Evaluation	1x30	1x70	1x100	1x4	4
TOTAL CREDITS PER SEMESTER									24

TWO YEAR POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

A) I SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects		Paper	Instruction hrs/week Total	Duration of Exam	MARKS			Credits	Total Credit
					IA	EXAM	TOTAL		
Core Subjects	MSND 101								
	Human Nutrition	IT	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 102								
	Human Physiology	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 103								
	Nutritional Biochemistry	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 104								
	Food Microbiology & Preservation	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
Soft Core 105									
Research Methods And Biostatistics	1T	1x3	1x3	1x30	1x70	1x100	1x2	02	
TOTAL CREDITS PER SEMESTER							700		26

B) II SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects	Paper	Instruction hrs/week Total	Duration of Exam	MARKS			Credits	Total Credits	
				IA	EXAM	TOTAL			
Core Subjects	MSND 201								
	Food Science	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 202								
	Nutrition through Life Cycle	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 203								
	Public Health Nutrition	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 204								
Food Safety	1T	1x4	1x3	1x30	1x70	1x100	1x4	04	
	1P	1x4	1x4	1x15	1x35	1x50	1x2	02	
MSND 205									
Soft Core Functional foods and Nutraceuticals	1T	1x3	1x3	1x30	1x70	1x100	1x2	02	
TOTAL CREDITS PER SEMESTER						700		26	

C) III SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects	Paper	Instruction hrs/week Total	Duration of Exam	MARKS			Credits	Total Credits	
				IA	EXAM	TOTAL			
Core Subjects	MSND 301								
	Clinical Nutrition and Dietetics I	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 302								
	Nutrition in Fitness and sports	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 303								
	Nutrition and Diet Counseling	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 304								
Open Elective Nutrition for healthy lifestyle	1T	1x4	1x3	1x30	1x70	1x100	1x4	04	
MSND 305									
Hospital Internship	Report			1x15	1x35	1x50	1x2	02	
TOTAL CREDITS PER SEMESTER						600		24	

D) IV SEMESTER OF THE POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

Subjects	Paper	Instruction hrs/week Total	Duration of Exam	MARKS			Credits	Total Credits	
				IA	EXAM	TOTAL			
Core Subjects	MSND 401 Clinical Nutrition and Dietetics II	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 402 Nutrition in Critical Care	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
	MSND 403 a. Food Service Management b. Nutrition in Emergencies c. Maternal and Child Nutrition (15 students per paper)	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
	MSND 404 Paediatric & Geriatric Nutrition	1T	1x4	1x3	1x30	1x70	1x100	1x4	04
		1P	1x4	1x4	1x15	1x35	1x50	1x2	02
	MSND 405 Dissertation		1x8	Report Evaluation	1x30	1x70	1x100	1x4	4
TOTAL CREDITS PER SEMESTER							600	24	

M.Sc NUTRITION AND DIETETICS

SCHEME OF EVALUATION

SCHEME FOR CONTINUOUS EVALUATION

A. Theory (Each paper) - 30 marks

Internal Assessment:

- a. 15 marks [Two test will be conducted and average of the two will be taken].
- b. 5 marks for attendance
- c. 10 marks for seminar/assignment

B. Practical (Each paper) -15 marks

Internal Assessment -15 marks (based on test + record)

**BISHOP COTTON'S WOMEN'S CHRISTIAN COLLEGE
MISSION ROAD, BENGALURU-27**

TWO YEAR POST GRADUATE PROGRAMME IN NUTRITION AND DIETETICS

SCHEME OF THEORY EXAMINATION

Time: 3 hrs

Max hrs: 70

Section A Write a brief note on any five of following questions 1-7 questions	3 x 5=15 marks
Section B Answer any five of the following 8- 14 questions	5x7=35 marks
Section C Answer any two of the following 15-18 questions	2x10 = 20 marks

SCHEME OF THEORY EXAMINATION (OPEN ELECTIVE)

Time: 3 hrs

Max hrs: 70

Section A Write a brief note on any five of following questions 1-7 questions	3x5=15 marks
Section B Answer any five of the following 8- 14 questions	5x7=25 marks
Section C Answer any two of the following 15-18 questions	2x10= 20 marks

SEMESTER III
NUTRITION AND DIETETICS

CLINICAL NUTRITION AND DIETETICS – 1

Code: MSND 301

Total marks: 100

Hours: 52

Theory: 70

Instructions/week: 04

IA: 30

Objectives:

To enable students to:

- Understand the modifications in nutrients and dietary requirements for therapeutic conditions.
- To gain knowledge and provide appropriate nutritional care for treatment of various diseases.

UNIT I

10 hrs

- Assessment of patient needs based on interpretation of patient data – clinical, biochemical and personal.
- Definition and history of dietetics, dietetics in modern health care management, Types and role of a dietitian and team approach in patient care.

UNIT II

12 hrs

- Febrile conditions – metabolic changes during fever, short duration – Typhoid and Influenza, intermittent duration – Malaria, long term – Tuberculosis, pathophysiology and Dietary Management.
- Drug and nutrient interaction – Types of drugs-antibiotics, analgesics, antihistamines.
- Effect of drugs on food intake
- Effect of drugs on metabolism, digestion and absorption, it's effect on nutritional status, Drug dosage and efficacy.

- Effect of food during drug therapy

UNIT III

10 hrs

- Hepatic disorders (Viral hepatitis – types – A, B, C), Fatty liver – types, cirrhosis, hepatic coma, Wilson's disease- etiology, pathophysiology, symptoms, diagnosis, dietary management.
- Gall bladder- functions and components of bile, cholecystitis, cholelithiasis- etiology, pathophysiology, symptoms, diagnosis and dietary management.

UNIT IV

10 hrs

- Energy Imbalance – obesity – Definition, components of body weight, types, etiology, assessment, regulation of body weight, complications. Underweight – Definition, etiology, assessment, health risk, dietary management and complications. Importance of weight management, exercise, behavior modification, functional consequences of energy deficiency.
- Food intolerance and allergy – Food allergens, test for allergy – skin test, elimination test, dietary management

UNIT V

10 hrs

- Disease of Pancreas (acute pancreatitis, chronic pancreatitis)– etiology, pathophysiology, symptoms, diagnosis, and dietary management.
- Diabetes Mellitus – types, metabolic changes, etiology, symptoms, diagnosis, complications, treatment, exercise, drugs and insulin, dietary management – role of fibre, glycemic index, artificial sweeteners and sugars substitutes.
- COPD, PCOD – etiology, patho physiology, symptoms and Medical Nutrition Therapy

NUTRITION AND DIETETICS

CLINICAL NUTRITION AND DIETETICS – 1

Code: MSND 301 P
No. of Weeks: 13
Instructions/week: 04

Total marks: 50
Practicals: 35
IA: 15

UNIT I

Planning and preparation of low calorie and high fibre diet for Obesity and high calorie high protein diet for underweight

UNIT II

Planning and preparation of diet for viral hepatitis

UNIT III

Planning and preparation of lactose and gluten free recipes

UNIT IV

Case studies and presentation on COPD/PCOD

UNIT V

Planning and preparation of diet for Diabetes

IDDM

NIDDM

REFERENCES:

1. Modern Nutrition in health and Disease, 10th edition by Maurice E.Shils
2. Alfred H.Katz, Prevention and Health, the Haworth, press, New York 1999
3. Krause Food and Nutrition Care Process,15th edition
4. Sareen S, 2005 Advanced Nutrition and human metabolism, 7th edition, 2016, USAIAPEN,BAPEN webseries
5. International Life Science Institute Present Knowledge in Nutrition- latest edition 2012
6. Achayya,K.T.,(2001) A historical Dictionary of Indian Foods, Oxford Publishing Co
7. Antia, F.P. and Philip A. Clinical Dietetics and Nutrition, 4th Ed,2002.
8. Bamji, M.S. Rao, P.N. and Reddy (2019,) Text book of Human Nutrition, 4th edition, Oxford and IBH publishing housing.
9. Garrow, J.S. and James WPT. Human Nutrition and Dietetics, 10th Ed.
10. Williams, S.R., Essentials of Nutrition and Diet Therapy, 12th Ed. Jones Mirror College Publishing, 2018.
11. Sharon Rady Rolfs and Ellie Whitley,(2018), Understanding Normal and Clinical Nutrition, 11 th edition,2018.

SEMESTER III
NUTRITION AND DIETETICS
NUTRITION IN FITNESS AND SPORTS

Code: MSND 302
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES

- To understand special nutritional requirements for physical fitness and sports
- To understand the role of physical activity – management of health.

UNIT I

10 hrs

- Introduction to physical fitness – definition and components of physical fitness, body composition changes through lifecycle, types of exercises, holistic approach in the management of fitness and health- diet, exercise, yoga and meditation.

UNIT II

10 hrs

- Nutrition, exercise, physical fitness and health – their interrelationship, factors affecting physical work capacity and work efficiency. Mobilization of fuel stores during exercise. Importance of CHO loads, shifts in CHO and fat metabolism.

UNIT III

10 hrs

- Physiological changes during physical activity– CVS, respiratory system, muscular system. Types of exercise and its impact on fitness, muscle fatigue – prevention and recovery. Effect of training on heart and lung performance. Exercise guidelines in diabetes, osteoporosis and hypertension. Fatigue during exercise and its management.

UNIT IV

10 hrs

- Nutritional requirements for sports person. Importance of micronutrients for exercise. Exercise induced oxidative stress and role of antioxidants.
- Fluid balance in sports – importance and prevention of dehydration.
- Sports drink – hypo, iso and hypertonic drink for hydration/energy, recovery drink.
- Macronutrient supplements- Pure Protein (Caesein, egg albumin, soyaprotein, protein bars)

UNIT V

12 hrs

- Sport specific requirement of nutrients – pregame and postgame regime, special nutrients for female athletes.
- Chronic dieting and eating disorders, sports anemia, Role of nutrition in stress, fracture and injury. Nutrition education to athletes and coach.

NUTRITION AND DIETETICS
NUTRITION IN FITNESS AND SPORTS
PRACTICALS

Code: HSND 402 P
No. of Weeks: 13
Instructions/week: 4

Total marks: 50
Practicals: 35
IA : 15

UNIT I

Body composition analysis for sports personnel

UNIT II

Market Survey on nutritional supplements for sports personnel

UNIT III

Endurance test for athletes

Preparation of sports beverage

UNIT IV

Plan a counseling session for sports person and present a case study

UNIT V

Plan pre and post game meal/recipes

REFERENCES

1. Bamji S.M., Rao NP and Reddy V. 2019, Text book of Human Nutrition, Oxford and IBH publishing C. New Delhi, 4th edition.
2. Fink H.H., Mikesky E.A and Burgoon A.L. 2015, Practical Applications in sports Nutrition, 4th edition, rd. Jones and Barlett Learning. USA.
3. Burke Louse and Deakin Vicky (2012), 4th Edition, Clinical sports Nutrition.
4. Ira Wolinsky (Ed) (1998): Nutrition in Exercise and Spots, 3rd Edition, CRC Press.
5. Mahan, L.K & Ecott- Stump, S. (2010): Krause's Food, Nutrition and Diet Therapy
6. Shils, M.E., Olson, J.A., Shike, N. and Ross, A.C (Ed) (2014): Modern Nutrition in Health & Disease, 9th Edition, Williams & Wilkins.
7. Mc Ardle, W. Katch, F. and Katch, V. (2014) Exercise Physiology. Nutrition and Human Performance, Williams and Wilkins, Philadelphia.

8. Gibney J.M. Macdonald A.I and Roche M.H.2003. Nutrition and Metabolism. Blackwell publishing.
9. Nutrition for Health, Fitness and Sports, Eight edition, by Melvin Williams, 2012, McGraw-Hill.
10. Dan Bernard,O.T, (2011), Advanced Sports Nutrition, 2nd edition, Paper back.

SEMESTER III
NUTRITION AND DIETETICS

NUTRITION AND DIET COUNSELLING

Code: MSND 303
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES:

- To familiarize students with the principles and methods of counseling
- To use appropriate methods for counseling

UNIT I

10 hrs

- Diet Counseling – Definition, meaning, significance and types
- Goals of counseling – individual, group and family
- Counseling-materials required for counseling – models, charts, posters, AV aids, communication process in counseling, problems in counseling.
- Role of dietitian-roles and responsibilities, dietary diagnoses and dietary prescription.
- Nutrition Counseling, steps and procedures, team work, nutrition care plan.

UNIT II

10 hrs

- Nutritional Assessment: Anthropometric, Biochemical, Clinical and Dietary Assessment, Counseling, documentation, SOAP (Subjective, Objective, Assessment, Planning), MUST (Malnutrition Universal Screening Tool), MNT (Medical Nutrition Therapy),

- Introduction to health psychology, factors affecting health behavior (social, cognition models of health, Personality factors, Interpersonal communication, Group dynamics).

UNIT III

10 hrs

- Diet counseling at hospital and community level, role of counseling in hospitals, counseling in a community, organizing health camps and patient feedback at hospitals and at community level.
- Assessment Component- methods of interview: verbal and non-verbal techniques, counseling models – data analysis (dietary, biological and environment).

UNIT IV

10 hrs

- Nature and goals of counseling, principles of counseling, characteristic of a good counselor, ethical principles of counseling, planning and designing of counseling plans, classification, objectives, client care plan and co-ordination, evaluation component – measuring the success of performance of client and evaluating the counseling process.

UNIT V

12 hrs

- Principles of behavioral change, health promotion and health education strategies. Counseling skills, listening skills, responding, intervention, rapport building, creating an effective counselor environment.
- Patient education and counseling for diseases, mother and child care, adolescence, sports persons, children with disabilities, patient followup/home visits.

NUTRITION AND DIET COUNSELING

PRACTICALS

Code: MSND 303 P
No. of weeks: 13
Instructions/week: 04

Total marks: 50
Practicals: 35
IA: 15

UNIT I

Planning and preparation of audiovisual aids for counselling sessions on life style diseases.

UNIT II

To conduct diet counselling sessions for lower social economic group

UNIT III

Conduct diet and nutrition counselling for obese and underweight clients

UNIT IV

Plan counselling session for health promotion

UNIT V

A visit to a multi-specialty dietary department

REFERENCES

1. Gibson, R.L., Mitchell, M.H, (2008), Introduction to counselling and guidance (6 Ed)
2. Gelso, C.J.,Fretz, B.R, (2001),Counselling Psychology, Bangalore, Prism Books Pvt Ltd.
3. Sharma, T.C., (2022), Modern Methods of Guidance and Counseling, New Delhi, sarup& sons.
4. Beena and Parweshwaran- Invitation to Psychology, Neel Kamal Publications.
5. Mahan, L.K &Ecott- Stump, S., (2000): Krause's Food, Nutrition and Diet Therapy, 10th Edition.
6. Shils, M.E., Olson,J.A., Shike,N. and Ross, A.C(Ed)(1999): Modern Nutrition in Health & Disease,9th Edition, Williams& Wilkins.

7. Bamji.,S.M., Rao,N. P., Reddy,V.,(2019),Text book of Human Nutrition, Oxford and IBH publishing C. New Delhi.
8. Kathleen Bauer,(2020),Nutrition counselling and Education Skill Development,4th Edition.

III SEMESTER
NUTRITION AND DIETETICS
OPEN ELECTIVE
NUTRITION FOR HEALTHY LIFESTYLE

Code: MSND 304
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES

1. To enable the students to understand the role of nutrition in management of health
2. Understand the role of physical activity in management of health.

UNIT I

10 hrs

- Introduction to Nutrition
- Define - Nutrition, Malnutrition and Health
- Functions of food, food groups and balanced diet and recommended dietary allowances,
- Principles and steps in meal planning.

UNIT II

10 hrs

- Methods of cooking - boiling, steaming, pressure cooking, frying, baking and solar cooking -advantages and disadvantages
- Fortification- Definition, commonly fortified foods.

UNIT III

12 hrs

- Macronutrients (Carbohydrates, Protein and Fat)-functions, sources and deficiency.
- Micronutrients (vitamins and Minerals)
- Fat soluble vitamins, water soluble vitamins, Iron, folic acid and calcium - functions, sources and deficiency.

UNIT IV

10 hrs

- Nutrition through Lifecycle
- Nutritional Requirements and dietary guidelines during adulthood, pregnancy, lactation (Breast feeding and bottle feeding), infancy (complementary feeding), preschool, adolescence and old age.

UNIT V

10 hrs

- Role of physical activity, importance of diet and fluids during exercise.
- Definition -nutraceuticals, prebiotics, probiotics and dietary supplements.
- Role of functional foods in health

REFERENCES

1. Srilakshmi, B (2003), Nutrition science, New age International Pvt. Ltd.
2. Summerfield (Liane, M), Nutrition, Exercise and Behaviour: An integrated approach to weight management.
3. Food, Nutrition and Diet Therapy (2003)– Kathleen Mahan & Krause, Sylvia Escott Stump.
4. Text Book of Human Nutrition – Mahtab S. Bamji, N Prahlad Rao, Vinodini Reddy, 2nd edition, Oxford & IBH Publishing Co. Pvt. Ltd.
5. Perspectives in Nutrition – Gordon M. Wardlaw, Margaret Kessel, 5th edition, Mc Graw Hill Publication.
6. Human Nutrition – Geissler & Powers, 11th edition, Elsevier Publications.
7. Normal and Therapeutic Nutrition - Robinson & Lawler, 17th edition, Mac Millan Publishers.
8. Mary, K. Schmidl and Theodore, P. Labuza (2000), Essentials of Functional Foods, Culinary and hospitality industry publication services
9. Israel Goldberg, (2001), Functional foods, pharma foods, Nutraceuticals, Culinary and hospitality industry publication services.

III SEMESTER
NUTRITION AND DIETETICS
HOSPITAL INTERNSHIP –PRACTICAL

Code: MSND 305 P

Total marks: 50

1. Internship in hospital for four weeks
2. Students to document five case studies during the period of internship
3. A report on the functioning of the dietary department
4. Counseling for patients – report
5. Report

IV SEMESTER

NUTRITION AND DIETETICS

CLINICAL NUTRITION AND DIETETICS II

Code: MSND401

Hours: 52

Instructions/week: 04

Total marks: 100

Theory: 70

IA: 30

OBJECTIVES:

- To impart indepth knowledge regarding diet, life style in acute and chronic diseases.
- To learn the effect of various diseases on nutritional status, and nutrient and dietary requirements.

UNIT I

8 hours

- Diseases associated with Gastro Intestinal Tract (GIT)- Pathophysiology, Etiology, symptoms and Medical Nutrition Therapy – Peptic ulcer, Gastritis, Flatulence, diarrhoea, constipation, Malabsorption syndrome, Crohn's disease and Ulcerative colitis, Irritable Bowel Syndrome, Steatorrhea, Gluten sensitivity, Lactose intolerance.

UNIT II

12hrs

- Nutritional management of renal diseases – etiology, pathophysiology, symptoms and medical nutrition therapy in renal disorders- Acute and chronic glomerulonephritis, Nephrosis, Acute renal failure, Chronic renal failure, Renal calculi
- Types and principles of dialysis
- Kidney transplant

UNIT III

10 hrs

- Diseases of cardiovascular system – etiology, risk factors, symptoms and dietary management of hypertension, atherosclerosis, congestive heart disease, ischemic heart disease.
- Hyperlipidemia – brief review of lipoproteins and their metabolism, blood lipid profile and dietary lipids.

UNIT IV

12 hrs

- Diseases of nervous system - Nutritional management in dysphagia, epilepsy, hyperkinetic behavior syndrome.
- Musculoskeletal System- Etiology and dietary treatment in arthritis and osteoporosis.
- Nutritional management of physiological stress and wound healing.
- Dietary management for trauma, sepsis.

UNIT V

10 hrs

- Nutrition in Gout – etiology, symptoms and dietary management.
- Nutrition in cancer – Etiology, eating problems in cancer, cancer therapy and dietary management.
- Burns- Stages of burns, metabolic changes, Nutritional management
- Surgery-Physiological response, metabolic consequences, stages of convalescence, dietary management.
- HIV infection and AIDS - Epidemiology, transmission of HIV, clinical manifestation, dietary management and control.

NUTRITION AND DIETETICS

CLINICAL NUTRITION AND DIETETICS –II

PRACTICALS

Code: HSND 401 P
No. of Weeks: 13
Instructions /week: 4

Total marks: 50
Practicals: 35
IA : 15

UNIT I

Planning and preparation of diet for acute glomerularnephritis

UNIT II

Planning and preparation of diet for hypertension

Planning of diet for Atherosclerosis

UNIT III

Case studies and presentation on Nephrotic syndrome

UNIT IV

Planning of diet in Gout

UNIT V

Planning of diet for burns

Planning of pre and post operative diets

REFERENCES:

1. Modern Nutrition in health and Disease, 10th edition by Maurice E.Shils
2. Alfred H.Katz, Prevention and Health, the Haworth, press, New York 1999
3. Krause Food and Nutrition Care Process, 14 th edition
4. Sareen S, 2005 Advanced Nutrition in human metabolism, 4 th edition, USA
5. IAPEN,BAPEN webseries
6. International Life Science Institute Present Knowledge in Nutrition- latest edition
7. Achayya,K.T.,(1998) A historical Dictionary of Indian Foods, Oxford Publishing Co
8. Antia, F.P. and Philip A. Clinical Dietetics and Nutrition, 4thEd.

9. Bamji, M.S. Rao, P.N. and Reddy. Text book of Human Nutrition. 1996. Oxford and IBH publishing housing.
10. Garrow, J.S. and James WPT. Human Nutrition and Dietetics, 9Ed.
11. Williams, S.R. Nutrition and Diet Therapy, 6thEd. Jones Mirror College, Publishing.
12. Sharon Rady Rolfs and Ellie Whitley,(2018), Understanding Normal and Clinical Nutrition, 11 th edition,2018.

SEMESTER IV
NUTRITION AND DIETETICS
NUTRITION IN CRITICAL CARE

Code: HSND 402
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES:

- To understand the physiology and special nutritional requirements of the critically ill.
- To know about special nutritional support techniques and feeding formulation to meet their nutritional needs.

UNIT I

8 hrs

- Hospital diets – clear fluid diet, full fluid diet, bland and soft diet, normal diet, special diets.
- Enteral nutrition for critically ill patients, nutritional requirements, indication/complications, routes and administration.
- Types of enteral formulas, complications.

UNIT II

12 hrs

- Parenteral nutrition in critically ill patients, nutritional requirements, routes and administration.
- Parenteral formulas, calculation of the feed, commercial formulas available in the market, significance and advantages and disadvantages of commercial formulas, home made feeds, Oral nutritional supplements.
- Refeeding syndrome, complications of parenteral therapy and enteral therapy, rehabilitation diets, and palliative care.

UNIT III

10 hrs

- Critically ill patients –Importance of nutrition in trauma, stress, sepsis, nutritional assessment, choice of nutrients.
- Nutrients for immunity, and role of prebiotics and probiotics (fibre) in critical illness.
- Nutrition support in patients with cancer.

UNIT IV

12 hrs

- Nutritional assessment and nutritional intervention of HIV patients
- Nutritional consideration in critically ill patients, organ transplantation, multiple organ failure. Feeding critically ill obese patients.

UNIT V

10 hrs

- Nutritional Support in Special conditions (critically ill)-
- Pediatrics- Nutritional assessment, Nutritional Requirements, Nutritional Intervention
- Nutritional support in burns.

REFERENCES

1. Modern Nutrition in health and Disease, 10th edition by Maurice E. Shils
2. Alfred H. Katz, Prevention and Health, the Haworth, press, New York 1999
3. Krause Food and Nutrition Care Process, 15th edition
4. Sareen S, 2005 Advanced Nutrition and human metabolism, 7th edition, 2016, USAIAPEN, BAPEN webseries
5. International Life Science Institute Present Knowledge in Nutrition- latest edition 2012
6. Achayya, K.T., (2001) A historical Dictionary of Indian Foods, Oxford Publishing Co
7. Antia, F.P. and Philip A. Clinical Dietetics and Nutrition, 4th Ed, 2002.
8. Bamji, M.S. Rao, P.N. and Reddy (2019,) Text book of Human Nutrition, 4th edition, Oxford and IBH publishing housing.

9. Garrow, J.S. and James WPT. Human Nutrition and Dietetics, 10th Ed.
10. Williams, S.R., Essentials of Nutrition and Diet Therapy, 12th Ed. Jones Mirror College Publishing, 2018.
11. Sharon Rady Rolfs and Ellie Whitley,(2018), Understanding Normal and Clinical Nutrition, 11 th edition,2018.

SEMESTER IV
NUTRITION AND DIETETICS
a. FOOD SERVICE MANAGEMENT

Code: MSND 403
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES

- To gain knowledge on requirements and management of various food service establishments.
- To know the types of food cost involved and the methods to control them.
- To know the types and variety of foods available in the market
- To learn to purchase, receive and store different foods.

UNIT I

10 hours

Management of Food Service Establishments

- Managing, Planning, Organizing, Directing, Coordinating, Controlling and Evaluating
- Tools of management – Tangible and Intangible tools
- Management of resources – Natural environment, Work environment
- Principles of Management of food service establishment

Type of food service establishment:

- Commercial, Non Commercial Service, Street – mobile food unit.
- Temporary food service establishment, vending machine, food court, High risk food

UNIT II

10 hours

Organisation of Space and Equipment in Food Service Establishment

- Kitchen Space – Size and types, Developing kitchen plan, Work simplification
- Features to be considered in kitchen designing

- Storage Space – Types of storage
- Factors to be considered while planning storage spaces
- Service Area – Location
- Structural designing and planning storage spaces
- Equipment – Classification of equipment
- Selection of equipment, designing , installation and operation, purchase, care and maintenance of equipment

UNIT III

12 hours

Food Management

- Characteristic of food – Types of food, quality and quantity, Sensory quality and nutritional quality
- Food purchasing – Importance, types – open market, formal, negotiated and wholesale
- Receiving and Food storage – Delivery methods, General guidelines for storing perishable and non perishable foods
- Menu Planning – Importance of menu planning, types of menus – Al a carte, tabled'hote and combination

Food service- Style of service-Self service and vending, tray service, waiter-waitress service, portable meal

Delivery and Service of Foods:

- Food service systems : Conventional, Commissary , ready prepared, assembly service
- Clearing and winding up after service, Customer relations

UNIT IV

10 hours

Food Purchasing, Selection and Storage

- Food Purchase- Food purchasing procedure, Selection of foods, purchasing methods
- Important points to be observed for various food commodities
- Importance of sanitary procedures while preparing, cooking and holding of foods.

Food Storage:

- General Guidelines for Storage of food - Dry Storage, Refrigerated Storage, Freezer Storage , Importance of pest control

UNIT V**10 hours****Standardisation of Food and Patent Regulations and Financial management**

- Steps involved in formulation and standardization of recipes, significance of food standardization. Patent laws- Definition, Evolution of IPR, Patent rights in India
- Food product labeling - purpose

Financial management:

- Component of cost, Behavior of cost, Concept of contribution and breakeven

Cost control:

- Importance of cost control, Factors affecting losses, Methods of controlling food cost and labour cost

REFERENCES

1. Sethi M and Mahan S (Revised 2nd edition, 2007)). Catering Management, An Integrated Approach. New Age International (P) Ltd
2. Andrews S (2009) Food and beverage service : Training Manual 2nd edition. New Delhi Tata McGraw Hill.
3. Bessie Brooks West and Levelle Wood MS (1988). Food Service in Institutions (6th ed.). John MacMillan Publishing Co., New York
4. Harris N (1984) Meal management (6th ed.). New York : Mac Millan.
5. Wailey BH (1986) Production management handbook. U.K. : Gower Publishing.
6. Kotas R (1981). Accounting in hotel and catering industry. publisher- Thomson Learning; 4th Revised edition edition (Jun 1981)
7. Fuller J and Thomas S (2006). Modern Restaurant Service, Amazon
8. Kotler P and Keller K (2008). Marketing Management (13th ed.). Prentice Hall, USA.

SEMESTER IV
NUTRITION AND DIETETICS
b. NUTRITION IN EMERGENCIES

Code: MSND 402
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES

- Familiarize students with various natural emergencies and disasters
- Understand the impact on nutrition and health status and special nutritional arising out of these situations
- Understand strategies for nutritional rehabilitation management of the health of emergency affected populations.

UNIT I

12 hrs

- Definition of disaster
- Classification of disasters

Natural disasters

- Water and climate – cyclone, flood, tornado, Hurricane, flood, drought, tidal wave, Tsunami
- Earth related – Earth quake, volcanoes, landslides and Avalanches
- Risk and Disaster Management with software applications

Manmade disasters

- Nuclear Explosions and War
- Accidents, mine flooding and stampede

UNIT II

10 hrs

Disaster Management

- Nutrition Management during disaster, Immediate rescue and first aid including physiological aid, Organization and Nutritional surveillance and Individual screening, Supply of food, Assessment of food needs in emergency situations, Food distribution strategy- define and reaching the vulnerable group, Mass and supplementary feeding, Therapeutic feeding.

UNIT III

12 hours

- Assessment of food nutritional relief, local foods in rehabilitation, organizations for mass feeding food distribution, transportation and storage, feeding centers, Sanitation and hygiene.
- Nutritional support system in relief and rehabilitation, surveillance of nutritional status in emergency relief situations such as flood, cyclone, earthquake, drought, war etc.

UNIT IV

8 hrs

- Control of communicable diseases – Surveillance and Treatment
- Causes of malnutrition in emergency situation
- Major and specific deficiencies in disasters and treatment

UNIT V

10 hrs

- Global warming – Challenges for food security in India
- Water – Safe water supply
- Sanitation and Hygiene, Role of immunization and Sanitation

REFERENCES

1. Goyet, Fish V, Seaman, J and Geijact (1978).The management of nutritional emergencies in large populations WHO, Geneva
2. Refuge Nutrition Information System (RNIS) Newsletters UNACC/SCN subcommittee on Nutrition
3. Beradley, A Woodruff and Arabella Duffield (July 2000) Assessment of Nutritional status in emergency affected populations. Adolescents special supplement, UNACC.SCN sun committee on nutrition.
4. Young H, Means C (1998) Acceptabilty and use of cereal – based foods in refugee camps. Oxfain Working paper, Oxfam publishing Oxygen, U.K
5. UNHCR (1999) UNHCR Hand books of emergencies 2nd edition Geneva UNHCR.
6. WHO website for emergencies

SEMESTER IV
NUTRITION AND DIETETICS

c. MATERNAL AND CHILD NUTRITION

Code: MSND 403
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVE

- To enable the students to understand the role of nutrition during pregnancy lactation and infancy.
- Get acquainted in the growth and developmental changes from conception till adolescence

UNIT I

10 hrs

- Importance of maternal nutrition- Meaning and objectives of maternal and child health.
- Health problems of mother and child in India
- Current Scenario of maternal and child nutrition in India. Vital statistics related with mother and child.
- Nutritional aspects of embryogenesis

UNIT II

10 hrs

- Physiological and psychological changes during pregnancy
- Importance of prenatal and postnatal nutrition
- Management and importance of antenatal care
- Complications of pregnancy
- AIDS during pregnancy

UNIT III

10 hrs

- Physiology and Endocrinology of lactation
- Composition of human milk
- Lactation amenorrhea and effects of lactose feeding on maternal health
- Factors affecting breast feeding

- Breast Feeding Vs Bottle feeding
- Guidelines in infant feeding and complimentary feeding

UNIT IV

10 hrs

- Growth and development during infancy, Immunization schedule
- Nutritional requirements of infants
- Preterm, low birth weight infants, implications for feeding and management
- Weaning and principles in preparing complimentary food supplements
- Nutritional management in diarrhoea and lactose intolerance

UNIT V

12 hrs

- Maternal and child Malnutrition: etiology and management of under nutrition and over nutrition.
- Nutritional challenges and nutrition for children with special needs
- Maternal and child health programs in India
- Supplementary feeding programs- Midday Meal Program and ICDS

REFERENCES

1. Bamji, M.S. Rao, P.N. and Reddy. Text book of Human Nutrition. 1996. Oxford and IBH publishing housing.
2. Mahan, L.K & Ecott- Stump, S.(2000): Krause's Food, Nutrition and Diet Therapy
3. Park A. Text book on Preventive and Social Medicine XIX Edition 2007.
4. Whitney. E.R. and S.R Kolfes (2002) Understanding Nutrition 9 ed. Wadsworth Thomson Learning, Australia.
5. Thompson, L.U. (1993) Potential Health Benefits and problems associated with antinutrients in foods. Food Research International. 26; 134 – 149.
6. Gibson, G.R. and M.B. Roberfroil (1999) Coloric Mirobio, Nutrition and health, Kluwer Academic Publishers

IV SEMESTER
NUTRITION AND DIETETICS
PAEDIATRIC AND
GERIATRIC NUTRITION

Code: MSND 404
Hours: 52
Instructions/week: 04

Total marks: 100
Theory: 70
IA: 30

OBJECTIVES:

- Understand the growth, development and nutritional requirements of children
- Get an insight and knowledge on inborn errors of metabolism and pediatric critical care.
- Understand the theoretical frame work in the study of ageing,
- Impart effective interventions for care of the elderly.

UNIT I

8 hrs

- Normal growth in children – formulae for average weight and height in children (birth to 12 years).
- Factors affecting normal growth in children – milestones
- Nutritional requirements of children and dietary guidelines.

UNIT II

10 hrs

- Dietary management in gastrointestinal tract, liver and kidney diseases
- Nutritional support in diarrhoeal disease: Acute diarrhea – nutritional management, Oral Rehydration Therapy (ORT), fluid and electrolyte therapy, persistent diarrhoea – pathogenesis and dietary management.
- Constipation - dietary management
- Dietary management in Irritable Bowel Syndrome (IBD), Crohn's disease, Ulcerative colitis-

- Renal diseases – dietary management in nephrotic syndrome, acute renal failure and chronic renal failure.

UNIT III

12 hrs

- Cardiovascular diseases- Congenital heart disease – etiology, factors affecting growth and Nutritional management.
- Juvenile diabetes - Medical nutrition therapy, nutritional requirement, insulin regime, exercise.
- Nutrition for children with special needs-Allergies, common food allergens(milk, egg, soy, fish and peanuts)and intolerance,
- Diagnosis, treatment and dietary management -skin, respiratory tract, GI tract.

UNIT IV

10 hrs

- Definition of ageing, senescence, old age or aged people, Gerontology and geriatric nutrition.
- Introduction to geriatric care- concept of gerontology
- Ageing - Biology of ageing
- Physiological,psychological and biochemical changes during old age
- Dietetics of Geriatric care- Nutritional requirement and general dietary guidelines for elderly, food requirement, dietary modification.

UNIT V

12 hrs

- Major nutritional and health problems during old age-osteoporosis, obesity, neurological dysfunction, Anaemia, Malnutrition and constipation, Infection and Immunity, Degenerative disorders in elderly-Dementia, Alzheimer, Parkinson's disease
- Disorders of GIT
- Disorders of Pancrease – Senile Diabetes
- Infection of Respiratory system

NUTRITION AND DIETETICS

PAEDIATRIC AND GERIATRIC NUTRITION

Code: MSND 404P
Hours: 13
Instructions/week: 04

Total marks: 50
Practicals: 35
IA: 15

UNIT I

Assessment of Anthropometric Measurement using Growth Charts for SAM and MAM Children

UNIT II

Planning of diet for Diarrhoea/ARI

UNIT III

Planning and preparation of Nutrient Dense recipes for children/elderly

UNIT IV

Survey on nutritional assessment of paediatric/geriatric population using various tools

UNIT V

Planning and preparation of diet for constipation in elderly

REFERENCES

1. Madhu Sharma, Pediatric Nutrition in Health and Disease, 1st edition, Jaypee Brothers Medical Publishers (P) Ltd., New Delhi, 2013
2. K. E. Elizabeth, Fundamentals of Pediatrics, 2nd Edition, Paras Publishers, Hyderabad, 2002
3. Suraj Gupta (Ed), Recent advances in Pediatrics – Nutrition, Growth and Development, Special Volume 20, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, 2010.
4. Clinical Dietetics Manual- Indian Dietetic Association, 2011

5. Bali,P.A(2001) care of the Elderly in India. Changing configurations, Indian Institute ofAdvancedstudy,shimla.
6. HSUJENG Handbook of Geriatric Nutrition
7. John E Morley and David R, (2007), Thomas Geriatric Nutrition.
8. Suraj Gupte (2012), Pediatric Nutrition
9. Mehra,S.R., and Sharma S.R., (2018), Maternal and child Nutrition

IV SEMESTER
NUTRITION AND DIETETICS
DISSERTATION AND VIVA VOCE

Code: MSND 405
Viva voce 30 marks

Total Marks: 100
Dissertation: 70

- Topic of dissertation to be chosen from any broad area of Nutrition and Dietetics. It should be started at the end of the third semester and should be completed at the end of fourth semester.

The dissertation project should include:

1. Abstract
 2. Introduction
 3. Objectives of the Study
 4. Review of Literature
 5. Materials and Methods
 6. Results and Discussion
 7. Summary and Conclusion
 8. References
- Project work to be carried individually.
 - Project to be allotted at the beginning of the third semester to facilitate students to carry out during semester break.
 - Faculty members of the respective colleges /departments should serve as guides.
 - The copy of the dissertation to be submitted to the University for Evaluation.
 - Evaluation of dissertation has to be done by external examiner appointed by the University for 100 marks.
 - The project viva voce examination will be held at the Bishop Cotton Women's Christian College, Department of Nutrition and Dietetics by one external examiner and one Internal examiner for 30 marks (PPT – 10 marks, Presenttaion-10 marks, viva voce-10 marks).

JOURNAL REFERENCES

- Indian Journal of Nutrition and Dietetics
- Journal of food and nutrition research
- Critical Reviews in Food Science and nutrition
- Annual Review of Nutrition journal
- Advances in Nutrition
- Journal of Food Science and biotechnology (springer)
- Journal of nutrition health and Ageing
- European Journal of Nutrition
- European Journal of Nutrition
- International food Research Journals
- Clinical Nutrition Journal
- International journal of Food Science and Nutrition
- International Food Research Journal
- Aquatic Food Product Technology
- Elsevier's Nutrition Journals
- Journal of Human Nutrition and Dietetics
- American journal of clinical Nutrition
- Journal of Academy of Nutrition and Dietetics