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BE BOUNDLESS

BENGALURU CITY UNIVERSITY

SYLLABUS For B.Sc/BA HOME SCIENCE
&
B.Sc. NDCZ COURSES
(I to VI Semester)

CHOICE BASED CREDIT SYSTEM

2020-2021

Under Graduate Program

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Proceedings of the BOS meeting in Home Science (UG), Bengaluru Central University held on 15th December 2018.

Date: 15.12.2018

A meeting of the BOS in Home Science (UG), Bengaluru Central University held on 15th December 2018 at 10.30 am in room number 13, Department of Human Development and Research Centre, at Smt.V.H.D. Central Institute of Home Science, Seshadri Road, Bengaluru-560 001.

The following members were present for the meeting:

1. **Dr.K.S Roopa**
   BOS Chairperson UG & PG (BCU)
   Bengaluru Central University (BCU)
   Central College Campus, Bengaluru-560 001
   Associate Professor & HOD,
   Department of Human Development
   Smt. V.H.D. Central Institute of Home Science,
   Seshadri Road, Bengaluru – 560001.

   KSRoopa 15/12/18

2. **Dr. Mamatha B**
   Member
   Associate Professor
   Department of Resource Management
   Smt. V.H.D. Central Institute of Home Science,
   Seshadri Road, Bengaluru – 560001.

   Mamatha B 15/12/18

3. **Dr.Usha Devi C**
   Member
   Associate Professor& HOD,
   Department of Food & Nutrition,
   Smt.VHD Central Institute of Home Science,
   Seshadri Road, Bengaluru-560 001

   Usha 15/12/18

4. **Dr. Srilakshmi R**
   Member
   Assistant Professor
   Department of Extension Education and Communication
   Smt. V.H.D. Central Institute of Home Science,
   Seshadri Road, Bengaluru – 560001.

   Srilaxmi R.

5. **Dr. Rajalakshmi M. S**
Member
Associate Professor
Department of Early Childhood Education and Administration
Smt. V.H.D. Central Institute of Home Science,
Seshadri Road, Bengaluru – 560001

Rajalakshmi M 15/12/2018

6. **Dr. Devaraj V.R**
Member
Professor
Department of Biochemistry,
Bangalore University Central College Campus,
Palace Road, Bangalore-560 001.

R. Devaraj 15/12/18

Members Absent:

7. **Dr. Asna Urooz**
Professor
Department of Studies in Food Science & Nutrition,
Manasagangotri,
University of Mysore,
Mysore- 570 006.

8. **Dr. Sudhakar R**
Member
Assistant Professor & Coordinator,
Department of Apparel Technology Management,
Bangalore University Central College Campus,
Palace Road, Bangalore- 560 001.

The meeting began with Dr.Roopa.K.S Chairperson BOS in Home Science, welcoming the members to the meeting and apprising the members of the agenda for the scheduled meeting. She also informed the members that at present, Bishop Cotton Women's Christian College is offering BA Home Science as an optional and B.Sc NDCZ course and Faith British Academy College offering at undergraduate level BSc NDCZ course.

The Chairperson informed the members that the HODs of all the departments of Home Science, Smt. V.H.D. Central Institute of Home Science (Autonomous) and staff members of Bishop Cotton Women's Christian College have met twice in the month of October and November 2018 to give their inputs in framing the new syllabus for the BA Home Science as

One Optional course and then the different papers were allotted to re-frame the syllabus. She then thanked the members for taking the responsibility to scrutinize and to frame the new syllabus for the said course.

She also mentioned the members that for the BSc NDCZ course, Dr. Usha Devi, member, has taken the responsibility to review the existing syllabus and to propose the new syllabus by discussing with the faculty members of the Bishop Cotton Women's Christian College and Faith British Academy College where they are offering the NDCZ course. The inputs given by them were also incorporated. Finally, members were allotted the responsibility to work towards reframing the syllabus in their respective subjects to be offered from 2019-20 for a period of three years by BCU.

The Chairperson informed the members that in the previous BOS meeting, the board recommended to co-opt two members for the existing BOS to work towards the reframing the syllabus.

1. The Board approved the new syllabus for the BA Home Science as an Optional course from the academic year 2019-20. The scheme of study and the syllabus for I to VI semester is approved.
2. The Board approved the new syllabus for NDCZ course for the academic year 2019-20 onwards. The scheme of study and the syllabus for I to VI semester is approved.

The meeting concluded with the Chairperson thanking the members for attending the meeting and giving their valuable inputs.

Mamatha B 15/12/18
Dr. Mamatha B

15/12/18
Dr.Usha Devi C

15/12/18
Dr. Srilakshmi R

Rajalakshmi M 15/12/18
Dr. Rajalakshmi M. S

Dr. Devaraj V.R.

15/12/18
Dr.K.S.Roopa,
Chairperson

SCHEME OF STUDY

SEMESTER I, II, III, IV BA/BSc HOME SCIENCE AS AN OPTIONAL

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 1	2 Languages	2 T	2x4	2x3	2x30	2x70	100	2x2	4
Part 2	**Semester 1** Optional 1 - HSc Nutrition and Meal Management	1 T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Semester 2 Optional 1 – HSc Fundamentals of Textiles and Clothing	1 T 1 P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Semester 3 Optional 1 - HSc Early Childhood Education and Administration	1 T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Semester 4 Optional 1- HSc Introduction to Resource Management	1 T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
Part 3	Foundation Course/SDC	IT	3	3	30	70	100	2	2

SCHEME OF STUDY

V, VI Semester BA/BSc HOME SCIENCE AS AN OPTIONAL

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
	Semester 5								
Part 2	Optional 1 - HSc 1	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Human Development	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional 2 – HSc 2								
	Extension Education	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	and Communication	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Semester 6								
	Optional 1 – HSc 1	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Guidance and Couselling	1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional 2 – HSc 2								
	Interior Decoration	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
Part 3	ISDC	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2

SEMESTER I
NUTRITION AND MEAL MANAGEMENT

Code: HSFN101 | **Total Marks: 100**
Hours: 52 | **Theory: 70**
Instruction Hours/week: 04 | **Internal Assessment: 30**

Objectives:

1. To understand the functions of food and role of various nutrients
2. To understand the practical guidelines for dietary needs of human nutrition at different stages of life.

Unit I: Introduction to Nutrition **8 hours**

a) Definition of nutrition, Malnutrition and Health.
b) Functions of food, Food group, Balanced diet.
c) Meal planning – steps in meal planning.

Unit II : Nutrients **10 hours**

Macro and Micro nutrients- classification, Sources, functions and deficiency.
A)Carbohydrates, B) Proteins C) Fats D) Minerals – Calcium, Iron, Iodine.
E) Vitamins – Fat soluble vitamins – A, D, E & K
Water soluble vitamins – vitamin C
Thiamine, Riboflavin, Niacin
F) Energy – Factors effecting BMR.

Unit III: Water and Fibre **8 hours**

a) Water – Functions, sources and water balance
b) Fiber – Functions and sources.

Unit IV: Methods of cooking **12 hours**

Advantages and disadvantages
a) Water – Boiling, steaming, pressure cooking
b) Oil/Fat – Shallow frying, deep frying
c) Air – Baking

Nutrition through life cycle – Nutritional requirement, dietary guidelines:Adulthood, Pregnancy, Lactation, Infancy – Complementary feeding, Pre-school, Adolescence, Old age.

Unit V: Therapeutic Diets **14 hours**

a) Diet therapy – Definition,Routine hospital diets – Clear, full fluid, soft and bland diet.
b) Etiology, dietary management of: Underweight, Obesity, Diarrhea, constipation.

PRACTICAL

Code: HSFN101P
No.of.Weeks:13
Hours/Week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Weights and Measures — **2 classes**
2. Methods of Cooking: — **3 classes**
   a. Boiling
   b. Pressure Cooking
   c. Frying – Shallow / Deep Fat
3. Identification of Nutrient rich foods — **2 classes**
4. Planning of balanced diet for — **3 classes**
   a. Adult man
   b. Senior citizen
5. Planning and preparation of balanced diet for — **3 classes**
   a. Pregnant Woman
   b. Pre-School child
   c. Adolescent Girl

References:

1. Srilakshmi B, (2007), Dietetics. New Age International publishers. New Delhi
2. Srilakshmi B, (2002), Nutrition Science. New Age International publishers. New Delhi
3. Swaminathan M. (2002), Advanced text book on food and Nutrition. Volume I. Bappco.
4. GopalanC.,RamaSastry B.V., and S.C.Balasubramanian (2009), Nutritive value of Indian Foods.NIN.ICMR.Hyderabad.
5. Mudambi S R and Rajagopal M V, (2008), Fundamentals of Foods, Nutrition & diet therapy by New Age International Publishers, New Delhi

SEMESTER II
FUNDAMENTALS OF TEXTILES AND CLOTHING

Code: HSTC201
Hours: 52
Instruction hrs/week: 04

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To acquaint students with different Textile fibres.
2. To understand the weaving operation.
3. To gain knowledge on textile finishes.
4. To acquaint students about traditional textiles
5. To introduce basics of garment construction.

Unit I: Fibres **10 hours**

Classification of fibres according to Source
Manufacturing process of cotton, silk and Nylon fibres
Physical and chemical Properties of Cotton, Silk, Polyester fibres
uses of linen, , jute ,wool,glass, acrylic and spandex fibres.

Unit II: Yarn Construction and Weaving **8 hours**

Conventional Spinning system ,Yarn Count_ Yarn Twist
Types of yarn_ Simple, Complex, Textured
Weaving_ Parts of a loom_ Functions of the loom
Types of weave - Basic and Decorative weaves

Unit III: Finishes **15 hours**

Finishes_ Classification, Basic finishes_ Bleaching, Mercerisation, Calendering and Tentering.
Special Finishes_ Water repellent, Anti microbial
Dyeing_ Classification of dyes, Methods of dyeing
Printing_ Block, Stencil, Roller and Screen printing.

Unit IV: Traditional textiles of India **8 hours**

Woven_ Ikkat, Dyed - Bhandani
Embroidery_ Kashida, Chikankari, Kanta, Aari, Phulkari, Kutch, ChambaRoomal, Kasuti.

Unit V: Clothing Construction **11 hours**

Sewing tools_ Classification and uses

Sewing machine – Parts,maintenance, problems and remedies

Body Measurements, Preparing of fabrics for garment Construction.

Principles of clothing construction_ Drafting, Draping, Flat patterns. .

PRACTICAL

Code: HSTCP201
Number of weeks: 13

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Identification of fibres-Visual , Burning and Microscopic. **1 class**

2. Identification of Weaves- Basic and Decorative weave samples **1 class**

   Identification of Finishes- Samples **1 class**

   Identification of Printing – Samples **1 class**

3. Basic Stitches= Hemming, Seams, Fullness, Plackets, Neck finishes, Fasteners. **2 classes**
4. Traditional Embroidery stitches **2 classes**
5. Garment construction-Basic Bodice Bloc- Adaption- Petticoat,/ Aline frock/, Kurti. **5 classes**

References:

1. Anna Jacob (1993) 'Art of sewing' UBS, New Delhi
2. Bane A (1974) 'Tailoring', McGraw Hill publication, New York
3. Readers Digest (1992) 'Complete guide to sewing', Association Inc New Delhi.
4. SavitriPandit (1967) 'Manual for children's clothing', orient Longman.
5. Winfred Aldrich (1990) 'Metric Pattern Cutting', Black Well Science, UK
6. Corbman.B.P. (2001): 'Textile fibre to fabric', McGraw Hill, New York.
7. Hollen, N & saddler J (1995): 'Textiles' Latest Edn., Mac Millan & Co., New York.
8. Joseph, M.L. (1976): 'Essentials Of Textiles', Halt Ripen hart of Winston, New York.
9. Joseph, M.L. (1981): 'Introductory Textiles Science', Halt Ripen hart of Winston, New York.
10. Torrora, P.C. (1978): 'Understanding Textiles', Mac Millan & Co., New York.
11. Wingate, I.B. (1976): 'Textiles fabrics and their selection' Englewood Cliffs, Prentice Hall, New Jersey.

SEMESTER III
EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

Code: HSECEA 301
Hours: 52
Instruction Hours/week: 4

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. Recognize the significance of early childhood education.
2. Understand the value of structure and format for working effectively with children
3. Know that children are active learners and are influenced by their social contexts
4. Know the significance of records of children's growth and progress as necessary for mapping developmental patterns

Unit I: Introduction to Early years **10 hours**

a. Awareness of the significance of early childhood from neuro-science perspective and rights perspective and the criticality of early years in the human life cycle.
b. Appreciate the difference in care and education and recognize the value of developmentally appropriate interactions for optimal development.

Unit II: Methods and approaches in Early education centres: **10 hours**

a. Children as active learners and participants
b. Balancing between discipline- participation, exploring and mediation, self directed and guided activity
c. Thematic approach, Play-way method, activity method and project method
d. Cooperative learning
e. Equipment, materials and diverse ways of using materials
f. Types of ECE centres

Unit III: Methods of engaging with children: **10 hours**

a. Music and movement and the appeal of rhythm;
b. Free conversations, free hand drawing, role play, drama as sources of learning in multiple domains;
c. Story- telling and its functions in imagination and cultural literacy
d. Indoor and outdoor play in structured and free situations; play skills
e. Introducing print media like books, pictures with words and use of audio-visual aids;
f. Self help skills relating to health, hygiene and personal needs (feeding, dressing, asking for things);
g. Fostering social skills to promote formal school readiness.

Unit IV: Administration of Early education centres: **10 hours**

a. Infrastructure requirements-location, safety, Importance of Positive Climate; Auxiliary Services (Physical, Health Services, Social Services, Transportation) Space Requirements: (Storage space for materials, equipment)
b. Budget and Finances
c. Staffing the centre, teacher to child ratio
d. Qualities of an Early Childhood Professional, Staff Meetings/Training Sessions, Staff Motivation;
e. Parent Involvement, Involvement of Volunteers/Community Members;

Unit V: Maintenance of records in ECCE settings **12 hours**

a. Need for maintaining different kinds of records such as child related, teacher related and material related records;
b. Registers for attendance, admission, fees, teachers and other financial matters;
c. Records of monitoring and regulating children's growth and development such as health, anecdotal and cumulative records;
d. Evaluation measures for children's progress.

PRACTICAL

CODE: HSECEAP 301 **Total Marks: 50**
Number of weeks- 13 **Practical: 35**
Hours per week:03 **Internal Assessment: 15**

1. Visit an early childhood Education centre and write a report on the type of program daily schedule, equipment and records maintained. **2 classes**

2. Plan and conduct innovative activities for the following: **8 classes**

   a. story telling
   b. role plays
   c. singing
   d. physical activities to enhance locomotor skills like jumping, hopping, balancing, climbing, throwing, kicking, catching
   e. fostering fine motor skills like grasping, and eye-hand coordination.
   f. Science/environmental science experiences

3. Design a poster on the significance of early childhood years. **1 class**

4. Design a parent handbook/ brochure to provide information about an early childhood education centre. **2 classes**

References:

1. Burtonwood, N. (2002). Anthropology, Sociology and the Preparation of Teachers for a culturally Plural Society. *Pedagogy, Culture and Society.* 10(3), 367-387.
2. Clarke, P. (2001). *Teaching &learning: the culture of pedagogy.* New York: Sage
3. Kress, J.S., Norris, J. A., Schoenholz, D. A., Elias, M.J., and Seigle, P. (Nov., 2004). Bringing Together Educational Standards and Social and Emotional Learning: Making the Case for Educators. *American Journal of Education*, 111 (1), pp 66-89
4. Moyles, J. & Hargreaves, L. (1998). *The primary curriculum. Learning from international perspectives.* London: routledge
5. National association for the education of young children, July 1998. Learning to read and Write: developmentally appropriate practices for young children. 53 (4), 30-46.
6. NCERT (2007). Handbook of arts in education
7. Neuman, S., Dwyer, J. &Koh, S. (2007). Child/Home early language and literacy observation. Baltimore: Brookes Publishing House
8. Ramachandran,V. &Bhattacharjea, S.(august 1, 2009) Attend to Primary Schoolteachers! *Economic and political weekly.* vol xliv no 31, 17-20

IV SEMESTER
INTRODUCTION TO RESOURCE MANAGEMENT

Paper Code: HSRM 401
Hours: 52
Instructions Hours/Week: 4

Total marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To learn management principles
2. To understand and manage different resources
3. To educate about consumer rights and problems.

Unit I: Fundamentals of Management **8 hours**

Definition, Managerial Process - Planning, Organizing, Controlling and Evaluation
Decision Making- Definition, Types, Steps In Decision Making Process.

Unit II: Management of Resources **8 hours**

Resources- Definition, Classification, Characteristics and Factors affecting the Use of Resources
Time- Importance, Tools in Time Management
Energy- Fatigue, Types, Mundel's Classes of Change, Work Simplification techniques

Unit III: Money Management **12 hours**

Income, Types of Income,
Budget- Importance, Steps In Budgeting.
Savings- Need, saving institution- Bank, Post Office, LIC
Credit- Need, types, Credit Card, Debit Card

UNIT IV: Consumer Education **12 hours**

Rights and Responsibility of Consumers, Problems, Consumer Education, Consumer Aids- Brands, Labels, Trademarks

UNIT V: Housing **10 hours**

Importance, Types of Dwelling units, factors considered in selection of site, Principles of House construction

PRACTICAL

Paper Code: HSRMP401
Classes: 13
Instructions Hours/Week:3

Total marks: 50
Practical:35
Internal Assessment: 15

1. Time and Activity Chart **3 classes**
2. Energy Management- Vertical and Horizontal Reach, Energy Expenditure. **2 classes**
3. Budget Planning **2 classes**
4. Banking Transaction: Open and Cross Cheque, Remit and withdrawal slip, Demand draft, NEFT **3 classes**
5. Consumers Aids- Brands, Labels, Trademark. **3 classes**

References:

1. Nickell and Dorsey (2002) Management in family living - 4th edition cbs publishers and distributors.
2. Kothari Rajesh (2010) Financial Services in India - sage publications, New Delhi.
3. Deshpandey R.S (2010) Modern Ideal Homes for India - United Book Corporation, , New Delhi.
4. Sushma Gupta, Neeru Garg, Amita Aggarwal (2008) Family Resource Management - Kalyani Publishers, New Delhi.

V SEMESTER

HUMAN DEVELOPMENT

Code: HSHD 501
Hours: 48
Instruction hrs/week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To create awareness about the stages of prenatal development, child birth, postnatal care.
2. To acquaint students with the domains of development across the life span- neonate, infant, childhood, adolescence and adulthood.

Unit I: Introduction **8 hours**

a. Concept and definition of human development
b. Need to study human development.
c. Principles of growth and development
d. Factors influencing growth and development.
e. Genetic inheritance – heredity, chromosomes, genes, chromosomal abnormalies. Sex determination

Unit II: Prenatal development **10 hours**

a. Pregnancy – Signs and Symptoms, discomforts and complications, prenatal assessment.
b. Stages of prenatal period – period of the ovum, embryo and foetus.
c. Prenatal influences – physical care, diet, emotional care and environmental hazards.
d. Birth process – stages of birth process and types of birth.

Unit III: Infancy **8 hours**

a. **Neonate** – physical & physiological characteristics, sensory capacities and reflexes_ grasping, moro, sucking, palmar tonic neck reflex.
b. **Infancy** – Characteristics, developmental tasks, physical, motor, social, cognitive and emotional, breast feeding, weaning, supplementary foods, immunization.

Unit IV: Childhood & Adolescence **10 hours**

a. **Early Childhood** –Characteristics, developmental tasks, physical, motor, social, cognitive, emotional and language development.
b. **Late Childhood** – Characteristics, developmental tasks, physical, motor, social, cognitive, emotional and language development_ Interests, Influence of peer group and media.

c. **Adolescence -** Characteristics, developmental tasks, physical changes, puberty, primary and sexual characteristics, social, emotional, cognitive development and identity formation. Interests and problems of adolescents, sexual health education

Unit V: Adulthood **12 hours**

a. **Early Adulthood** –Characteristics and developmental tasks, physical, social, cognitive, emotional and moral development. Marriage – Definition, functions, areas of marital adjustments. Family – Definition, functions and types.

b. **Middle Adulthood** –Characteristics and developmental tasks, physical, physiological and socio-emotional changes. Adjustments and hazards of middle age. Preparation for retirement.

c. **Late Adulthood** – Characteristics and developmental tasks, physical, physiological, social and emotional changes; decline in cognitive abilities; Adjustments, problems faced by the elderly; Retirement and enhancing quality of life

PRACTICAL

Code: HSHDP 501 **Total Marks: 50**
Number of weeks: 13 **Practical: 35**
Hours per week: 03 **Internal Assessment: 15**

1. Prepare an album on the stages of prenatal development. **3 classes**
2. Organize a lecture/workshop for parents on importance of the nutrition/ Needs of preschool children. **2 classes**
3. Develop an activity to foster cognitive development in school children **4 classes**
4. Prepare a visual aid to create awareness on any one problem among adolescents. **3 classes**
5. Visit to an old age home. **1 class**

References:

1. Baradha.G 'Basics of Human Development' Saradalaya Press, Sri Avinashilingam Education Trust Institutions, Coimbatore 2008.
2. Hurlock.B.Elizabeth 'Developmental Psychology – A Life Span Approach' Tata McGraw Hill Publications, New Delhi Latest Edition.
3. Santrock. W. John (2015) 'A topical approach to life span development', Tata McGraw Hill Company, Delhi.
4. Suriakanthi. A. (2015) 'Child Development' Kavitha Publications, Gandhigram, Tamil Nadu.

SEMESTER V
EXTENSION EDUCATION AND COMMUNICATION

Code: HSEEC 502
Hours: 48
Instructions Hrs/Week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. Understand the concept and principles of Extension Education
2. Familiarize with the teaching learning process
3. Know about the concept of community, Development and Community Development
4. Become aware of the concept, methods and media of communication

Unit I: Concept of extension education **6 hours**

a. Definition, Meaning, Objectives and principles of Extension Education
b. Formal, Informal and Non-Formal Education
c. Role and qualities of the extension facilitator
d. Role of Home Science in Extension Education

Unit II: Teaching learning process **10 hours**

a. Learning – Concept, Principles, Elements
b. Teaching – Process, Types:- Trainee-dominated method, Trainer dominated method, Co-operative method, Functional method
c. Qualities of a good teacher
d. Extension teaching methods – Role play, Workshop, Game stimulation
e. Role of motivation in teaching and learning – Meaning, Needs which motivate: Organic, Wants, Emotions, Feelings and attitudes, Social motives, Habits, Objective Environment
f. Motivation in extension – Importance, Intrinsic and Extrinsic values

Unit III: Concept of community development **10 hours**

a. Basic concept of community
b. Development: Nature, Real development, Core values, Objectives
c. Community Development: Definition and meaning, Concept, Need, Essential elements, Scope, Objectives, Philosophy, Types
d. Evolution of Community Development programme in India Since Independence
e. Programme planning – Principles and steps
f. Programme building – Plan of work and Calendar of events

Unit IV: Communication **8 hours**

a. Definition, Meaning, Concept, Importance
b. Types, Elements, Functions and Models of communication
c. Feedback in communication
d. Communicator – communicate relationships
e. Barriers to communication

Unit V: Methods and Media of communication **14 hours**

a. Methods: Individual, Group, Mass
b. Media: Audio, Visual, Audio-Visual
c. Classification of Audio-Visual aids
d. Audio Aids – Radio, Tape recorder, Telephone
e. Visual Aids
   i. Projected – Overhead projector, Slide projector, Camera
   ii. Non- Projected – Posters, Charts, Flash Cards, Exhibitions, Printed materials

f. Audio-Visual Aids
   i. Projected – Television, Cinema
   ii. Non-Projected – Puppets, Drama/Street play/Theatre, Dance

g. Other Traditional media - Folk songs, Folk dances, Folk art, Folk lore

h. Modern media

PRACTICAL

Code: HSEECP502
Number of weeks: 13
Hours per week: 03

Total marks: 50
Practical: 35
Internal Assessment: 15

1. Prepare a plan of work and calendar of events for an educational/awareness activity/programme **2 classes**
2. Organise educational/awareness activity using Role play/ Workshop/ Game simulation for a community **4 classes**
3. Prepare audio-visual aids for conducting a programme **4 classes**
4. Conduct a programme with the help of audio-visual aids using group method of communication. **3 classes**

References:

1. Dahama.O.P and O.P Bhatanagar: Education and Communication for Development, 2nd Edition; Oxford and IBH Publishing Co.Pvt.Ltd, New Delhi, 1985
2. Khan.P.M and L.L. Somani: Fundamentals of Extension Education, Agrotech Publishing Academy, Udaipur, 2009
3. Ray, G.L: Extension Communication and Management, Naya Prakash, Calcutta, 1999
4. Reddy: Extension Education, Bapatia India, Srilakshmi Press, 1987
5. Rodgers, Alan: Teaching methods in Extension Education for development, Westwood Row, Woodmans, 1989

SEMESTER VI
GUIDANCE AND COUNSELLING

Code:HSHD 601
Hours: 48
Instruction hours/week: 03

Total Marks : 100
Theory: 70
Internal Assessment : 30

Objectives:

1. Develop an understanding of basic meaning, need and types of guidance.
2. Get acquainted with the tools and techniques of appraisal of an individual.
3. Develop understanding of meaning, characteristics and types of counselling.
4. Get acquainted with process and techniques of Counselling.

Unit I: Guidance **6 hours**

Meaning, definition and scope of guidance, need and principles of guidance, types of guidance.

Unit II: Counselling **10 hours**

Meaning, definition of counselling, need, scope and principles of counselling, process of counselling.
Role of counsellor, qualities and skills of a counsellor.

Unit III: Guidance and counselling across life span **10 hours**

Counselling needs of children, adolescents, adults, family, and individuals with special needs.

Unit IV: Techniques and counselling **10 hours**

Individual counselling, group counselling, purpose, importance types of group counselling techniques of group counselling.

Unit V: Counselling Agencies/Services **10 hours**

Guidance and counselling centres for children, adolescents, adults, marriage and family, individuals with special needs, government agencies and NGOs.

PRACTICAL

Code:HSHDP601
No of weeks: 13
Instruction hrs/week: 03

Total Marks: 50
Practical: 35
Internal Assessment:15

1. Organise a lecture for adolescents to create awareness about the need for guidance and counselling **2 classes**
2. Plan a workshop on the problems faced by adolescents /Compile case studies that call for counselling and guidance and discuss the same. **4 classes**
3. Visit a counselling centre and write a report on the services provided. **1 class**
4. Conduct a panel discussion on the needs of guidance and counselling for children /adolescents /adults/family/marriage **3 classes**
5. Develop a directory on counselling centres working for individuals across lifespan in Bangalore city **3 classes**

References:

1. Anastasia Anne(1982). Psychological testing New York. McMillan
2. Bur nard. P (1999).Counselling skills training. New Delhi. Viva Books company Delhi
3. Gupta S. K Guidance and counselling in Indian Education. Mittal a publication PvtLtd.. Delhi.
4. Jones R. N(2002). Basic counselling skills A helpers manual
5. Patterson H. C(1986). Theories of counselling and psychotherapy. New York. Harper
6. Rao S. N Counselling And guidance. Tata Mc Graw Hill. DELHI
7. Santrock W John (2007). "A tropical approach to life span development". Tata McGraw Hill Company, Delhi
8. Shertzer. B & Stone, S. C (1981). Fundamentals of Guidance. Boston. Houghton

VI SEMESTER
INTERIOR DECORATION

Code: HSRM 602 | **Total marks: 100**
Hours: 48 | **Theory: 70**
Instructions Hours/Week: 3 | **Internal Assessment: 30**

Objectives:

1. To Learn about housing and its principles
2. To understand about colour and its application in Interiors
3. To know about furniture, window treatment and accessories in interiors .

Unit I: Design Fundamentals **10 hours**

Design- Types of design- Structural and Decorative, Naturalistic, Stylized, Geometric, Abstract
Elements of Art- Line, form, colour, space, texture, Pattern, light.
Principles of design- Harmony, Proportion, Balance, Rhythm, Emphasis

Unit II: Colour **10 Hours**

Dimension of colour- Hue, Value, Intensity, Advancing and receding colours, cool and warm colours.
Prang Colour System- Primary, Secondary and Tertiary Colours, Colour Wheel.
Colour Harmonies- Related and Non-Related Colour Harmonies

Unit III: Furniture **8 Hours**
Factors to be considered in Selection, Principles of Furniture Arrangement, Furniture Arrangement for different rooms.

Unit IV: Window and window treatment **12 Hours**

Windows- Types of windows- casement, bay window, sliding window, awing window, picture window. **Window treatment-** Modes of Hanging Curtains- Café, Tier, Pricilla, Criss Cross, Glass, Pleated

Unit V: Accessories and flower arrangement **8 Hours**

Accessories- Classification of accessories.
Flower Arrangement- Styles, Basic Shapes, Care and Conditioning of Flower.

PRACTICAL

Code: HSRMP 602
Classes:13
Instructions Hours/Week: 3

Total marks: 50
Practical:35
Internal Assessment: 15

1. Design- Structural and Decorative design. Elements of Arts and Principles of design **4 classes**
2. Colour wheels, colour harmonies. **2 classes**
3. Furniture arrangement **3 classes**
4. Window treatment **3 classes**
5. Flower arrangement **2 classes**

References:

1. Prathap Rao (2003) Interior design Principles – Standard Publishers and Distributors, New Delhi.
2. Raja Rao and Subramanya (2003) Planning and Designing Residential Buildings – Standard Publishers and Distributors, New Delhi.
3.Sita Ram Premavathy ,Pannuparveen (2005) Interior Design and Decoration – CBS Publishers, , New Delhi.
4.Premlatha Mullick (2015) Textbook Of Home Science – Kalyani Publishers, New Delhi.

B.Sc. - NUTRITION AND DIETETICS, CHEMISTRY, ZOOLOGY (NDCZ)

Scheme of Study
3 Year B.Sc. Nutrition and Dietetics, Chemistry, Zoology (NDCZ)
I Semester Nutrition and Dietetics, Chemistry, Zoology

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 1	2 Languages	2 T	2x4	2x3	2x30	2x70	100	2x2	4
Part 2	Optional 1 Nutrition and Dietetics NDCZ101 Fundamentals of Nutrition	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 2 Chemistry I	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 3 Zoology – I Non – Chordata Part I	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
Part 3	Foundation Course/SDC	IT	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									16

II Semester Nutrition & Dietetics, Chemistry, Zoology

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 1	2 Languages	2 T	2x4	2x3	2x30	2x70	100	2x2	4
Part 2	Optional 1 Nutrition and Dietetics NDCZ 201 Family Meal Management	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 2 Chemistry – II	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 3 Zoology – II Non – Chordata Part II	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
Part 3	Foundation Course/SDC	IT	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									16

III Semester Nutrition & Dietetics, Chemistry, Zoology

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 1	2 Languages	2 T	2x4	2x3	2x30	2x70	100	2x2	4
Part 2	Optional 1 Nutrition and Dietetics NDCZ 301 Human Physiology	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 2 Chemistry - III	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 3 Zoology – III Chordata	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
Part 3	Foundation Course/SDC	IT	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									16

IV Semester Nutrition & Dietetics, Chemistry, Zoology

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 1	2 Languages	2 T	2x4	2x3	2x30	2x70	100	2x2	4
Part 2	Optional 1 Nutrition and Dietetics NDCZ 401 Nutritional Biochemistry	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 2 Chemistry – IV	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 3 Zoology – IV Comparative Anatomy, Cell Biology, Immunology and Histology	1 T	1x4	1x3	1x30	1x70	100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x3	1
Part 3	Foundation Course/SDC	IT	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									16

V Semester Nutrition & Dietetics, Chemistry, Zoology

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2	Optional 1	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Nutrition and Dietetics	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	NDCZ 501 Basics Dietetics								
	NDCZ 502	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Community Nutrition	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional 2	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Chemistry – V	1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Chemistry – VI	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional 3								
	Zoology –V	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Environmental Biology and Ethology	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Zoology - VI	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Developmental Biology and Organic Evolution	1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
Part 3	ISDC	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester Per Program									20

VI Semester Nutrition & Dietetics, Chemistry, Zoology

Parts	Subjects	Paper	Instruction Hours/Week	Duration of Exam (Hours)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2	Optional 1	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Nutrition and Dietetics	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	NDCZ 601								
	Advanced Dietetics								
	NDCZ 602								
	Food Science	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional 2	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Chemistry – VI	1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Chemistry – VII	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
		1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional 3								
	Zoology – VI	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Genetics and Biotechnology	1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Zoology - VII	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Animal Physiology and Techniques in Biology	1 P	1x3	1x3	1x15	1x35	1x50	1x1	1
Part 3	ISDC	1 T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester Per Program									20

SEMESTER I
Nutrition and Dietetics
Fundamentals of Nutrition

Code: NDCZ 101 | **Total Marks: 100**
Hours: 52 | **Theory: 70**
Instruction hours/week: 04 | **Internal Assessment: 30**

Objectives:

1. To understand the functions of food and role of various nutrients
2. To understand the practical guidelines for dietary needs of human nutrition at different stages of life

Unit I: Introduction to Nutrition **05 hours**

1. Terminologies: Nutrition, Nutrients, Nutritional Status, Malnutrition, balanced diet, Functions of Food, Food groups
2. Methods of cooking and preservation of Nutrients
   a. Water – boiling, steaming, pressure cooking
   b. Oil – Shallow and deep frying
   c. Air – Baking

Unit II: Macro Nutrients **12 hours**
Classification, Sources, Functions and Deficiency of carbohydrates, proteins and fats.

Unit III: Micro Nutrients - Sources, Functions and Deficiency **20 hours**

a. **Minerals:** Calcium, Phosphorous, Iron, Iodine, Zinc
b. **Vitamins:** Fat soluble vitamins (Vitamin A, D, E, K)
   Water soluble vitamins (B complex vitamins: Thiamine, Riboflavin, Niacin, Folic acid and Vitamin C)

Unit IV: Energy **05 hours**
Components of energy requirement, Factors affecting BMR

Unit V: Water and fibre **10 hours**
a. **Water:** Functions, sources and water balance
b. **Fibre:** Functions and sources

PRACTICAL

Code: NDCZ 101 P
No. of weeks: 1
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Weights and measures — 2 classes
2. Methods of cooking — 5 classes
   a. Water – boiling, steaming, pressure cooking
   b. Oil- Shallow frying, deep frying
3. Identification of nutrient rich foods — 2 classes
4. Planning and preparation of macro nutrient rich recipes — 2 classes
   a. Energy
   b. Protein
5. Planning and preparation of micro nutrient recipes — 2 classes
   a. Iron
   b. Vitamin A

References:

1. Raheena Begum., (2009), A Text book of Food, Nutrition & Dietetics, Sterling Publications, New Delhi.
2. Mudambi S R and Rajagopal M V., (2008), Fundamentals of Food, Nutrition and Diet Therapy by New Age International Publishers, New Delhi.
3. Srilakshmi. B., (2009), Human Nutrition, New Age International Publishers, New Delhi.
4. Swaminathan M., (2002), Advanced text book on Food & Nutrition.

SEMESTER II
Nutrition and Dietetics
FAMILY MEAL MANAGEMENT

Code: NDCZ 201
Hours: 52
Instruction hours/week: 04

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To understand the principles of meal management
2. To understand the practical guidelines for dietary needs of human nutrition at different stages of life

Unit I : Meal Management **06 hours**

a. Introduction to meal management – Balanced diet, food guide, basic five food groups
b. Principles, objectives and steps in meal planning and factors affecting meal planning

Unit II : Nutrition during pregnancy and lactation **12 hours**

a. Nutrition during pregnancy – physiological stage, nutritional requirement, dietary guidelines, food selection and complications in pregnancy
b. Nutrition during lactation – physiology, nutritional requirement, dietary guidelines special foods given during lactation, advantage and disadvantages of breast feeding and bottle feeding

Unit III : Nutrition during infancy and preschool **12 hours**

a. Nutrition during infancy – nutritional requirements and complimentary feeding
b. Nutrition during pre -school - growth during preschool age, nutrition needs, nutrition related problems, feeding pattern

Unit IV : Nutrition during school age and adolescence **12 hours**

a. Nutrition of school age children – nutritional requirement, dietary guidelines, importance of snacks and packed lunch
b. Nutrition during adolescence – growth and nutrition needs, food choices, eating habits, nutrition related problems and disorders

Unit V : Nutrition during adulthood and old age **10 hours**

Nutrition during adulthood and old age – physiological changes, factors affecting food intake, nutritional requirements, dietary guidelines, nutritional problems

PRACTICAL

Code: NDCZ 201 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Introduction to Recommended Dietary Allowances	2 classes
2. Balanced Diet and Food Exchange List	3 classes
3. Planning and preparation of balanced diet for: a. Pregnant woman b. Lactating woman c. Adolescent girl	3 classes
4. Preparation of complimentary food for infant a. Preparation of a nutrient dense snack for pre-schooler b. Preparation of packed lunch for school going child	5 classes

References:

1. Srilakshmi. B., (2007), Dietetics, New Age International Publishers, New Delhi.
2. Srilakshmi. B., (2002), Nutrition Science, New Age International Publishers, New Delhi.
3. Swaminathan M., (2002), Advanced text book on Food & Nutrition. Vol 1
4. Gopalan C, Ram Sastry B.V and S.C Subramanian (2009), Nutritive Value of Indian Foods, NIN – ICMR Hyderabad
5. Mudambi S R and Rajagopal M V., (2008), Fundamentals of Food, Nutrition and Diet Therapy by New Age International Publishers, New Delhi.

SEMESTER III
Nutrition and Dietetics
HUMAN PHYSIOLOGY

Code: NDCZ 301
Hours: 52
Instruction hours/week: 04

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To study the structure and physiological functions of different organs of the body
2. Advance their understanding of some of the relevant issues and topics of human physiology
3. Enable the students to understand the integral function of all body systems

Unit I: Digestive System **08 hours**

a. Organs of the Gastro Intestinal Tract
b. Physiology of digestion in the mouth, stomach and intestine
c. Absorption of digested food

Unit II: Cardiovascular System **08 hours**

a. Blood components – Plasma and formed elements, functions of blood
b. Coagulation and blood groups
c. Gross anatomy of Human Heart
d. Mechanism of working of Heart: Cardiac Cycle, Stroke Volume, Cardiac output, complete double circulation

Unit III: Respiratory System and Excretory System **12 hours**

A. Respiratory System

a. Gross anatomy of the human respiratory system
b. Mechanism of breathing – Inspiration and Expiration
c. Pulmonary air volumes – Tidal volume, Residual Volume, Inspiratory reserve Volume, Expiratory Reserve volume, Vital Capacity and Total Lung Capacity

B. Excretory System

a. Gross internal structure of Kidney, Structure of Nephron
b. Physiology of Urine formation
c. Urine volume, physical properties and chemical composition

UNIT IV: Nervous System and Sense Organs **12 hours**

A. Nervous System

a. Components – Central Nervous System and Peripheral Nervous System
b. Structure of Human Brain and functions

c. Human Spinal Cord – Structure and Functions

B. Sense Organs: Structure and functions of eye, ear, nose, skin, tongue

UNIT V: Endocrine System and Reproductive System **12 hours**

A. Endocrine System

a. Functions and types of endocrine glands – Pituitary gland, Thyroid gland, Parathyroid gland, Adrenal gland, and Islet of Langerhans

b. Effects of hypo and hyper secretion

B. Reproductive System

a. Male Reproductive System – Structure and functions

b. Female Reproductive System – Structure and functions

PRACTICAL

Code: NDCZ 301 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1.	Determination of Bleeding time and Clotting time Blood Grouping	4 classes
2.	Estimation of Haemoglobin –Sahli's Method	4 classes
3.	Measurement of body temperature – Mouth and Arm pit Measurement of Blood Pressure	3 classes
4.	Pulse and Respiratory rate at rest and after exercise	2 classes

References:

1. Guyton A C (1985), Functions of Human Body, 4th Ed, W B Sanders Company, Philadelphia
2. Jain A K (1992), Textbook of Physiology, Vol 1 & II, Avichal publishing Co, New Delhi
3. Sherwood L (2008), Principles of Human Physiology
4. Ross and Wilson (2014), Anatomy and Physiology in Health and Illness, Churchill Livingstone London

SEMESTER IV
Nutrition and Dietetics
NUTRITIONAL BIOCHEMISTRY

Code: NDCZ 401
Hours: 52
Instruction hours/week: 04

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives
1. To understand the fundamentals of biochemistry and metabolism
2. To study the metabolism of micronutrients in human nutrition

Unit I: Bioenergetics — **8 hours**
a. Introduction
b. Thermodynamic principles and laws
c. Couples medicines

Unit II: High energy compounds — **10 hours**
a. Energy flow
b. Electron transport system(organisation and overview)
c. Oxidative Phosphorylation

Unit III: Carbohydrate metabolism — **12 hours**
a. Glycolysis
b. TCA cycle
c. Gluconeogenesis
d. Pentose phosphate pathway
e. Disorders of carbohydrate metabolism

Unit IV : Protein metabolism — **10 Hours**
a. General reactions
b. Urea cycle

Unit V : Lipid metabolism — **12 Hours**
a. Beta oxidation of fatty acids
b. Overview of fatty acids biosynthesis
c. Cholesterol biosynthesis

PRACTICAL

Code: NDCZ 401 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Preparation of buffer-Phosphate and Citrate and Demonstration of pH of buffers — 4 classes
2. Qualitative tests for Carbohydrates – reducing And non-reducing sugars — 3 classes
3. Qualitative tests for amino acids — 3 classes
4. Estimation of vitamin C in foods — 3 classes

References:

1. Biochemistry for BSc students, Bangalore University Publications
2. Biochemistry by Satynarayana U
3. Normal and Therapeutic Nutrition by Robinson and Lawler

SEMESTER V
Nutrition and Dietetics
BASIC DIETETICS

Code: NDCZ 501
Hours: 48
Instruction hours/week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To orient students about the basic concepts of Dietetics
2. To help the students to formulate diets in different diseases

Unit I: Introduction to clinical nutrition **03 hours**

a. Role of dietician – hospital and community level
b. Principles of Nutritional Care

Unit II: Hospital diets **03 hours**

a. Types of hospital diets
b. Principles of planning a normal diet, objectives of diet therapy
c. Nutrition support techniques – Enteral feeding and Parenteral feeding

Unit III: Dietary management in common disease conditions **14 hours**

a. Febrile Diseases
   Acute – Typhoid
   Chronic fever – Tuberculosis
   Intermittent – Malaria

b. Gastro Intestinal Disorders – etiology, symptoms and treatment of Gastritis, Peptic Ulcer, Diarrhoea, Constipation

Unit IV: Diet in Energy Imbalance and Food Intolerance **14 hours**

a. Diet in Energy Imbalance – underweight and Obesity, importance of weight management, physiological complications, Etiology and Dietary Management
b. Food Intolerance and allergy – Common food allergens, test for allergy – skin test and Elimination diet, Dietary Management

Unit V: Surgery, Burns and Cancer **14 hours**

a. Surgery – Metabolic consequences, stages of convalescence, Pre and post-operative diets
b. Burns – Stages, Metabolic changes, Nutritional management during burns
c. Cancer – Types, etiological factors, clinical manifestations, nutritional management

PRACTICAL

Code: NDCZ 501 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. a. Introduction to food exchange list and — 4 classes

b. Hospital diets: Fluid diet, Soft diet, Bland

2. Planning and preparation of diet during — 3 classes

a. Typhoid
b. Tuberculosis

3. Planning and preparation of diet during — 3 classes

a. Peptic ulcer
b. Constipation

4. Planning and preparation of diet during — 3 classes

a. Underweight
b. Obesity

References:

1. Bamji , M.S., Rao, P.N., Reddy, V (Eds) (1996): Textbook of Human Nutrition, Oxford and IBH publishing Co.Pvt.Ltd., New Delhi.
2. Mahan, L.K. &Ecott-Stumps, S. (2000): Krause's Food, Nutrition and Diet Therapy, 10th Edition, W.B.Saunders Ltd.
3. Shils, M.E,; Olson, J.-,Shike, M. and Roos, C (1998). Modern Nutrition in Health and Disease,9" edition Willams and Williams. A Beverly Co.London.
4. Indian Council of Medical Research.Nutritive Value of Indian Foods – Latest Publication.

SEMESTER V
Nutrition and Dietetics
COMMUNITY NUTRITION

Code: NDCZ 502
Hours: 48
Instruction hours/week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To gain insight to the national nutritional problems and their implementation
2. To familiar the students regarding the prevention and management of nutritional problems

Unit I : Introduction to Community Nutrition **02 hours**

a. Definition of Nutrition and Health
b. Nutritional problems confronting the country

Unit II: Nutritional problems in India **12 hours**

Prevalence, Etiology and clinical manifestations, Preventive and Corrective measures for

a. Malnutrition – PEM
b. Vitamin A Deficiency
c. Nutritional Anaemia

Unit III : Assessment of Nutritional Status in community **14 hours**

a. Anthropometric Assessment: Measurement of body weight, stature, mid upper arm circumference, standards (NCHS –weight for height, weight for age)
b. Clinical Assessment: clinical signs of nutritional disorders
c. Dietary Assessment: Family dietary survey, Assessment of dietary intake of individuals

Unit IV: Food and Nutrition Security **05 hours**

a.Definition of food security, nutrition security; determinants of food security
b.Food security system in India – PDS

Unit V: Strategies to combat nutritional problems **15 hours**

a.Diet or food based strategies
b. Supplementation
c.Fortification and Enrichment
d. Nutrition and Health Education

National and International organizations to combat malnutrition

1. National organizations – ICMR, NIN, CFTRI
2. International organizations – FAO, WHO, UNICEF

PRACTICAL

Code: NDCZ 502 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Preparation of Audio Visual aids for — 4 classes
   a.PEM
   b.Vitamin A deficiency
   c.Anaemia
2. Preparation of Low Cost Recipes for PEM, Vitamin A deficiency and Anaemia — 3 classes
3. Anthropometric and dietary assessment — 3 classes
4. Lecture and method demonstration on nutrition related topic — 3 classes

References:

1. Jelliffe D B 1966, The assessment of Nutritional status of the community – WHO monograph series, Geneva
2. Park and Park, 2000, Preventive and Social medicine 15thEdn, M/s BanarsidasBhanot publication
3. Mahtab S Bamji, N PrahladRao, Vinodini Reddy, 1999, Human Nutrition, Oxford and IBH publishing Co Pvt Ltd
4. Owen A Y and Frackle R T., (1996): Nutrition in the Community. The Art of Delivering Services, 2nd Edition Times Mirror/Mosby

SEMESTER VI
Nutrition and Dietetics
ADVANCED DIETETICS

Code: NDCZ 601
Hours: 48
Instruction hours/week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To understand the different diseases
2. To help students to formulate diets for different diseases.

Unit I: Diseases of Liver, Gall bladder & Pancreas **12 hours**

Etiology, symptoms and dietary management of viral hepatitis, Cirrhosis, alcoholic liver disease, hepatic coma, Gall stones, Pancreatitis

Unit II: Metabolic disorder **08 hours**

Diabetes mellitus: Types, symptoms, diagnosis, causes and complication.

Unit III: Renal disorders **08 hours**

Etiology, symptoms Diagnosis and MNT in: Glomerulonephritis, Nephrosis, Renal Calculi

Unit IV: Cardiovascular disorders **12 hours**

Etiology, risk factors, signs and symptoms, nutritional management in: Atherosclerosis, Hypertension, Congestive cardiac failure

Unit V: Drug and Nutrient interaction **08 hours**

Drug – drug/ drug – nutrient interaction – effect on ingestion, digestion, absorption and metabolism of nutrients, effect on nutritional status, effect on organ function, drug dosage and efficacy

SEMESTER VI
Nutrition and Dietetics
ADVANCED DIETETICS

Code: NDCZ 601
Hours: 48
Instruction hours/week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To understand the different diseases
2. To help students to formulate diets for different diseases.

Unit I: Diseases of Liver, Gall bladder & Pancreas **12 hours**

Etiology, symptoms and dietary management of viral hepatitis, Cirrhosis, alcoholic liver disease, hepatic coma, Gall stones, Pancreatitis

Unit II: Metabolic disorder **08 hours**

Diabetes mellitus: Types, symptoms, diagnosis, causes and complication.

Unit III: Renal disorders **08 hours**

Etiology, symptoms Diagnosis and MNT in: Glomerulonephritis, Nephrosis, Renal Calculi

Unit IV: Cardiovascular disorders **12 hours**

Etiology, risk factors, signs and symptoms, nutritional management in: Atherosclerosis, Hypertension, Congestive cardiac failure

Unit V: Drug and Nutrient interaction **08 hours**

Drug – drug/ drug – nutrient interaction – effect on ingestion, digestion, absorption and metabolism of nutrients, effect on nutritional status, effect on organ function, drug dosage and efficacy

PRACTICAL

Code: NDCZ 601 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Planning and preparation of diet during — 3 classes

a. Viral Hepatitis
b. Cirrhosis(only planning)

2.Planning a diet for IDDM and NIDDM patients — 3 classes

(Preparation for NIDDM only)

3.Planning and preparation of diet during — 4 classes

a. Glomercular nephritis (preparation)
b. Nephrosis
c. Kidney stones (calcium oxalate)

4.Planning and preparation of diet during — 4 classes

a. Atherosclerosis
b. Hypertension
c. Congestive cardiac failure

References:

1. Srilakshmi B, (2007), Dietetics. New Age International publishers. New Delhi.
2. Mahan, L.K. &Ecott- Stump, S (2000): Krause's Food, Nutrition and Diet Therapy, 12th Edition, W. B. Saunders Ltd.
3. Whitney, E.N. &Rolfes, S.R. (1999): Understanding Nutrition and Diet Therapy, 8th Edition, West Wadsworth, An International Thompson Publishing Co.
4. Helen M Baker, 2002, Nutrition and Dietetics for health care, 10th edition, Churchill Living stone.
5. Susuan A Lanham, I A Macdonald and Helen M Roche, Nutrition and metabolism, 2011, The nutrition Society Textbook series, 2nd edition, Wiley – Blackwell
6. Marinos Elia, olleLjung Quist, Rebecca J Stittor and Susuan A Lanham, New Clinical Nutrition, 2nd edition, 2013, Wiley – Blackwell

SEMESTER VI
Nutrition and Dietetics
FOOD SCIENCE

Code: NDCZ 602
Hours: 48
Instruction hours/week: 03

Total Marks: 100
Theory: 70
Internal Assessment: 30

Objectives:

1. To study the basic propertied of foods
2. To understand methods of food preservation, storage and retaining quality of foods
3. To observe and study reaction of foods based on their composition

Unit I: Introduction to Food Science **07 hours**

a. Properties of food, definitions of
   Boiling, melting and freezing points
   pH value, Osmosis and Osmotic pressure
   Bound and Free water
   Colloid, sols, gels, emulsions and foams
b. Beverages: Classification and Composition
   Non alcoholic beverages – carbonated and non carbonated
   Alcoholic beverages – Wines, beer, distilled spirits

Unit II: Cereals and Pulses **10 hours**

a. Cereals
   Grain products – composition of wheat, Rice, Ragi and Minor millets
   Processing – Malting and cooking of cereals
   Breakfast Cereals – Types
b. Pulses
   Composition, toxic constituents and cooking of pulses
c. Methods of processing to retain and enhance nutritional quality of foods
   Germination, fermentation

Unit III: Fruits, Vegetables, Milk, Egg, Meat, Fish and Poultry **13 hours**

a. Fruits and vegetables – Composition, pigment and flavouring constituents, changes during cooking, Enzymatic browning
b. Milk and Milk products
   Composition
   Processing of milk
   Types of processing milk
   Milk products – Butter, ghee, Fermented – Cheese, yogurt; Unfermented – ice cream
c. Egg, Meat, Fish, Poultry – Composition, methods of cooking and storage

Unit IV: Sweeteners, Fats and oils **10 hours**

a. Natural Sweetening agents
   Sugar, Jaggery, Honey and Molasses
   Behaviour of syrups at different temperatures – Cold water test
   Crystallization and Caramelization
b. Artificial sweeteners – sugar substitutes
c. Fats and Oils
   Composition and Types
   Changes during heating (smoking point)
   Hydrogenated fats
   Rancidity

Unit V: Food preservation **08 hours**

a. Causes of food spoilage and methods of food preservation
b. Food additives – Types
   Food adulteration and detection
   Food standards

PRACTICAL

Code: NDCZ 602 P
No. of weeks: 13
Hours/week: 03

Total Marks: 50
Practical: 35
Internal Assessment: 15

1. Starch Cookery — 3 classes
   a. Gelatinization of starches – Rice, wheat, Ragi, corn flour
   b. Preparation of fermented product – Idli

2. A) Pulse cookery
   a. Whole grains – Effect of soaking, Germination — 3 classes
   b. Dhals – Effect of acid, alkali on cooking time

   B) Vegetables and Fruits
   a. Effect of methods of cooking and added substances on pigments
   b. Enzymatic browning in fruits and its prevention

3. a. Milk Cookery – Casein formation (Paneer), curd setting — 3 classes
   b. Egg cookery – Boiled egg (Soft and hard), prevention of ferrous sulphide formation

4. a. Sugar and Jaggery – Stages of sugar cookery, Crystallization — 2 classes
   Preparation of groundnut toffee

5. Fats and oils — 2 classes
   a. Shallow frying – Vegetable cutlet
   b. Deep fat frying – Papad

References:

1. Srilakshmi. B. (2010), Food Science, 5th ed, New Age International Publishers
2. ShakuntalaManay N and ShadaksharaSwamy, (2008), Foods: Facts and Principles, New Age International Publishers
3. MudambiSumati R, RaoShalini M, Rajagopal M V (2006), Food Science, 2nd Ed, New Age International Publishers
4. Subbulakshmi G, UdipiShobha A, (2006), Food Processing and Preservation, 1st Ed, New Age International Publishers
5. Swaminathan M, (1990), Fppd Science – Chemistry and Experimental Foods, 2nd Ed, The Bangalore Printing and Publishing Co. Ltd. Bangalore