Smt.VHD Central Institute of Home Science
Seshadri Road, Bangalore-560 001

Smt.VHD Central Institute of Home Science, Bangalore is one of the premier women's Colleges in Karnataka, affiliated to Bangalore University and is a Government College. The Home Science Department was founded in 1951 and in 1961 Smt. VHD Central Institute of Home Science came into existence, as an answer to the increasing demands for higher education among young women**.**

Home Science is a scientifically planned interdisciplinary field of study with its mission to empower girl students. Home Science deals with various aspects of daily living encompassing consumer science, nutrition, parenting, human development, interior decoration, family economics, clothing and textiles, resource management and counselling.

Home Scientists are equipped with knowledge to face new challenges, cope with knowledge explosion, technological advancements, new developments and growing needs of individuals at both national and global scenario.

The Institute trains its graduates towards a meaningful career in diverse sectors such as hospitals, Welfare Departments, Education, Banking, Industries, Media and Communication, Health Department etc. It also provides a platform for self-employment in diverse fields to meet the present day needs at the National and global level.

The Institute offers Home Science subjects at the Pre University level in various combinations along with other science and art subjects.

At the Undergraduate level, under the choice based credit system (CBCS) students can opt for pure Home Science studying Human Development, Early Childhood Education and Administration, Resource Management, Textiles & Clothing, Extension Education &Communication and Food &Nutrition. Students also have the option to obtain their under graduate degree in Clinical Nutrition & Dietetics and Fashion And Apparel Design. They can also opt for Home Science as one of the optional subjects, either with pure science or art subjects.

At the Post Graduate level students can further specialise in any discipline of Home Science ie Human Development, Early childhood Education and Administration, Resource Management, Textiles & Clothing, Extension Education &Communication, Food &Nutrition and Clinical Nutrition and Dietetics.

Students interested in pursuing research, can progress to Doctoral studies in any one of the six disciplines of Home Science as the Institution is a recognised research centre by the Bangalore University.

Prof.O.Obaiah, who has a teaching experience of 36 years, is currently leading the college with his able administration.

Courses offered under the B.Sc stream and subjects studied each semester:

B.Sc Composite Home Science

I, II, III, IV Semester

Optional I (HD & ECEA)
Human Development and Early childhood Education & Administration

Optional II (RM & TC)
Resource Management and Textiles & Clothing

Optional –III (FN & EEC)
Food &Nutrition and Extension Education & Communication

V, VI Semester
Students can opt for **any three** of the following papers:

- Human Development
- Early childhood Education and Administration
- Resource Management
- Textiles and Clothing
- Food and Nutrition
- Extension Education and Communication

VII, VIII Semester (Honors' Program)
The students can opt for any one of the papers taken up in the V and VI semester and go on to obtain an Honours degree in that paper.

B.Sc Clinical Nutrition and Dietetics

Scheme of study has been drawn up by the Food and Nutrition Department. Students will only study Nutrition and Dietetics papers and other papers related to the subject.

B. Sc Fashion and Apparel Design

Scheme of study has been drawn up by the FAD board of studies. Students will only study Fashion and Apparel design papers and other papers related to the subject.

B.Sc/BA Home Science as one optional

Optional 1- Home Science

Semester-I (HD & ECEA)
Human Development and Early Childhood Education and Administration

Semester-II (RM & TC)
Resource Management and Textiles and Clothing

Semester-III (FN & EEC)
Food and Nutrition and Extension Education and Communication

Semester- IV (ED)

Entrepreneurship Development

Semester V, VI

B.Sc. Home Science as one optional students can opt for any one of the following papers continue the same paper in the VI semester

- Human Development
- Early childhood Education and Administration
- Resource Management
- Textiles and Clothing
- Food and Nutrition
- Extension Education and Communication

B.A Home Science as one optional student can opt for any one of the following papers and continue the same paper in the VI Semester

- Human Development
- Early childhood Education and Administration
- Resource Management
- Extension Education and Communication

Note: BA students are not eligible to take up Food and Nutrition or Textiles and Clothing papers as they have not studied chemistry in the previous semesters.

VII, VIII Semester (Honors' Program)

The students will continue to study the Home Science optional selected in the V semester in the VII and VIII semester to obtain an Honors' degree in the selected Home Science specialization.

Smt.VHD Central Institute of Home Science
Seshadri Road,
Bangalore-560 001
3 Year B.Sc Composite Home Science (CBCS)

a) I/II/III/IV Semester

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 (HD & ECEA)**	1T	1x4	1x3	1x30	1x70	100	1x2	2
	Human Development and Early Childhood Education & Administration	1P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 2 (RM & TC)	1T	1x4	1x3	1x30	1x70	100	1x2	2
	Resource Management and Textiles and Clothing	1P	1x3	1x3	1x15	1x35	1x50	1x3	1
	Optional 3 (FN & EEC)	1T	1x4	1x3	1x30	1x70	100	1x2	2
	Food & Nutrition and Extension Education and Communication	1P	1x3	1x3	1x15	1x35	1x50	1x3	1
Part 3	Foundation Course/SDC	1T	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									**16**

b) V, VI Semester (Composite Home Science)

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part-2	**Optionals**								
	Human Development	3x2T 3x2P	3x2 x3 3x2x3	3x2x3 3x2x3	3x2x30 3x2x15	3x2x70 3x2x35	3x2x100 3x2x50	3x2x2 3x2x1	12 6
	Early Childhood Education and Administration	3x2T 3x2P	3x2 x3 3x2x3	3x2x3 3x2x3	3x2x30 3x2x15	3x2x70 3x2x35	3x2x100 3x2x50	3x2x2 3x2x1	12 6
	Resource Management	3x2T 3x2P	3x2 x3 3x2x3	3x2x3 3x2x3	3x2x30 3x2x15	3x2x70 3x2x35	3x2x100 3x2x50	3x2x2 3x2x1	12 6
	Textile and Clothing	3x2T 3x2P	3x2 x3 3x2x3	3x2x3 3x2x3	3x2x30 3x2x15	3x2x70 3x2x35	3x2x100 3x2x50	3x2x2 3x2x1	12 6
	Food and Nutrition	3x2T 3x2P	3x2 x3 3x2x3	3x2x3 3x2x3	3x2x30 3x2x15	3x2x70 3x2x35	3x2x100 3x2x50	3x2x2 3x2x1	12 6
	Extension Education and Communication	3x2T 3x2P	3x2 x3 3x2x3	3x2x3 3x2x3	3x2x30 3x2x15	3x2x70 3x2x35	3x2x100 3x2x50	3x2x2 3x2x1	12 6
Part-3	ISDC	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**20**

***Note: for part 2 students can select any three out of 6 optional Home Science subjects listed in part 2 for the V Semester and continue the same optional in the VI semester**

C)VII Semester Honors Program or 1 semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2	HD or ECEA or RM or T&C or FN or EEC	4T 4P	4x4 4x4	4x3 4x4	4x30 4x15	4x70 4x35	4x100 4x50	4x4 4x2	16 8
		4T 2P	4x4 2x8	4x3 2x6	4x30 2x30	4x70 2x70	4x100 2x100	4x4 2x4	16 8
Part 3	Soft Core	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**26**

VIII Semester Honors Program or 1 semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part -2	HD or ECEA or RM or T&C or FN or EEC	4T 2P	4x4 2x4	4x3 2x4	4x30 2x15	4x70 2x35	4x100 2x50	4x4 2x2	16 4
		4T 1P	4x4 1x8	4x3 1x6	4x30 1x30	4x70 1x70	4x100 2x100	4x4 1x4	16 4
		Project Work*	8	Report Evaluation	1x30	1x70	1x100	1x4	4
Part-3	Soft Core	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester per program									**26**

***There may be one or two practical work in lieu of the Project work.**

d) III Semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part -2	HD or ECEA or RM or T&C or FN or EEC	4T 2P	4x4 2x4	4x3 2x4	4x30 2x15	4x70 2x35	4x100 2x50	4x4 2x2	16 4
		4T 1P	4x4 1x8	4x3 1x6	4x30 1x30	4x70 1x70	4x100 1x100	4x4 2x2	16 4
Part-3	Open elective	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
Total Credits per Semester per program									**24**

IV Semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part -2	HD or ECEA or RM or T&C or FN or EEC	4T 2P	4x4 2x4	4x3 2x4	4x30 2x15	4x70 2x35	4x100 2x50	4x4 2x2	16 4
		4T 1P	4x4 1x8	4x3 1x6	4x30 1x30	4x70 1x70	4x100 2x100	4x4 1x4	16 4
		Project Work*	8	Report Evaluation	1x30	1x70	1x100	1x4	4
Total Credits per Semester per program									**24**

***There may be one or two practicals in lieu of the Project work.**

Semester – I
Optional 1-H.Sc-1
(Composite Home Science)

Human Development and Early Childhood Education & Administration

Code: HDECEA – 101 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

INTRODUCTION TO HUMAN DEVELOPMENT (02hrs/Week)

OBJECTIVES:
To enable the students

- To introduce the students to the field of Human Development, the scope and significance of Human Development.
- To sensitize the students to the biological foundations of life.

Unit-I **Importance of Human Development** **8 Hours**

- Meaning, Definition, scope of Human Development,
- Growth and development and Principles of development
- stages, Developmental tasks across life span

Unit-II **Biological foundations** **8 Hours**

- The sex cells, cell division and gamete formation. Genetic inheritance, Types of inheritance.
- Influence of heredity and environment.

Unit-III **Scope of Human Development-** **10 Hours**

- Relationship of Human development with other disciplines- Biology, Psychology, Sociology, Medicine and Education.
- Career opportunities in Human Development-Education and Research, clinical and counselling, medical, nursing, family and relations.

INTRODUCTION TO EARLY CHILDHOOD YEARS (02hrs/Week)

OBJECTIVES:
The paper will enable the student to

- recognize the importance of early childhood from the cognitive, social, cultural and economic perspectives
- learn about the co-existence of plurality and diversity of childhood in contemporary Indian society
- understand evolving notions about children and appreciate different cultural notions of childhood and be aware of classroom diversity.

Unit-IV **08 Hours**

- Meaning of childhood. Defining the focus on early childhood in the lifespan.
- Awareness of the significance of early childhood and understandings from neuro-science perspective, rights perspective, economic investment and the criticality of early years in the human life cycle. Growing understanding of the need and importance of early stimulation and nature of interventions for optimal growth**.**
- Appreciate the difference in care and education and recognize the value of developmentally appropriate interactions for optimal development.

Unit-V **10 Hours**

- Early Childhood in contexts of family, school, community and geographical areas.
- Socio -cultural pluralities such as influences of multiple languages, regional and religious influences on children and ECCE classroom transactions.
- Economic influences in reference to childhood and its impact on everyday classroom schedules.

Unit-VI **08 Hours**

- Different kinds of early childhood settings and the role of care givers for meeting the needs of children in crèches, anganwadis, balwadis, fee paying ECCE centres.
- Evolving and changing nature of early education and ECCE centres
- Cultural differences in the ECCE classrooms and building childhood identity by linking diversity of dress, food, celebrations, songs and dance

PRACTICALS

HDECEA: 101 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

INTRODUCTION TO HUMAN DEVELOPMENT

1. Develop an album of stages of Human Development.
2. Using a developmental milestone checklist observe/interview and report the development of infant/preschool child/school child.
3. Organize a talk on types of inheritance. Report the same.

INTRODUCTION TO EARLY CHILDHOOD YEARS

4. Visit a locality and other public spaces to note all the facilities available for children for play, Learning and skill building.
5. Collect local jingles, rhymes, games and stories related to young children in your locality.
6. Observe children in any family and note the nature of relationships and exchanges.
7. Observe adult child interaction in families from different social backgrounds and collect a list of child related festivity in families from different regions.

REFERENCES:

INTRODUCTION TO HUMAN DEVELOPMENT

1. Berk, L.E., (2007), Development through the Life Span, Pearson Education, New Delhi.
2 Devadas, R.P; Jaya, N(2002), A Textbook on Child Development, Macmillan India Limited, Madras.
3. Digumarti Bhaskara Rao (1997), Care of the Child, vol and II, Discovery Publication House, New Delhi.
4. Jegannath Mohanty and Bhagyadhar Mohanty (1994), Early Childhood Care and Education (ECCE), Deep and Deep pub,New Delhi.
5. Hurlock, E.B., (2004), Child Growth and Development, Tata Mc.Graw Hill Company
6. Papalia, D.E., and Olds, S.W., (2005), Human Development, Tata Mc.Graw Hill Company,New York.
7. Rice Philip. K (2001) Human development, Prentice Hall, New Jersy
8. Santrock, J.W., (2006), Child Development, Tata Mc.Graw Hill Publishing Company, NewDelhi
9. Suriakanthi, A., (2005), Child Development, Kavitha Publications, Gandhigram, Tamil Nadu.

INTRODUCTION TO EARLY CHILDHOOD YEARS

10. Berk, L. (2006). Child development. New York: Allyn & Bacon
11. Hardamn, M.l., Drew, C.J., and Egan, M.W. (2005). Human Exceptionality: society, school and family. Boston: Allyn and Bacon
12. Jaya and Subhadra , Parenting children below two years, Abacus Foundation, Coimbatore
13. Nasim Siddiqi, Suman Bhatia and Suptika Biswas (2007) Early Childhood Care and Education – Book IV, DOABA HOUSE, New Delhi.
14. Santrock. (2006). Child Development. New York: Mc Graw- Hill.
15. Swaminathan, M. (1998). The first five years: a critical perspective on early childhood care and education in India. New York: Sage

Semester -I
Optional II-Home Science – 2
(Composite Home Science)

Resource Management & Textiles and Clothing

Code: RMTC – 102 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

FUNDAMENTALS OF MANAGEMENT (02hrs/Week)

OBJECTIVES:
To understand

- Basic concepts of Management
- Decision making process in Management

Unit I **12 Hours**

Philosophy of Management: Concepts of Management-Management as a resource, as a field of study, as a group, as an activity, as a process. Values, Goals, Standards – Concepts, Classification and significance in Management

Unit II **7 Hours**

Decision Making: Definition, Types of Decision, Decision Making Process, Factors Effecting Decision Making

Unit III **7 Hours**

Management Process – Planning, Controlling, Evaluating – Meaning, Importance and Process.

INTRODUCTION TO TEXTILES SCIENCE (02hrs/Week)

OBJECTIVE:

- To gain knowledge on fibre, yarn and fabrics of their production, properties and uses.
- To study the woven, knitted and Non woven textiles.

UNIT-I V **09 Hours**

- Terminology on polymer, polymerization, orientation, crystallinity, definition on fibre, fibre classification, physical and chemical properties of fibre.
- Fibre manufacturing process , properties and uses – cotton, silk , wool, rayon, polyester, elastomer.

UNIT –V **08 Hours**

- Spinning system- Conventional spinning for cotton, wool, and silk.
- Dry and wet and melt spinning for manmade and synthetic fibres. Fibre blends.

UNIT-VI **09 Hours**

- Fabric construction- parts and function of a loom, basic weaves, dobby, jacquard, pile and crepe weaves.
- Knitting and non woven- Knitting- Types, warp and weft knit. Non woven- Film, foam, fur, bonding, felting, braiding and quilting.

PRACTICAL

RMTC: 102 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

FUNDAMENTALS OF MANAGEMENT

Unit I: List the various concepts of Management and its implications.

Unit II: a) List the Values you have imbibed from the family.

b) List the Goals set for yourself and how do you plan to achieve it

Unit III: Identify a problem and using decision tree how you solve it.

Unit IV: Plan a group event and explain the management process

INTRODUCTION TO TEXTILES SCIENCE

UNIT-V: Fibre identification- Burning, microscopic, visual – Cotton, Silk, Wool, Rayon, Polyester.

UNIT-VI: Drawing basic weaves with a checker board design.
Collection of woven, knitted and non woven samples.

UNIT- VII: Visit to spinning and weaving unit.

REFERENCE:

FUNDAMENTALS OF MANAGEMENT

1. Naidu.N.V.R and Krishna Rao.T,(2008), Management and Entrepreneurship, I K International Publishing House pvt Ltd.
2. Reddy.P.N, Tripathi.P.C, Appannaiah.H.R, (2003), Essentials of Management, Himalaya Publishing House.
3. Shivalingam.T, (2005), Fundamentals of Management, Vrinda Publications Ltd, New Delhi
4. Omvir Chaudhry and Prakash Singh, (2011), Principles of Managaement,New age International publishers.

INTRODUCTION TO TEXTILES SCIENCE

5. 1.M.Joseph, HolfRinechants (1995) Essentials of Textiles, Winston Publications
6. Moncrief R.W, (1980) Manmade Fibres, John Willey and Sons, New York
7. CorbmanB(1990) Fibre to Fabric, Woods publications
8. A.F Barker,(1985) Principles of Weaving, John Willey and Sons, New York
9. 5.Cook J Gordon,(1975) Handbook of Textile FibresMerrow Publishing Co. Ltd., England.

Semester – I
Optional III-H.Sc-3
(Composite Home Science)

Food and Nutrition & Extension Education and Communication

Code: FNEEC – 103 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

BASIC HUMAN PHYSIOLOGY (02hrs/Week)

OBJECTIVES:

1. To study the structure of different organs of the body
2. To study physiological functions of different organs of the body

Unit I **02 Hours**

Basic tissues

- Structure of a cell
- Basic tissues- Structure, Classification and functions

Unit II **12 Hours**

a) Digestive system
   - Structure and functions of organs of the Gastrointestinal Intestinal Tract
   - Digestion, absorption and utilization of food

b) Circulatory system
   - Blood- composition, coagulation and blood groups
   - Structure of heart and types of blood circulation

c) Respiratory system
   - Structure and functions of Respiratory organs
   - Mechanism of respiration

Unit III **12 Hours**

a) Excretory system
   - Structure and functions of excretory organs
   - Composition of urine and Urine formation

b) Reproductive system- Structure and function of reproductive organs

c) Endocrine system- Functions and types of endocrine glands, Effect of hypo and hyper secretion

BASICS OF EXTENSION EDUCATION (02hrs/Week)

OBJECTIVES:

- To familiarize students to the concepts and principles of Extension Education.
- To develop understanding about the process and trends in Communication.

Unit-IV Extension Education **10 Hours**

- Concept and scope of extension education.
- Philosophy and principles of extension education.
- Role and qualities of the extension facilitator.
- Methods of approaching people – individual, group and mass approaches.

Unit-V Communication **08 Hours**

- Definition, types, importance and meaning of communication.
- Elements and functions of communication.
- Communication models and barriers in communication.
- Communication for social change.

Unit-VI Communication Process **08 Hours**

- Concept, classification and methods of communication.
- Role of mass media in communication.
- Challenges in communication in contemporary society.
- Signs, symbols and codes in communication.

PRACTICALS

FNEEC: 103 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

BASIC HUMAN PHYSIOLOGY

Unit I Types of tissues

- Microscopic examination of prepared slides
  Epethilium- Straitfied, Squamous, Ciliated, columnar
  Connective tissue- adipose, bone, aerolar
  Muscle-smooth, cardiac and striated
  Nerve- nerve cell

Unit II Blood

- Microscopic examination of prepared slides
  Fresh blood and stained blood smear
- Testing of blood groups
- Bleeding and clotting time

Unit III Haemoglobin estimation using hemometer
RBC count (demonstration)
Pulse rate- at rest and after exercise
Measurement of body temperature- mouth and arm pit
Measurement of blood pressure

BASICS OF EXTENSION EDUCATION

Unit IV
Using an appropriate Extension approach, conduct a programme for the Community.

Unit V

- Conduct a brain-storming session on barriers to communication.
- Conduct an interview schedule using appropriate verbal communication.
- Prepare a visual aid on a given topic (a Wrong one and a correct one).

Unit VI
Identify and study different signs, symbols and codes used in communication.

REFERENCES:

BASIC HUMAN PHYSIOLOGY

1. Guyton A.C.(1985), Functions of the human body. 4th Edition. W.B. Sanders Company. Philadelphia.
2. Jain A.K. (1992), Text book of Physiology. Volume I and II. Avichal publishing co., New Delhi.
3. Sherwood L (2008), Principles of Human Physiology.

BASICS OF EXTENTION EDUCATION

4. Acharya SK, Adhikari MM, (2012), Communication: The Process & Application in Extension Education, Agrotech Publishing Academy, Udaipur.
5. Dangi KL &SantoshSamota, (2013), A Textbook on Dimensions of Extension Education, Agrotech Publishing Academy, Udaipur.
6. Dangi KL et al. (2014), A Textbook of Communication Skills, Agrotech Publishing Academy, Udaipur.
7. Dipak De, BasavaprabhuJirli, (2013), A Handbook Of Extension Education, Dr.UpdeshPurohit for Agrobios (India). Jodhpur.
8. Indu Grover *et al. (2002),* Communication and Instructional Technology, Agrotech Publishing Academy, Udaipur.
9. Kalla PN *et al.(2009),* Communication Skills for Extension Workers, Agrotech Publishing Academy, Udaipur.
10. Khan PM &Somani LL, (2013), Fundamentals of Extension Education, Agrotech Publishing Academy, Udaipur.
11. O.P.Dahama, O.P.Bhatnagar, (1998) Education and Communication for Development, Published By Mohan Primlani for Oxford & IBH Publishing Co. Pvt.Ltd. New Delhi.
12. S.V.Supe, (1983), An Introduction to Extension Education, Published By Mohan Primlani for Oxford & IBH Publishing Co. Pvt.Ltd. New Delhi.
13. Somani LL, (2013) Extension Education & Communication, Agrotech Publishing Academy, Udaipur.

Semester – II
Optional 1-H.Sc-1
(Composite Home Science)

Human Development and Early Childhood Education and Administration

Code: HDECEA – 201 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

PRENATAL DEVELOPMENT AND INFANT STIMULATION (02hrs/Week)

OBJECTIVES:
To enable the students to

- To understand stages of prenatal development
- To gain insight in to the Infant stimulation

Unit-I **Reproductive System and Menstruation** **6 Hours**

Reproductive organs, menstrual cycle, myths and misconceptions of menstruation, care and hygiene

Unit-II **Prenatal Development** **10 Hours**

- Conception, symptoms, discomforts and complications of pregnancy.
- Prenatal stages, Antenatal care of mother
- Stages of child birth

Unit-III **Prenatal and Infant Stimulation-** **10Hours**
Meaning, Definition, Importance. Types of stimulation

CARE AND STIMULATION DURING INFANCY (02hrs/Week)

OBJECTIVES:

The course will enable the student to

- Understand the value of structure and format for working effectively with Children
- Know that children are active learners and are influenced by their social contexts

Unit-IV **8 Hours**

- Infancy and understanding of local and cultural practices of care and status of infants
- Schedules and patterns of care of infants in homes and institutions and need for visual and auditory inputs and experiences.

Unit-V **8 Hours**

- Role of interaction and importance of touch and movement in development during infancy.

Unit-VI **10 Hours**

- Play- its significance and the natural appeal as spontaneous activity
- Functions of play and its potential for stimulation and development in children
- Toys, objects and playfulness as sources of stimulation and learning
- Cultural and local social forms as tools for stimulation and learning

PRACTICALS

HDECEA: 201 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

PRENATAL DEVELOPMENT AND INFANT STIMULATION

1. Visit an antenatal care center and report the same.
2. Interview a pregnant woman and report about her experience
3. Preparation of low cost stimulation materials for holistic development of infants.

CARE AND STIMULATION DURING INFANCY

4. Observation and documentation of infants while providing them with visual and sensory stimulation (toys, pictures, different shapes and textures), auditory (natural sounds like clap, conversations) and kinaesthetic experiences (movements)
5. Development of play material to promote sensory experiences for infants using recyclable and reusable material.
6. Use of print material like picture cards, magazines to make infants recognize different objects and build vocabulary.
7. Compiling different forms of music in the environment (like chirruping of birds, train, sound of rain and so on) to stimulate infants to experience music.

REFERENCES:

PRENATAL DEVELOPMENT AND INFANT STIMULATION

1. Berk, L.E., (2007), Development through the Life Span, Pearson Education, New Delhi.
2. Devadas, R.P; Jaya, N(2002), A Textbook on Child Development, Macmillan India Limited, Madras.
3. Digumarti Bhaskara Rao (1997), Care of the Child, vol and II, Discovery Publication House, New Delhi.
4. Jegannath Mohanty and Bhagyadhar Mohanty (1994), Early Childhood Care and Education (ECCE), Deep and Deep pub,New Delhi.
5. Hurlock, E.B., (2004), Child Growth and Development, Tata Mc.Graw Hill Company
6. Papalia, D.E., and Olds, S.W., (2005), Human Development, Tata Mc.Graw Hill Company,New York.
7. Rice Philip. K (2001) Human development, Prentice Hall, New Jersy
8. Santrock, J.W., (2006), Child Development, Tata Mc.Graw Hill Publishing Company, NewDelhi
9. Suriakanthi, A., (2005), Child Development, Kavitha Publications, Gandhigram, Tamil Nadu.

CARE AND STIMULATION DURING INFANCY

10. Aubrey, C. (2011) Leading and Managing in the Early Years. New York: Sage Global
11. Berk E. Laura (2005), "Child Development", Pearson Prentice Hall, Indian Branch, New Delhi.
12. Jack . P. Shankoff and Deborah Phillips (2000) " Neurons to Neighborhoods" National Academy Press
13. Shrimali Shyam Sunder (2005), "Child Development", Pearson Education (Singapore) Pte. Ltd. Delhi.
14. Devadas P. Rajammal and N. Jaya (1996), "A Textbook on child development", Mac Millan India Ltd. New Delhi.

Semester II
Optional II-Home Science – II
(Composite Home Science)

Resource Management & Textiles and Clothing

Code: RMTC – 202 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

THEORY OF RESOURCE MANAGEMENT (02hrs/Week)

OBJECTIVES:

To understand

- The various resources available
- The use and management of Time ,Energy and Money

Unit I **8 Hours**

Definition, Classification, Characteristics, Factors affecting the use of resources.

Unit II **10 Hours**

Time as Resource – Concept, Tools in Time Management- Peak load, Work curve, Work Unit, Management process.

Money as a Resource: Concept, Sources of Income, Budgeting, Importance of Budgeting, Management process.

Unit III **8 Hours**

Energy as a Resource –Definition, Energy cost of household activity, Fatigue – types, measures to overcome Fatigue, Management process

BASIC SEWING TECHNIQUES (02hrs/Week)

OBJECTIVES:

- To gain knowledge on basic stitches and hand embroidery stitches. Use and care of sewing machine.
- To study the application of seams, fullness, neck line, finishes, sleeves, yokes, plackets and fasteners.

UNIT-IV **10 Hours**

Basic hand stitches- running, back stitch, hemming. Hand embroidery stitches and machine embroidery stitches- methods, application and uses.

UNIT-V **10 Hours**

Seam and seam finishes, fullness, neck line finishes, sleeves, plackets- methods, application and uses. Fasteners, trims laces, patch work- methods, application and uses.

UNIT-VI **06 Hours**

Sewing tools- classification, application and uses. Sewing machines- Parts, functions care and Maintenance.

PRACTICALS

RMTC: 202 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam 35**

FUNDAMENTALS OF MANAGEMENT

Unit I

List the various resources available in a family and community.
Plan time and activity chart for three days and evaluate.

Unit II

Plan family budget for three income groups.
Handing of Money and account keeping.

Unit III

a) Calculate the energy cost for any two activities

b) Measure your Minimum, Normal and Maximum reaches in Horizontal and vertical planes

BASIC SEWING TECHNIQUES

Unit IV:

Preparation of samples using basic stitches and hand embroidery stitches.
Drawing of sewing machine, its parts and sewing tools.

UNIT-V

Preparation of samples on seams, fullness, yokes – One each

UNIT-VI

Preparation of samples for collars, sleeves, plackets. and Application of fasteners like hook and eye, press button, shirt button, zip, lace and trims - one each

REFERENCE:

FUNDAMENTALS OF MANAGEMENT

1. Naidu.N.V.R and Krishna Rao.T,(2008), Management and Entrepreneurship, I K International Publishing House pvt Ltd.
2. Reddy.P.N, Tripathi.P.C, Appannaiah.H.R, (2003), Essentials of Management, Himalaya Publishing House.
3. Shivalingam.T, (2005), Fundamentals of Management, Vrinda Publications Ltd, New Delhi
4. Omvir Chaudhry and Prakash Singh, (2011), Principles of Managaement,New age International publishers.

BASIC SEWING TECHNIQUES

5. Zarapkar, 1985, System of cutting, Gala Publishers, Bombay.
6. Thomas A.J, 1994 , The Art of Sewing, UBS Publishers.
7. 3.Stricland G, 1974, A Tailoring Manual, Macmillan.
8. Mauck F, 1970, Modern Sewing Techniques, Macmillan
9. Armstrong J Marie, 1995 " Pattern Making For Fashion Design".FairchildsPub.U.K.

Semester – II
Optional III-H.Sc-3
(Composite Home Science)

Food and Nutrition & Extension Education and Communication

Code: FNEEC – 203 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

BASIC NUTRITION (02hrs/Week)

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 **02 Hours**

Introduction to nutrition

- Terminologies related to nutrition
- Functions of food

Unit II **12 Hours**

(a) Macro nutrients – [classification, sources, functions, deficiency and excess (in brief)]
- Carbohydrates,
- protein,
- fats

(b) Micro nutrients [Sources, Functions and Deficiency]
- Minerals-calcium, phosphorous, sodium, potassium, iron, iodine, zinc, fluorine
- Vitamins –Fat soluble vitamins (vitamin A, D, E, K)
  Water soluble vitamins (B complex vitamins: Thiamin, Riboflavin, Niacin, Pyridoxine, Folic acid and cyanocobalamine. And vitamin C)

Unit III **12 Hours**

- Energy -Components of energy requirement, Factors influencing BMR.
- Water-Functions, Sources and Water balance
- Fiber- Functions and sources

MEDIA LITERACY (02hrs/Week)

OBJECTIVES:
- To understand the concept of the media in extension education.
- To familiarization of different audio visual aids.
- Understand the special characteristics of media.

Unit IV Media **08 Hours**
- Type, nature and characteristics of media.
- Advantages and limitations of media**.**

Unit V Traditional and New Media **10 Hours**
- Classification of media.
- Description and role of media.
- Role of new media in dissemination of information.

Unit VI Audio Visual aids **08 Hours**
- Classification of audio visual aids.
- Advantages and limitations of audio visual aids.

PRACTICALS

FNEEC: 201 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

BASIC NUTRITION

Unit I Weights and measures

Unit II Identification of nutrient rich foods

Unit III Planning and preparation of nutrient rich recipes

- Energy
- Protein

Unit IV Planning and demonstration of nutrient rich recipes

- Iron
- Calcium
- Vitamin A
- Vitamin C

MEDIA LITERACY

Unit IV a) Plan and prepare Audio visual aids

b) Plan and prepare Extension literature for dissemination

Unit V Prepare a power point presentation for different end uses .

Unit VI Write a script for street play for any socially relevant issue.

REFERENCES:

BASIC NUTRITION

1. Raheena Begum M,(2009), A Textbook of Foods, Nutrition and Dietetics. Sterling publishers, New Delhi
2. Mudambi S. R. and Rajagopal M. V., (2008),Fundamentals of Foods, Nutrition & Diet therapy by New Age International Publishers, New Delhi
3. Sri Lakshmi B.(2009),Human Nutrition. New Age International Publishers, New Delhi
4. Swaminathan M. (2002), Advanced text book on Food and Nutrition. VolumeII. Bappco.

MEDIA LITERACY

5. Barger, A.A. (1991): Script Writing for Radio and Television, Saga Publication.
6. Brown et al. (1983): A.V. Instruction Technology. Media and Methods 6th ed., McGraw Hill Book Co., New York.
7. Dale (1984): Audio-Visual Methods of Teaching, Holt, Rinhart and Winston, London.
8. Ravindran, R.K. (1999): Media and Society.
9. Ravindran, R.K. (2000): Media in Development Area.
10. Bhagat R &Mathur PN. 1989. Mass Media and Farm Women. Intellectual Publ. House.
11. Kemp JE. 1975. Planning and Producing Audio Visual Material. 3rd Ed. Thomas Y. Growell.
12. Melkote SR. 1991. Communication for Development in the Third World: Theory and Practices. Sage Publ.
13. Mody B. 1991. Designing Message for Development Communication. Sage Publ.
14. Ray GL. 1991. Extension and Communication and Management. NayaPrakashan.

Smt.VHD Central Institute of Home Science
Seshadri Road,
Bangalore-560 001

3 Year B.Sc Clinical Nutrition and Dietetics (CBCS)

a) I Semester Clinical Nutrition and Dietetics

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 Human Nutrition** CND101 Human Physiology	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 2 Clinical Nutrition and Dietetics CND102 Basic Dietetics	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 3 Public Health Nutrition CND103 Community nutrition	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
Part 3	Foundation Course/SDC	1T	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									**16**

II Semester Clinical Nutrition and Dietetics

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 Human Nutrition** CND201 Essentials of Macronutrients	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 2 **Clinical Nutrition and Dietetics** CND202 Food Safety and Food laws	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 3 Public Health Nutrition CND203 Nutritional Status of Community	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
Part 3	Foundation Course/SDC	1T	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									**16**

III Semester Clinical Nutrition and Dietetics

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 Human Nutrition** CND301 Essentials of micronutrients: vitamins	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 2 Clinical Nutrition and Dietetics CND302 Food Sanitation and Hygiene	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 3 Public Health Nutrition CND303 Food Security	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
Part 3	Foundation Course/SDC	1T	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									**16**

IV Semester Clinical Nutrition and Dietetics

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 Human Nutrition** CND401 Essentials of Micronutrients: Minerals	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 2 Clinical Nutrition and Dietetics CND402 Intermediary Metabolism	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
	Optional 3 Public Health Nutrition CND403 Nutrition Intervention Programmes	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x3	2 1
Part 3	Foundation Course/SDC	1T	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1
Total Credits per Semester Per Program									**16**

b) V Semester Clinical Nutrition and Dietetics

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part-2	**Optional-1 Human Nutrition**								
	CND501								
	Life cycle	1T	1 x3	1x3	1x30	1x70	1x100	1x2	2
	Nutrition –I	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	CND502								
	Nutritional	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Biochemistry	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional -2 Clinical Nutrition and Dietetics								
	CND503	1T	1 x3	1x3	1x30	1x70	1x100	1x2	2
	Advanced	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Dietetics-I								
	CND504								
	Advanced	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
	Dietetics-II	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Optional-3 Public Health Nutrition								
	CND505								
	Malnutrition in	1T	1 x3	1x3	1x30	1x70	1x100	1x2	2
	Developing	1P	1x3	1x3	1x15	1x35	1x50	1x1	1
	Countries								
	CND506								
	Nutrition in								
	Emergencies	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
		1P	1x3	1x3	1x15	1x35	1x50	1x1	1
Part-3	ISDC	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**20**

VI Semester Clinical Nutrition and Dietetics

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part-2	**Optional-1**								
	Human Nutrition CND 601	1T 1P	1 x3 1x3	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x2 1x1	2 1
	Life cycle Nutrition –II CND 602								
	Functional Foods	1T 1P	1x3 1x3	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x2 1x1	2 1
	Optional -2								
	Clinical Nutrition and Dietetics CND 603	1T 1P	1 x3 1x3	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x2 1x1	2 1
	Advanced dietetics-III CND 604								
	Diet therapy and patient counselling	1T 1P	1x3 1x3	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x2 1x1	2 1
	Optional-3 Public Health Nutrition								
	CND 605 Nutrition for Vulnerable Groups with Special Conditions CND 606	1T 1P	1 x3 1x3	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x2 1x1	2 1
	Food Adulterations	1T 1P	1x3 1x3	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x2 1x1	2 1
Part-3	ISDC	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**20**

C) VII Semester Honors Program or I semester of the Post Graduate Program in Clinical Nutrition and Dietetics

Part	Subject	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2 Clinical Nutrition and Dietetics	CND 701 Clinical Nutrition	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	CND 702 Nutrition education and Dietetic counselling	1T 1P	1x4 1x8	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x4 1x4	4 4
	CND 703 Routine hospital diets and nutrition support system	1T 1P	1x4 1x8	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x4 1x4	4 4
	CND 704 Drug and Nutrient interaction	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
Part 3	Soft Core Research Methodology	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**26**

VIII Semester Honors Program or II semester of the Post Graduate Program in Clinical Nutrition and Dietetics

Part	Subject	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2 Clinical Nutrition and Dietetics	CND 801 Physiologic and Metabolic changes in disease	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	CND802	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	HIV/AIDS	1P	1x4	1x3	1x15	1x35	1x50	1x2	2
	CND803 Nutrition in criticalcare - I	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	CND804 Assessment of Nutritional Status	1T 1P	1x4 1x4	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x4 1x2	4 2
	Project*		8	1x3	1x30	1x70	1x100	1x4	4
Part 3	Soft Core Statistics	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**26**

***There may be one or two practical work in lieu of the Project work.**

III Semester of the Post Graduate Program in Clinical Nutrition and dietetics

Part	Subject	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Clinical Nutrition and Dietetics	CND 901 Nutrition in critical care II	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	CND 902 Inborn errors of metabolism	1T 1P	1x4 1x4	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x4 1x2	4 2
	CND 903 Food intolerance and allergies	1T 1P	1x4 1x4	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x4 1x2	4 2
	CND 904 Management of health and fitness	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
Part 3	Open elective Functional foods	1T	1x3	1x3	1x30	1x70	1x100	1x4	4
Total Credits per Semester									**24 credits**

IV Semester of the Post Graduate Program in Clinical Nutrition and dietetics

Part	Subject	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2 Clinical Nutrition and Dietetics	CND 1001 Cancer	1T 1P	1x4 1x4	1x3 1x3	1x30 1x15	1x70 1x35	1x100 1x50	1x4 1x2	4 2
	CND 1002 Nutrition in critical care III	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	CND 1003 Ethical issues in clinical nutrition	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
	CND 1004 Food Service Management	1T 1P	1x4 1x4	1x3 1x3	1x30 1x15	1x70 1x70	1x100 1x50	1x4 1x2	4 2
	Project*		8	Report evaluation	1x30	1x70	1x100	1x4	4
Total Credits per Semester									**24 credits**

SEMESTER I
Clinical Nutrition and Dietetics
Option: 1
Human Physiology

Code: CND 101 **Total marks: 100**
Hours: 52 **Theory: 70**
Instruction hours /week: 4 **Internal Assessment: 30**

Objectives:

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

Unit: I **7 Hours**

Basic tissues

- Structure and function of a cell
- Structure, Classification and functions of basic tissues

Unit: II

Digestive system **8 Hours**

- Organs of the Gastrointestinal Tract
- Digestion and absorption of food

Unit: III

a) Circulatory system **13 Hours**
   - Blood- composition, coagulation and blood groups
   - Structure of heart and types of blood circulation

b) Respiratory system-Structure and functions of Respiratory organs
   Mechanism of respiration

Unit: IV **12 Hours**

d) Excretory system
   - Structure and functions of excretory organs
   - Composition of urine and Urine formation

Unit: V **12 Hours**

a) Reproductive system- Structure and function of reproductive organs
b) Endocrine system- Functions and types of endocrine glands.
   Effect of hypo and hyper secretions
c) Sense organs – structure and functions of eye, ear, nose, skin and tongue

PRACTICAL

Code: CND101-P **Total marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 3 **Practical exam: 35**

1. Microscopic examination of basic tissues
2. Haemoglobin estimation using hemometer
3. RBC count (demo)
4. Pulse and respiratory rate at rest and after exercises

REFERENCES:

1. Guyton A.C.(1985), Functions of the human body. 4th Edition. W.B. Sanders Company. Philadelphia.
2. Jain A.K. (1992), Text book of Physiology. Volume I and II. Avichal publishing co., New Delhi.
3. Sherwood L (2008), Principles of Human Physiology.

SEMESTER I
Clinical Nutrition and Dietetics
Option: 2
Basic Dietetics

Code: CND 102 **Total marks: 100**
Hours: 52 **Theory: 70**
Instruction hours /week: 4 **Internal Assessment: 30**

OBJECTIVES:

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

Unit: I **10 Hours**

- Introduction to clinical nutrition
- Role of dietician- hospital and community level
- Team approach in patient care, interpersonal relationship with patients.

Unit: II **10 Hours**

- Principles of Nutritional care, Types of hospital diets.
- Principles of planning a normal diet, objectives of diet therapy
- Nutrition Support Techniques
  Enteral feeding - indications, Types - Nasogastric, Gastrostomy, Jejumostomy and Rectal feeding - requirements and advantages.
- Parenteral feeding - indications, types, Formula feeds and Complications in TPN.

Unit: III **13 Hours**

Dietary management in common disease conditions

a) Febrile diseases-
- Acute - Typhoid
- Chronic fever- Tuberculosis
- Intermitant- Malaria

b) Gastrointestinal disorder-etiology symptoms and treatment of gastritis, peptic ulcer, diarrhea, constipation, dumping syndrome, malabsorption syndrome, (steatorrhoea)

c) Irritable bowel syndrome, IBD (ulcerative colitis, diverticulosis, crohn's disease)

Unit: IV **13 Hours**

- Surgery - Physiological response, Metabolic Consequences, Stage of Convalescence, pre and post-operative diets.
- Burns – Stages, Metabolic changes and Nutritional management at different phases

Unit: V **06 Hours**

- Diet in Energy Imbalance – underweight and obesity-importance of weight management,physiological complications, Etiology and dietary management.

- Food intolerance and allergy - Common food allergens, test for allergy - Skin test and Elimination diet and dietary management.

PRACTICAL

Code: CND102-P **Total marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week:3 **Practical exam: 35**

1. a) Identification of basic food groups
b) weights and measures
c)Standardization of common recipes
rice, chapati, dhal,greens, vegetables and roots and tubers palya,ragi ball.

2. Planning, preparation and calculation of following diets :
- Normal diet for adult women

3. Planning, preparation and calculation of hospital diets :
- Liquid diet-clear fluid and full fluid
- Soft diet
- Bland diet

4. Planning, preparation and calculation of low and high calorie diet

REFERENCES:

1. Bamji, M.S., Rao, P.N., Reddy, V (Eds) (1996): Textbook of Human Nutrition, Oxfordand IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Mahan, L.K. & Ecott-Stump, 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 Williams and Williams. A Beverly Co. London.
4. Indian Council of Medical Research. Nutritive Value of Indian Foods-Latest Publication.

SEMESTER I
Clinical Nutrition and Dietetics
Option: 3
Community Nutrition

Code: CND 103 **Total marks: 100**
Hours: 52 **Theory: 70**
Instruction hours /week: 4 **Internal Assessment: 30**

OBJECTIVES:
To enable the students
1. To appreciate the significance of nutrition in national development.
2. To gain insight into the nutritional problems and their implications.

Unit: I **10 Hours**

Introduction to community nutrition, Nutrition and national development, nutritional assessment methods.

Unit : II **08 Hours**

Food and Nutritional security

Unit : III **13 Hours**

Common nutritional problems of the community- Protein energy malnutrition(PEM), vitamin A deficiency, Iron deficiency anaemia, Iodine deficiency disorders - prevalence and etiology.

Unit : IV **13 Hours**

National nutritional policy and nutrition programs to combat nutritional problems

- Applied nutrition programme(ANP)
- Mid Day Meal programme
- Supplementary nutrition programme
- Nutritional intervention programmes

Unit : V **08 Hours**

Nutrition Education : IEC component (Information Education Communication).

PRACTICAL

Code: CND103-P **Total marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 3 **Practical exam: 35**

1. Preparation of Poster for PEM, Vitamin A deficiency, Anaemia.
2. Preparation of folder for nutrition education
3. Anthropometric & Dietary assessment.
4. Organizing exhibition for creating nutrition awareness.

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 15th Edn, M/s Banarsidas Bhanot publication

3. Mahtab S Bamji, N Prahlad Rao, 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.

5. Beaton, G.H. and Bengoa, J.M. (Eds) (1996): Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

II Semester
Clinical Nutrition and Dietetics
Option:1
Essentials of Macronutrients

Code: CND 201 **Total marks: 100**
Hours: 52 **Theory: 70**
Instruction hours /week: 04 **Internal Assessment: 30**

OBJECTIVES:
To enable the student to
1. Understand the basic concepts of nutrition
2. To learn the use of food in the body

Unit: I **10 Hours**
Introduction to Nutrition: Definition, Classification of nutrients, functions of food, relation between food and nutrition, nutritional status

Unit: II **08 Hours**
Use of food in the body
Digestion
Absorption
Transport and excretion

Unit: III **12 Hours**
Carbohydrates: Composition, classification, functions, sources, excess and deficit

Unit: IV **12 Hours**
Proteins: Composition, classification, functions, sources, deficiency
Essential and non essential amino acids
Assessment of protien quality- chemical score,NPR, NPU, PER, BV

Unit: V **10 Hours**
Lipids: Composition, classification, fatty acids-essential, non-essential and omega fatty acids functions, sources, excess and deficit of lipids

PRACTICAL

Code: CND201-P **Total marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week:3 **Practical exam: 35**

1. Identification of
a) Carbohydrate rich recipes (simple and complex)

2. Identification of protein rich foods

3. Identification of lipid sources of food
Saturated fats
Unsaturated fats(MUFA and PUFA)
Omega fatty acids,Trans fats

4. Planning and Preparation of macro nutrient rich recipes

REFERENCES:

1. M.S. Swaminathan , 2012Fundamentals of Food and Nutrition Bappcco publication
2. Dr Sri lakshmi 2007,Nutrition science New Age international publication
3. Indian Council of Medical Research. Nutritive Value of Indian Foods – Latest Publication. NIN Hyderabad

II Semester
Clinical Nutrition and Dietetics
Option: 2
Food Safety and Food Laws

Code: CND 202 **Total marks: 100**
Hours: 52 **Theory: 70**
Instruction hours /week: 04 **Internal Assessment: 30**

OBJECTIVES:

1. To learn the importance of food safety
2. To enable the students to understand the importance of national and international food laws

Unit: I **10 Hours**

a)Concept and meaning of Food quality and food Safety
b) Food adulteration and health hazards.
c)Natural toxins in foods and health hazards.

Unit: II **10 Hours**

Food laws and regulations –
National: FSSAI, BIS, AGMARK, FPO
International: ISO, FDA,

Unit: III **13 Hours**

Exposure and effect on food to Adulterants, environmental pollutants, metallic components and there estimation, toxicological requirements and risk assessment.

Unit: IV **08 Hours**

Food Safety and Packaging aspects in Food Service Institutions: Hospitals, Hospitality Institutions

Unit: V **11Hours**

a) Safety assessment of food contaminants and pesticide residues.
b) Safety evaluation of heat treatments and related processing technique

PRACTICAL

Code: CND202-P **Total marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 3 **Practical exam: 35**

1. Market Survey for different Food Brands and Food labels.
2. Microbiological examination of different food samples: street foods,

   packed foods

3. Shelf life study using different packaging material.
4. Visit to a food Processing plant.

REFERENCES

1. Early. R. (1995): Guide to Quality Management Systems for the Food Industry, Blackie, Academic and professional, London.

2. Gould, W.A and Gould, R.W. (1998).. Total Quality Assurance for the Food Industries, CTI Publications Inc. Baltimore.

3. Pomeraz, Y. and MeLoari, C.E. (1996): Food Analyasis: Theory and Practice, CBS publishers and Distributor, New Delhi.

4. Bryan, F.L. (1992): Hazard Analysis Critical Control Point Evaluations A Guide to Identifying Hazards and Assessing Risks Associated with Food Preparation and Storage. World Health Organisation, Geneva.

5. Kirk, R.S and Sawyer, R. (1991): Pearson's Composition and Analysis of Foods, Longman Scientific and Technical. 9th Edition, England.

6. Food and Agricultural Organisation (1980): Manuals of Food Quality Control. 2-Additives Contaminants Techniques, Rome.

II Semester

Clinical Nutrition and Dietetics
Option: 3
Nutritional status of Community

Code: CND 203 **Total marks: 100**
Hours: 52 **Theory: 70**
Instruction hours /week: 04 **Internal Assessment: 30**

OBJECTIVES:

1. Understand the prevalence, causes and consequences of malnutrition and other nutritional problems.
2. To learn the strategies to combat nutritional problems.

Unit: I **08 Hours**

Understanding the terms: Nutrition, Health, Under nutrition, Over nutrition, malnutrition, nutritional status

- Food and nutrition security: concept, determinants of food security
- Food behaviour: physiological, social, cultural, psychological factors

Unit: II **04 Hours**

Malnutrition: Causes, consequences & indicators of malnutrition. Interventions in malnutrition

Unit: III **10 Hours**

- Nutritional problems: Prevalence, causes, consequences, treatment, prevention and control
- Protein energy malnutrition-Kwashiorkor, marasmus, marasmic kwashiorkor

Unit: IV **14 Hours**

Micronutrient deficiencies:

- Vitamin A Deficiency, Iron Deficiency Anaemia, Iodine Deficiency Disorder and Zinc Deficiency
- B complex deficiency, folic acid deficiency, flourosis.

Unit: V **16 Hours**

Strategies to combat nutritional problems

- Food based approaches
- Dietary diversification
- Horticultural intervention
- Food fortification
- Nutrition and Health Education

Nutrition policies and programmes

- NNP, ICDS, NIDDCP, NACP, SFP, Vitamin A prophylaxis programme

PRACTICAL

Code: CND 203-P **Total marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 3 **Practical exam: 35**

1. Preparation of visual aids – Charts, posters, models etc.

2. Use of anthropometric measurement in children and interpretation using reference standards

3. Preparation of low cost nutrient rich recipes.

4. Visit to primary health centre to observe nutritional deficiencies.

REFERENCES:

1. Owen, A.Y. and Frackle, R.T., (1996): Nutrition in the Community. The Art of Delivering Services, 2nd Edition Times Mirror/Mosby.
2. Part, K. (2000): Part's Textbook of Preventive and Social Medicine, 18th Edition, M/s. Banarasidas Bhanot, Jablpur.
3. Beaton, G.H. and Bengoa, J.M. (Eds) (1996): Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Bamji, M.S., Rao, P.N., Reddy, V (Eds) (1996): Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

B.Sc/BA (Home Science as one optional Subject) / B.Sc/BA (Hons Program)

a) I/II/III/IV Semester

Parts	Subjects Home Science as one Optional	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(H.SC)** (**HD & ECEA)** Human Development and Early Childhood Education & Administration	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x1	2 1
	Semester-2 **Optional 1** **(H.Sc)** **(RM & TC)** Resource Management and Textiles and Clothing	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x1	2 1
	Semester-3 **Optional 1** **(H.Sc)** **(FN & EEC)** Food & Nutrition and Extension Education and Communication	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x1	2 1
	Semester-4 **Optional 1(H.Sc)** Entrepreneurship Development	1T 1P	1x4 1x3	1x3 1x3	1x30 1x15	1x70 1x35	100 1x50	1x2 1x1	2 1
Part 3	Foundation Course/SDC	1T	3	3	30	70	100	2	2
	CC & EC	-	-	-	50	-	50	1	1

V, VI Semester B.Sc. Home Science as one optional

Part	Optional-1 Subjects offered	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part-2	Human Development	1x2T 1x2P	1x2 x3 1x2x3	1x2x3 1x2x3	2x30 1x2x15	3x2x70 1x2x35	1x2x100 1x2x50	1x2x2 1x2x1	04 02
	Early Childhood Education and Administration	1x2T 1x2P	1x2 x3 1x2x3	1x2x3 1x2x3	2x30 1x2x15	3x2x70 1x2x35	1x2x100 1x2x50	1x2x2 1x2x1	04 02
	Resource Management	1x2T 1x2P	1x2 x3 1x2x3	1x2x3 1x2x3	2x30 1x2x15	3x2x70 1x2x35	1x2x100 1x2x50	1x2x2 1x2x1	04 02
	Textile and Clothing	1x2T 1x2P	1x2 x3 1x2x3	1x2x3 1x2x3	2x30 1x2x15	3x2x70 1x2x35	1x2x100 1x2x50	1x2x2 1x2x1	04 02
	Food and Nutrition	1x2T 1x2P	1x2 x3 1x2x3	1x2x3 1x2x3	2x30 1x2x15	3x2x70 1x2x35	1x2x100 1x2x50	1x2x2 1x2x1	04 02
	Extension Education and Communication	1x2T 1x2P	1x2 x3 1x2x3	1x2x3 1x2x3	2x30 1x2x15	3x2x70 1x2x35	1x2x100 1x2x50	1x2x2 1x2x1	04 02
	Optional- 2 (Science/Arts Subject)								
	Optional-3 (Science /Arts Subject)								
Part-3	ISDC	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**20**

***Note: for Home Science as one option, in the V semester Science students can opt for any one of the six Home Science subjects offered and continue the same subject in the sixth semester. They will study the same subjects for the Honours Porgram also**.

BA students are not eligible to take up Food and Nutrition or Textiles and Clothing papers as they have not studied chemistry in the previous semesters.

C)VII Semester Honors Program or 1 semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part 2	HD or ECEA or RM or T&C or FN or EEC	4T 4P	4x4 4x4	4x3 4x4	4x30 4x15	4x70 4x35	4x100 4x50	4x4 4x2	16 8
		4T 2P	4x4 2x8	4x3 2x6	4x30 2x30	4x70 2x70	4x100 2x100	4x4 2x4	16 8
Part 3	Soft Core	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester									**26**

VIII Semester Honors Program or 1 semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part -2	HD or ECEA or RM or T&C or FN or EEC	4T 2P	4x4 2x4	4x3 2x4	4x30 2x15	4x70 2x35	4x100 2x50	4x4 2x2	16 4
		4T 1P	4x4 1x8	4x3 1x6	4x30 1x30	4x70 1x70	4x100 2x100	4x4 1x4	16 4
		Project Work*	8	Report Evaluation	1x30	1x70	1x100	1x4	4
Part-3	Soft Core	1T	1x3	1x3	1x30	1x70	1x100	1x2	2
Total Credits per Semester per program									**26**

***There may be one or two practical work in lieu of the Project work.**

d) III Semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part -2	HD or ECEA or RM or T&C or FN or EEC	4T 2P	4x4 2x4	4x3 2x4	4x30 2x15	4x70 2x35	4x100 2x50	4x4 2x2	16 4
		4T 1P	4x4 1x8	4x3 1x6	4x30 1x30	4x70 1x70	4x100 1x100	4x4 2x2	16 4
Part-3	Open elective	1T	1x4	1x3	1x30	1x70	1x100	1x4	4
Total Credits per Semester per program									**24**

IV Semester of the Post Graduate Program in Human Development or Early childhood education & Administration or Resource Management or Textiles & Clothing or Food & Nutrition or Extension Education and Communication

Part	Subjects	Paper	Instruction Hrs/week	Duration of Exams (Hrs)	Marks			Credits	Total Credits
					IA	Exam	Total		
Part -2	HD or ECEA or RM or T&C or FN or EEC	4T 2P	4x4 2x4	4x3 2x4	4x30 2x15	4x70 2x35	4x100 2x50	4x4 2x2	16 4
		4T 1P	4x4 1x8	4x3 1x6	4x30 1x30	4x70 1x70	4x100 2x100	4x4 1x4	16 4
		Project Work*	8	Report Evaluation	1x30	1x70	1x100	1x4	4
Total Credits per Semester per program									**24**

***There may be one or two practicals in lieu of the Project work.**

B.Sc with Home Science as one Optional
Semester I
Optional I-Home Science - I
Human Development and Early Childhood Education and Administration

Code: HDECEA – 101 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

STUDY OF HUMAN DEVELOPMENT

OBJECTIVES:

- To introduce the students to the field of Human Development.
- To sensitize the students to the different stages of developmental periods.
- To introduce to the scope and significance of Human Development.

Unit-1 Human Development- Definition, need, significance, Principles of growth and development, methods of child study Human Development stages-,developmental tasks across the life span, domains of development **6 Hours**

Unit-2 Influence of Heredity and Environment- Genetic inheritance – Definition of heredity, chromosomes, genes, chromosomal abnormalities.
Environment - constraints and facilitators in growth and Development **8 Hours**

Unit-3 Scope of Human Development- **12 Hours**

- Relationship of Human development with other disciplines- Biology, Psychology, Sociology, Medicine and Education.
- Career opportunities in Human Development-Education and Research, clinical and counselling, medical, nursing, family and relations

INTRODUCTION TO EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

OBJECTIVES:
The paper will enable the student to

- understand the significance of early childhood education
- understand different kinds of early childhood settings
- learn the basic concepts of early childhood education and administration

Unit-4 **8 Hours**
Introduction to early childhood

- Meaning of childhood.
- Awareness of the significance of early childhood and understandings from neuro-science perspective, rights perspective, economic investment and the criticality of early years in the human life cycle.

Unit-5 **10 Hours**

Early childhood education

- Definition
- Significance
- Goals and objectives of early childhood education
- Different kinds of early childhood settings and the role of care givers for meeting the needs of children in crèches, anganwadis, balwadis, fee paying ECCE centres.
- Evolving and changing nature of early education and ECCE centres
- Cultural differences in the ECCE classrooms and building childhood identity by linking diversity of dress, food, celebrations, songs and dance.

Unit-6 **8 Hours**

Administration of Early Childhood centres' –

- Basic concepts of
    - Setting up and running the centre (Physical facilities, Personnel, Program, records and reports of Children, staff & office)
    - Management of resources- (Finance, time)
    - Supervisory procedures and quality control.

PRACTICALS

HDECEA: 101 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

STUDY OF HUMAN DEVELOPMENT

1. Prepare a Booklet/leaflet/poster/Chart on influence of Nature and Nurture on Human Development OR Prepare an album on stages of human development
2. Prepare a visual aid on career opportunities in Human Development.
3. Observe a preschool child for different domains of development using check list and report the same.

INTRODUCTION TO EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

4. Prepare a visual document to highlight the significance and importance of early childhood years.
5. Carry out a survey in your neighborhood and report on the types of Early childhood services available.
6. Visit an Early childhood education centre and make a classroom presentation of your visit focusing on the type of program, daily schedule and records maintained.
7. A visit to any two types of early childhood Education centers and reporting the visits.

REFERENCES:

STUDY OF HUMAN DEVELOPMENT

1. Berk, L.E., (2007), Development through the Life Span, Pearson Education, New Delhi.

2 Devadas, R.P; Jaya, N(2002), A Textbook on Child Development, Macmillan India Limited, Madras.

3. Digumarti Bhaskara Rao (1997), Care of the Child, vol and II, Discovery Publication House, New Delhi.

4. Jegannath Mohanty and Bhagyadhar Mohanty (1994), Early Childhood Care and Education (ECCE), Deep and Deep pub,New Delhi.

5. Hurlock, E.B., (2004), Child Growth and Development, Tata Mc.Graw Hill Company

6. Papalia, D.E., and Olds, S.W., (2005), Human Development, Tata Mc.Graw Hill Company,New York.

7. Rice Philip. K (2001) Human development, Prentice Hall, New Jersy

8. Santrock, J.W., (2006), Child Development, Tata Mc.Graw Hill Publishing Company, NewDelhi

9. Suriakanthi, A., (2005), Child Development, Kavitha Publications, Gandhigram, TamilNadu.

INTRODUCTION TO EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

10. Agarwal, J C, (2007), History and Philosophy of Pre primary and Nursery education, DOABA HOUSE, New Delhi.
11. Agarwal, J C, (1997), Methods and Materials of Nursery Education, DOABA HOUSE, New Delhi.
12. Bowman T. Barbara, Donovan, Suzanne and Burns. M. Susan; Eager to Learn: Educating our pre schoolers (2000), Committee on early childhood pedagogy, national research council.
13. Ed- Persky Barry and Golubchick Leonard, Early Childhood Education (1991), University Press of America
14. Jenkins, Elizabeth. (2007) Administration in Early Education. New York: Thomson Delmar Learning.
15. Neugebauer, B., and R. Neugebauer.(2003) The Art of Leadership: Managing Early Childhood Organizations. Rev. ed. Child Care Information ExchangePress, Inc.
16. Roger Neugebauer (Edited) Inside Child Care. Trend Report 2000.. Exchange Press, Inc.
17. Sciarra, Dorothy June and Anne G. Dorsey. (2007) Developing and Administering A Child Care and Education Program. 6th Edition. New York: Thomson Learning.

B.Sc with Home Science as one Optional
Semester II
Optional II-Home Science – II

Resource Management & Textiles and Clothing

Code: RMTC – 201 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

THEORY OF RESOURCE MANAGEMENT (02hrs/Week)

OBJECTIVES:
To understand

- The various resources available
- The use and management of Time ,Energy and Money

Unit I: **08 Hours**
Definition, Classification, Characteristics, Factors affecting the use of resources.

Unit II: **10 Hours**
Time as Resource – Concept, Tools in Time Management- Peak load, Work curve, Work Unit, Management process.
Money as a Resource: Concept, Sources of Income, Budgeting, Importance of Budgeting, Management process.

Unit III: **08 Hours**
Energy as a Resource –Definition, Energy cost of household activity, Fatigue – types, measures to overcome Fatigue, Management process

FUNDAMENTALS OF TEXTILES AND CLOTHING (02hrs/Week)

OBJECTIVES:

- To gain knowledge on fibre, yarn and fabrics of their production, properties and uses.
- To study the Use of sewing machine and application of seams, fullness, neck line, finishes, sleeves, yokes, plackets and fasteners.

UNIT-I V **07 Hours**

Introduction to textiles- classification, physical and chemical properties of fibre

Fibre manufacturing process , properties and uses – cotton, silk , wool, rayon, polyester, elastomer.

UNIT-V **09 Hours**

Spinning and weaving process- Conventional spinning for cotton, silk and wool

Fabric construction- parts and function of a loom, basic weaves, dobby, jacquard, pile and crepe weaves.

Knitting and non woven- Knitting- Types, warp and weft knit. Non woven- Film, foam, fur, bonding, felting, braiding and quilting.

UNIT –VI **10 Hours**

Equipment and tools used in clothing construction, Use and care of sewing machine**.**

Principles of clothing construction **–**

Body measurements – Standardized and individual

General principles and approaches to clothing construction – Drafting, draping and flat pattern techniques

Seam and seam finishes, fullness, neck line finishes, sleeves, plackets- methods, application and uses.

Fasteners, trims laces, patch work- methods, application and uses

PRACTICAL

Code: RMTC- 201 P **Total Marks: 50**
No. of Weeks: 13 **IA: 15**
Hrs per week: 03 **Practical Exam: 35**

THEORY OF RESOURCE MANAGEMENT

Unit I: List the various resources available in a family and community.
Plan time and activity chart for three days and evaluate.

Unit II: Plan family budget for three income groups.

Unit III: a) calculate the energy cost for any two activities
b) Measure your Minimum, Normal and Maximum reaches in Horizontal and vertical planes

FUNDAMENTALS OF TEXTILES AND CLOTHING

UNIT-IV: Fibre identification- Burning, microscopic, visual- Cotton, Silk, Wool, Rayon, Polyester

UNIT-V: Collection of woven, knitted and non woven samples

UNIT-VI: Preparation of samples on seams, fullness, yokes – One each
Preparation of samples for collar, sleeve, plackets – One each
Application of fasteners like hook and eye, press button, shirt button, zip, lace and trims- one each

UNIT- VI:Garment construction – Drafting and construction of petticoat, A- line Frock

REFERENCES:

THEORY OF RESOURCE MANAGEMENT

1. Gena Burton, and Manab Thakur, (2006), Management Today-Principles and practices, Tata McGraw Publishers, Ltd.
2. Reddy.P.N, Tripathi.P.C, Appannaiah.H.R, (2003), Essentials of Management, Himalaya Publishing House.
3. Nickel and Dorsey, (2005), Management in Family Living, Eily Eastern and Company, New Delhi.
4. Sushma Guptha, Garg, Anitha Aggarwal, (2005), Text Book of Family Resources Management, Hygiene and Physiology, Kalyani publishers, New Delhi.
5. Verghese.M.A, Saha P.N, Atreya.N, (2000), Ergonomics of Women at Work, Allied Publishers, Mumbai.

FUNDAMENTALS OF TEXTILES AND CLOTHING

1. 1.M.Joseph, HolfRinechants (1995) Essentials of Textiles, Winston Publications
2. Moncrief R.W, (1980) Manmade Fibres, John Willey and Sons, New York
3. CorbmanB(1990) Fibre to Fabric, Woods publications
4. Zarapkar, 1985, System of cutting, Gala Publishers, Bombay.
5. 5..Mauck F, 1970, Modern Sewing Techniques, Macmillan
6. 6.Armstrong J Marie, 1995 " Pattern Making For Fashion Design".FairchildsPub.U.K.

B.Sc. with Home Science as one Optional
Semester III
Optional III-Home Science - III
Food and Nutrition & Extension Education and Communication

Code: FNEEC – 301 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

BASIC HUMAN PHYSIOLOGY (02hrs/Week)

OBJECTIVES:

1. To study the structure of different organs of the body
2. To study physiological functions of different organs of the body

Unit I **02 Hours**

Basic tissues

- Structure of a cell
- Basic tissues- Structure, Classification and functions

Unit II **12 Hours**

d) Digestive system
   - Structure and functions of organs of the Gastrointestinal Intestinal Tract
   - Digestion, absorption and utilization of food

e) Circulatory system
   - Blood- composition, coagulation and blood groups
   - Structure of heart and types of blood circulation

f) Respiratory system
   - Structure and functions of Respiratory organs
   - Mechanism of respiration

Unit III **12 Hours**

e) Excretory system
   - Structure and functions of excretory organs
   - Composition of urine and Urine formation
   - Reproductive system- Structure and function of reproductive organs
   - Endocrine system- Functions and types of endocrine glands, Effect of hypo and hyper secretion

BASICS OF EXTENSION EDUCATION AND COMMUNICATION (02hrs/Week)

OBJECTIVES:

- To familiarize students with the concepts and principles of Extension Education.
- To develop understanding about the process and trends in Communication.

Unit-IV **09 Hours**

Introduction to Extension Education

- Concept and scope of extension education.
- Philosophy and principles of extension education.
- Role and qualities of the extension facilitator.

Unit-V **09 Hours**

Communication Process.

- Definition, types, importance and meaning of communication.
- Elements and functions of communication.
- Communication models and barriers in communication.
- Communication for social change.
- Concept, classification and methods of communication.

Unit-VI **08 Hours**

Program Planning, Development and Evaluation

- Meaning and principles of Program Planning.
- Extension Program.
- Components of Program.
- Developing a plan of work.
- Elements of the plan of work.
- Pre requisites of development of plan of work.
- Plan of work-A format or a Model.

PRACTICALS

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

BASIC HUMAN PHYSIOLOGY

Unit I Types of cells

- Microscopic examination of prepared slides

  Epethilium- Straitfied, Squamous, Ciliated, columnar

  Connective tissue- adipose, bone, aerolar

  Muscle-smooth, cardiac and striated

  Nerve- nerve cell

Unit II Blood

- Microscopic examination of prepared slides
  Fresh blood and stained blood smear
- Testing of blood groups
- Coagulation of blood

Unit III Haemoglobin estimation using hemometer

RBC count (demonstration)

Pulse and respiration rate- at rest and after exercise

Measurement of body temperature- mouth and arm pit

Measurement of blood pressure

BASICS OF EXTENSION EDUCATION AND COMMUNICATION

Unit IV

- Conduct a Brain storming session on barriers to communication
- Prepare and use an interview schedule for verbal communication
- Prepare a visual aid on a given topic (a Wrong and a Right one)

Unit V: Plan and develop a programme for creating awareness and sensitization about _____ in the community.

Unit VI: Visit to an organization/ institution to observe and study different modes of communication .

REFERENCES:

BASIC HUMAN PHYSIOLOGY

1. Guyton A.C.(1985), Functions of the human body. 4th Edition. W.B. Sanders Company. Philadelphia.
2. Jain A.K. (1992), Text book of Physiology. Volume I and II. Avichal publishing co., New Delhi.
3. Sherwood L (2008), Principles of Human Physiology.

BASICS OF EXTENSION EDUCATION AND COMMUNICATION

4. Acharya SK, Adhikari MM, (2012), Communication: The Process & Application in Extension Education, Agrotech Publishing Academy, Udaipur.
5. Dangi KL & Santosh Samota, (2013), A Textbook on Dimensions of Extension Education, Agrotech Publishing Academy, Udaipur.
6. Dangi KL et al. (2014), A Textbook of Communication Skills, Agrotech Publishing Academy, Udaipur.
7. Dipak De, Basavaprabhu Jirli, (2013), A Handbook Of Extension Education, Dr.Updesh Purohit for Agrobios (India). Jodhpur.
8. Indu Grover et al. (2002), Communication and Instructional Technology, Agrotech Publishing Academy, Udaipur.
9. Kalla PN et al.(2009), Communication Skills for Extension Workers, Agrotech Publishing Academy, Udaipur.
10. Khan PM & Somani LL, (2013), Fundamentals of Extension Education, Agrotech Publishing Academy, Udaipur.
11. O.P.Dahama, O.P.Bhatnagar, (1998) Education and Communication for Development, Published By Mohan Primlani for Oxford & IBH Publishing Co. Pvt.Ltd. New Delhi.
12. S.V.Supe, (1983), An Introduction to Extension Education, Published By Mohan Primlani for Oxford & IBH Publishing Co. Pvt.Ltd. New Delhi.
13. Somani LL, (2013) Extension Education & Communication, Agrotech Publishing Academy, Udaipur.

B.A with Home Science as one Optional
Semester I
Optional I-Home Science - I
Human Development and Early Childhood Education and Administration

Code: HDECEA – 101 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

EDUCATION IN HUMAN DEVELOPMENT

OBJECTIVES:

- To introduce the students to the field of Human development.
- To sensitize the students to scope and significance of Human development

Unit-1 Human Development- **6 Hours**

- Definition, need, significance, Principles of growth and development, methods of child study
- Human Development stages-,developmental tasks across the life span, domains of development

Unit-2 Reproductive System **8 Hours**

- Reproductive System – Boys and Girls, menstruation, puberty – physical changes, primary and secondary sexual characteristics, reproductive health, genetic foundations of life and mechanisms of heredity.
- Genetic process, genes, chromosomes, DNA, mitosis, meiosis.

Unit-3 Scope of Human Development- **12 Hours**

- Relationship of Human development with other disciplines- Biology, Psychology, Sociology, Medicine and Education.
- Career opportunities in Human Development-Education and Research, clinical and counselling, medical, nursing, family and relations

INTRODUCTION TO EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

OBJECTIVES:

The paper will enable the student to

- understand the significance of early childhood education
- understand different kinds of early childhood settings
- learn the basic concepts of early childhood education and administration

Unit-4 **8 Hours**

Introduction to early childhood

- Meaning of childhood.
- Awareness of the significance of early childhood and understandings from neuro-science perspective, rights perspective, economic investment and the criticality of early years in the human life cycle.

Unit-5 **10 Hours**

Early childhood education

- Definition
- Significance
- Goals and objectives of early childhood education
- Different kinds of early childhood settings and the role of care givers for meeting the needs of children in crèches, anganwadis, balwadis, fee paying ECCE centres.
- Evolving and changing nature of early education and ECCE centres
- Cultural differences in the ECCE classrooms and building childhood identity by linking diversity of dress, food, celebrations, songs and dance

Unit-6 **8 Hours**

Administration of Early Childhood centres' –

- Basic concepts of
    - Setting up and running the centre (Physical facilities, Personnel, Program, records and reports of Children, staff & office)
    - Management of resources- (Finance, time)
    - Supervisory procedures and quality control.

Practicals

HDECEA: 101 - P **Total Marks: 50**
Number of weeks: 13 **Internal Assessment: 15**
Hours per week: 03 **Practical Exam: 35**

EDUCATION IN HUMAN DEVELOPMENT

1. Prepare an album on stages of human development
2. Observe a preschool child for different domains of development using check list and report the same.
3. Interview a Human development specialist to elicit the information on applicability of subject in different fields.

INTRODUCTION TO EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

4. Prepare a visual document to highlight the significance and importance of early childhood years.
5. Carry out a survey in your neighborhood and report on the types of early childhood services available.
6. Visit an Early childhood education centre and make a classroom presentation of your visit focusing on the type of program, daily schedule and records maintained.
7. A visit to any two types of early childhood Education centers and reporting the visits.

REFERENCES:

EDUCATION IN HUMAN DEVELOPMENT

1. Berk, L.E., (2007), Development through the Life Span, Pearson Education, New Delhi.
2 Devadas, R.P; Jaya, N(2002), A Textbook on Child Development, Macmillan India Limited, Madras.
3. Digumarti Bhaskara Rao (1997), Care of the Child, vol and II, Discovery Publication House, New Delhi.
4. Jegannath Mohanty and Bhagyadhar Mohanty (1994), Early Childhood Care and Education (ECCE), Deep and Deep pub,New Delhi.
5. Hurlock, E.B., (2004), Child Growth and Development, Tata Mc.Graw Hill Company
6. Papalia, D.E., and Olds, S.W., (2005), Human Development, Tata Mc.Graw Hill Company,New York.
7. Rice Philip. K (2001) Human development, Prentice Hall, New Jersy
8. Santrock, J.W., (2006), Child Development, Tata Mc.Graw Hill Publishing Company, NewDelhi

9.Suriakanthi, A., (2005), Child Development, Kavitha Publications, Gandhigram, Tamil Nadu.

INTRODUCTION TO EARLY CHILDHOOD EDUCATION AND ADMINISTRATION

1. Agarwal, J C, (2007), History and Philosophy of Pre primary and Nursery education, DOABA HOUSE, New Delhi.
2. Agarwal, J C, (1997), Methods and Materials of Nursery Education, DOABA HOUSE, New Delhi.
3. Bowman T. Barbara, Donovan, Suzanne and Burns. M. Susan; Eager to Learn: Educating our pre schoolers (2000), Committee on early childhood pedagogy, national research council.
4. Ed- Persky Barry and Golubchick Leonard, Early Childhood Education (1991), University Press of America
5. Jenkins, Elizabeth. (2007) Administration in Early Education. New York: Thomson Delmar Learning.
6. Neugebauer, B., and R. Neugebauer.(2003) The Art of Leadership: Managing Early Childhood Organizations. Rev. ed. Child Care Information ExchangePress, Inc.
7. Roger Neugebauer (Edited) Inside Child Care. Trend Report 2000.. Exchange Press, Inc.
8. Sciarra, Dorothy June and Anne G. Dorsey. (2007) Developing and Administering A Child Care and Education Program. 6th Edition. New York: Thomson Learning.

B.A with Home Science as one Optional
Semester II
Optional II-Home Science - II
Resource Management & Textiles and Clothing

Code: RMTC – 201 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

THEORY OF RESOURCE MANAGEMENT (02hrs/Week)

OBJECTIVES:
To understand

- The various resources available
- The use and management of Time ,Energy and Money

Unit I **08 Hours**
Definition, Classification, Characteristics, Factors affecting the use of resources.

Unit II: **10 Hours**
Time as Resource – Concept, Tools in Time Management- Peak load, Work curve, Work Unit, Management process.
Money as a Resource: Concept, Sources of Income, Budgeting, Importance of Budgeting, Management process.

Unit III **08 Hours**
Energy as a Resource –Definition, Energy cost of household activity, Fatigue – types, measures to overcome Fatigue, Management process

FUNDAMENTALS OF TEXTILES (02hrs/Week)

OBJECTIVES:
To Enable Students to

- Understand the basics of Textile Science
- Understand the Principles of weaving, Printing, Dyeing and Finishing
- Know the Traditional textiles of India.

UNIT - IV
Introduction to Textile fibres

- Definition, Classification, Properties-Physical ,Chemical, Biological ,uses Cotton, Silk, Wool ,Polyester, Rayon

Yarn and Fabric construction

- Cotton system of spinning, Parts and functioning of a simple loom, Types of weaves- Plain, Twill, Satin, Pile.

UNIT- V

Dyeing, Printing and Finishing

- Classification and application of dyes for different types of fibres,
- Printing-Block, screen, Tie and Dye and Batik.
- Finishing- Definition, Classification-Basic Finishes-Bleaching, Mercerisation, Calendaring, Tentering.
- Functional Finishes- Water repellent, Weighting of silk, Decatising, soil release.

UNIT -VI

Traditional Textiles of India-Woven, Dyed and printed textiles.

PRACTICAL

Code: RMTC- 201 P **Total Marks: 50**
No. of Weeks: 13 **IA: 15**
Hrs per week: 03 **Practical Exam: 35**

THEORY OF RESOURCE MANAGEMENT

Unit I: List the various resources available in a family and community.
Plan time and activity chart for three days and evaluate.

Unit II: Plan family budget for three income groups.

Unit III: a) calculate the energy cost for any two activities
b) Measure your Minimum, Normal and Maximum reaches in Horizontal and vertical planes

FUNDAMENTALS OF TEXTILES

Unit IV

- Identification of Fibers – Physical Appearance, Microscopic test, Burning test-Cotton, Silk, Wool, Polyester, Rayon.

Unit V

- Collect swatches for the following weaves and illustrate in the record.
- Plain weave, Basket weave, Twill weave, Satin weave, Jacquard weave ,Pile weave.
- Collect swatches for the following:
- Yarn dyeing, Union dyeing, Cross dyeing.
- Block printing, Screen Printing, Tie and Dye and Batik.
- Mercerization, Calendaring, Tentering, Bleaching,

Unit VI

- Collect swatches for Traditional Textiles of India

REFERENCES:

THEORY OF RESOURCE MANAGEMENT

1. Gena Burton, and Manab Thakur, (2006), Management Today-Principles and practices, Tata McGraw Publishers, Ltd.
2. Reddy.P.N, Tripathi.P.C, Appannaiah.H.R, (2003), Essentials of Management, Himalaya Publishing House.
3. Nickel and Dorsey, (2005), Management in Family Living, Eily Eastern and Company, New Delhi.
4. Sushma Guptha, Garg, Anitha Aggarwal, (2005), Text Book of Family Resources Management, Hygiene and Physiology, Kalyani publishers, New Delhi.
5. Verghese.M.A, Saha P.N, Atreya.N, (2000), Ergonomics of Women at Work, Allied Publishers, Mumbai.

FUNDAMENTALS OF TEXTILES

1. Corbman B.P (2001) :Textile fibre to fabric ,McGraw-Hill,New Delhi
2. Hollen N and Saddler J (1995) Textiles ,Macmillan and co ,New Delhi
3. Joseph L Marjory (1981) :Introductory Textile Science ,Holt Rhine hart Winston inc,New York.
4. Joseph M.L (1976) Essentials of Textiles ,Holt ,Rhinehart and Winston ,New York
5. Wingate I B, (1987) textile Fabrics and their selection ,Prentice Hall ,New Jersy.

B.A. with Home Science as one Optional
Semester III
Optional III-Home Science – III
Food and Nutrition & Extension Education and Communication

Code: FNEEC – 301 **Total Marks: 100**
Hours: 52 **Theory: 70**
Instruction Hrs/Week: 04 **Internal Assessment: 30**

BASIC NUTRITION (02hrs/Week)

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 **02 Hours**

Introduction to nutrition

- Terminologies related to nutrition
- Functions of food

Unit II **12 Hours**

(c) Macro nutrients – [classification, sources, functions, deficiency and excess (in brief)]

- Carbohydrates,

- protein,
- fats

(d) Micro nutrients [Sources, Functions and Deficiency]

- Minerals-calcium, phosphorous, sodium, potassium, iron, iodine, zinc, fluorine
- Vitamins –Fat soluble vitamins (vitamin A, D, E, K)
  Water soluble vitamins (B complex vitamins: Thiamin, Riboflavin, Niacin, Pyridoxine, Folic acid and cyanocobalamine. And vitamin C)

Unit III **12 Hours**

- Energy - Components of energy requirement, Factors influencing BMR.
- Water-Functions, Sources and Water balance
- Fibre- Functions and sources

BASICS OF EXTENSION EDUCATION AND COMMUNICATION (02hrs/Week)

OBJECTIVES:

- To familiarize students with the concepts and principles of Extension Education.
- To develop understanding about the process and trends in Communication.

Unit-IV **09 Hours**

Introduction to Extension Education

- Concept and scope of extension education.
- Philosophy and principles of extension education.
- Role and qualities of the extension facilitator.
- Methods of approaching people - Individual approach. Group approach & Mass approach.
- Use of Audio Visual aids for Extension Activities.

Unit-V **09 Hours**

Communication Process.

- Definition, types, importance and meaning of communication.
- Elements and functions of communication.
- Communication models and barriers in communication.
- Communication for social change.
- Concept, classification and methods of communication.
- Role of mass media in communication.
- Challenges in communication in contemporary society.
- Signs, symbols and codes in communication.

Unit-VI **08 Hours**

Program Planning, Development and Evaluation

- Meaning and principles of Program Planning.
- Extension Program.
- Components of Program.
- Developing a plan of work.
- Concept, Importance and Scope of program planning in Extension.
- Elements of the plan of work.
- Pre requisites of development of plan of work.

- Plan of work-A format or a Model.
- Program Projection and Evaluation.

PRACTICALS

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

BASIC NUTRITION

Unit I Weights and measures

Unit II Identification of nutrient rich foods

Unit III Planning and preparation of nutrient rich recipes

- Energy
- Protein

Unit IV Planning and demonstration of nutrient rich recipes

- Iron
- Calcium
- Vitamin A
- Vitamin C

BASICS OF EXTENSION EDUCATION AND COMMUNICATION

Unit IV

- Conduct a Brain storming session on barriers to communication
- Prepare and use an interview schedule for verbal communication
- Prepare a visual aid on a given topic (a Wrong and a Right one)

Unit V: Plan and develop a programme for creating awareness and sensitization about _____ in the community.

Unit VI: Visit to an organization/ institution to observe and study different modes of communication .

REFERENCES:

BASIC NUTRITION

1. Raheena Begum M,(2009), A Textbook of Foods, Nutrition and Dietetics. Sterling publishers, New Delhi
2. Mudambi S. R. and Rajagopal M. V., (2008),Fundamentals of Foods, Nutrition & Diet therapy by New Age International Publishers, New Delhi
3. Sri Lakshmi B.(2009),Human Nutrition. New Age International Publishers, New Delhi
4. Swaminathan M. (2002), advanced text book on Food and Nutrition. Volume II. Bappco.

BASICS OF EXTENSION EDUCATION AND COMMUNICATION

1. Acharya SK, Adhikari MM, (2012), Communication: The Process & Application in Extension Education, Agrotech Publishing Academy, Udaipur.
2. Dangi KL & Santosh Samota, (2013), A Textbook on Dimensions of Extension Education, Agrotech Publishing Academy, Udaipur.
3. Dangi KL et al. (2014), A Textbook of Communication Skills, Agrotech Publishing Academy, Udaipur.
4. Dipak De, Basavaprabhu Jirli, (2013), A Handbook Of Extension Education, Dr.Updesh Purohit for Agrobios (India). Jodhpur.
5. Indu Grover et al. (2002), Communication and Instructional Technology, Agrotech Publishing Academy, Udaipur.
6. Kalla PN et al.(2009), Communication Skills for Extension Workers, Agrotech Publishing Academy, Udaipur.
7. Khan PM & Somani LL, (2013), Fundamentals of Extension Education, Agrotech Publishing Academy, Udaipur.