INSTITUTE OF HOME SCIENCE

THE UNIVERSITY OF KASHMIR
Hazratbal- 190006

CHOICE BASED CREDIT SYSTEM SYLLABUS OF

M. Sc. HOME SCIENCE – SESSION, 2022 Onwards

M.Sc. SPECIALIZATIONS:	Course Code
FOOD SCIENCE AND NUTRITION	F. Sc. N
DIETETICS AND CLINICAL NUTRITION	D. Cl. N
EXTENSION AND COMMUNICATION	E. C
HUMAN DEVELOPMENT	H. D

Programme Outcomes (PO)

Food Science and Nutrition

Provide quality education to make the students technically competent to face the challenges in the field of food science and nutrition. Train on innovative product/process development applying the science of food and to be able to serve in core industry, which leverages diverse food science and nutrition domains including, disease prevention, product development, safety & quality control. Harness the skills required to be an efficient entrepreneur and to be able to build competent nutrition professionals to address the health related community issues. Perform in applied nutrition fields including public health and diet therapy and enable students to confidently pursue higher studies and research in nutrition and interdisciplinary areas. To apply technical skills, knowledge of food science and nutrition, critical thinking, and decision-making skills in research and development. The students will also be able to know and understand the basics and principles relating to food, nutrition and the relationship of food to human health. Identify the conditions, including sanitation practices, under which the important pathogens and spoilage microorganisms are commonly inactivated, killed or made harmless in foods. Gain knowledge on nutritive value of different foods, cooking methods, factors influencing and changing cooking quality and also home scale processing and storage skills to retain nutrients. Identify food-based strategies for alleviating nutritional problems to achieve nutrition and health security. Also, recognise government regulations required for the manufacture and sale of food products. Further to know the major chemical reactions that limit shelf life of foods and to explain the basic principles of sensory analysis. Students would be able to calculate and interpret nutrient composition of foods, modify recipes and recipe proportions for individuals and groups. Provide and equip students with knowledge and critical thinking in understanding the recent developments of nutritional science and novel food usage with evidence-based approach.

Dietetics and Clinical Nutrition

Utilize knowledge from the physical and biological sciences as a base for understanding the role of food and nutrients in health disease processes. Provide nutrition counseling and education to individuals, groups and communities throughout the lifespan using a variety of communication strategies. Evaluate nutrition information based on scientific reasoning for clinical, community, and food service application. Apply technical skills, knowledge of health behaviour,

clinical judgment, and decision-making skills when assessing and evaluating the nutritional status of individuals and communities and their response to nutrition intervention. Implement strategies for food access, procurement, preparation, and safety for individuals, families, and communities. Perform food management functions in business, health-care, community and institutional arenas. Practice state-of-the-art nutrition care in collaboration with other health-care providers in interdisciplinary settings within the bounds of ethical, legal and professional practice standards. Provide culturally competent nutrition services for individuals and communities. Accurately interpret data and research literature to solve complex problems. Critically evaluate information on food science and nutrition issues appearing in the popular press. Analyze the environmental dimensions of issues facing professionals. Demonstrate creativity in the discipline in ways that have practical benefits. Competence in the skills of assessment, planning, management and evaluation of food service, nutrition and dietetic services in institutional food, community nutrition, and clinical dietetics settings. Students will utilize advanced principles of health literacy, including critical thinking skills, literature searches, data collection and interpretation, necessary for the implementation of food and nutrition services in professional settings. The course equips students with ability to manage a healthy society and country. This goes a long way in progress of entire nation and thus world. Students can work at both national and international level after completion of higher studies in this course. The course gives an opportunity to willing students to establish an enterprise of their own in health and food sectors.

Extension and Communication

The Programme Extension and Communication integrates this broad-based knowledge and focuses on community development with special focus on rural area, women and children. It combines the study of social, emotional, and physical aspects of community development considered within cultural contexts and relevant to social policies. It includes theories of Development which give points of reference to explain what to observe and how to understand the developmental process. This Programme is also useful source of behaviour and trends, and account for the path that individuals follow, whether these can be called paths of growth or lack of progress. It helps us understand social issues, welfare programmes, women empowerment, education and gender studies. The Programme of Extension and Communication also help students in understanding conservation, development and use of natural resources; proper farm and home management; better family living; youth development; leadership development; community and rural development; improving public affairs for all round development; raise the

standard of living of the rural people by helping them in right use of their resources; help in planning and implementing the family and village plans for increasing production in various occupations; and provide facilities for better family living. Extension programs are service to extend research-based knowledge to the rural sector in order to improve the lives of rural people. Extension includes components of technology transfer, broader rural development goals, management skills, and non-formal education. It also includes women studies and child welfare. In this Programme students get opportunities to work with different kinds of leaders such as: innovators, opinion, community, or traditional leaders. The extension workers act as guide and educate them how to use new knowledge, skills and attitudes in solving their problems. The extension education helps all classes of people men, women and youth to solve their present and future economic, social and cultural problems. Extension Professionals they have witnessed serving their local communities. Extension and Communication Programme help you stay on top of those ever-changing demands so you can better serve your community. The subject aligns the curriculum with the professional competencies, such as program planning, evaluation, communications, volunteer leadership, and other competencies that are essential for Extension professional success. The Extension and Communication Programme also prepares for Extension careers and beyond. The Subject brings forth academicians, in addition to master's and doctoral degrees. "Extension professionals have challenging and rewarding careers as they engage with their communities. Under the programme students are taken to field surveys so that they interact with stakeholders and get practical training of what they are learning. The experience goes beyond reading about a concept. Students are able to see, manipulate and participate physically. Students are able to see elements with their eyes rather than reading about it and believing what they are told in classrooms. It takes students from the book learning in the classroom and extend it to life situations. Students often question the importance of topics they study in class. Field visits answer their questions of how learning can be applied in life. Students incorporate the field survey experiences back into classroom activity after returning to department. The Subject has a unique outcome as public agency because the programme advances the environment, human health and well-being, youth, and communities while creating prosperity for all. The Programme helps the public and private sector to recruit and retain a high-performing workforce that helps individuals, families, farmers, and communities to innovate. Extension professionals provide solutions that improve the quality of life for families, women, children, youth, and communities.

Human Development

Human development is a multidisciplinary study of the psychological, biological, and sociological factors that impact people from infancy through adolescence to adulthood. The program is devoted to understanding the nature of human development across the lifespan in a culturally diverse, changing and complex world. Our effort is to apply contextual and systemic frameworks to the study of development and relationship processes through research, teaching and application. It is a fascinating and intriguing subject primarily because it is about people. It helps the students to understand the changes that take place in our lives: in our bodies, personalities, thinking, feelings, behaviour, relationships and in the roles that we play during different periods of our lives. We seek to describe the changes that take place from conception through adulthood. Information about these changes comes primarily from scientific research that accurately observes, measures, records and interprets so that objective data are obtained. Human development seeks to describe, explain, predict and influence the changes. The program helps to promote competence in scientific study, research in the field, and the use of relevant assessment measures for children. It helps to develops sensitivity and skills in working with children and families. Students are able to acquire working knowledge in counselling children and families. The ability to plan and implement programmes for children and create awareness about children and families living in difficult circumstances is also encouraged. The curriculum values and supports interdisciplinary perspectives and combines classroom learning with field opportunities. It makes the students able to understand the domains of Human development from the life span perspective. On the successful completion of the Programme the students may demonstrate the sound theoretical knowledge regarding theories of human development, family studies, advanced human development, psychological testing, research methods, statistical applications, early childhood education, child and family rights disabilities, family guidance and counselling and creativity.

Semester I

S. No.	Title of the Course/ Course Code.	Specialization	Hours/Week			Marks	Credits
			L	T	P		
1	Applied Physiology HSC22101CR	**Both Food Science & Nutrition/ Dietetics & Clinical Nutrition**	4	0	0	100	4+0+0=4
2	Nutritional Biochemistry HSC22102CR		4	0`	0	100	4+0+0=4
3	Lab Techniques in Physiology &Nutritional Biochemistry **(Lab Course)** HSC22103CR		0	0	8	100	0+0+4=4
4	Communication Techniques HSC22104CR	**Extension & Communication**	4	0	0	100	4+0+0=4
5	Methods for Community Participation HSC22105CR		4	0	0	100	4+0+0=4
6	Communication Techniques & Methods for Community Participation **(Lab Course)** HSC22106CR		0	0	8	100	0+0+4=4
7	Methods of Studying Human Development HSC22107CR	**Human Development**	4	0	0	100	4+0+0=4
8	Early Childhood Care & Education HSC22108CR		4	0	0	100	4+0+0=4
9	Methods of Studying Human Development & Early Childhood Care & Education (**Lab Course)** HSC22109CR		0	0	8	100	0+0+4=4

10	Food Microbiology HSC22110DCE	**Food Science & Nutrition/Dietetics & Clinical Nutrition**	4	0	0	100	4+0+0=4
11	Community Health Management HSC22111DCE	**Extension & Communication**	4	0	0	100	0+0+8=4
12	History & Theories of Human Development HSC22112DCE	**Human Development**	4	0	0	100	4+0+0=4
13	Indian Socio-Economic Environment HSC22113DCE	**Extension & Communication**	4	0	0	100	4+0+0=4
14	Study of family in Society HSC22114DCE	**Human Development**	4	0	0	100	4+0+0=4
15	Nutritional Disorders & Diseases HSC22001GE	**Dietetics & Clinical Nutrition**	2	0	0	50	2+0+0=2
16	Gender Equity and Society HSC22001OE	**Extension & Communication**	2	0	0	50	2+0+0=2

APPLIED PHYSIOLOGY

Code: **HSC22101CR**

Core

Credits: **4**

Periods/week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To enable students to understand the integrated function of all systems and the grounding of Nutritional Science in physiology
2. To know about the different systems of the body and their functions
3. To understand the alterations of structure and functions in various organs and systems of the body in disease conditions

Learning Outcomes:

1. On completion of this subject students will have the knowledge and skills to describe the structure of major human organs and explain their role in the maintenance of healthy individuals.
2. Ability to integrate physiology from the cellular and molecular level to the organ system and organismic level of organization.
3. Helps in basic understanding of structure and function of animal cell and various tissues in our body.
4. Understand the functions of important physiological systems including the cardio, respiratory, renal, reproductive and metabolic systems.
5. Describe the interdependency and interaction of the systems.

Unit I: The Living Cell:

- Cell structure, Structure and function of Cell Organelles.
- Types of Tissues, Characteristics and functioning of tissues.

Blood and other Body fluids:

- Intracellular and extra cellular fluids, blood composition, blood volume and factors affecting it, hemoglobin, plasma protein.
- Coagulation of blood, blood groups, Hemolytic disease of the newborn, blood transfusion.

Cardio - Vascular System:

- Working of heart, structure and function of heart.
- Blood pressure - factors affecting it.
- Hypertension and its causes.

Unit II: Digestive System:

- Structure and functions of digestive organs, alimentary canal and its associated glands. Composition and function of different digestive juices.
- Digestion and mechanism of absorption of carbohydrates, proteins and fats.

Respiratory System

- Organs - their structure and functions.
- Composition of inspired, expired air and alveolar air, factors affecting breathing.

Excretory System

- Urinary System - organs involved, their structure and function. Mechanism of urine formation. Role of kidneys in water and electrolyte balance.
- Skin - its structure and function.

Unit III: Reproduction and Development

- Structure of male and female reproductive organs.
- Spermatogenesis and Oogenesis, Menstrual cycle, ovulation, pregnancy and parturition, stages of labor.
- Mammary glands and physiology of lactation, effect of hormones on reproductive system.

Muscles and Skeletal System

- Kinds of muscles-voluntary and involuntary muscles. Physiology of muscle contraction.

- General introduction to skeletal system.

Unit IV: Nervous System

- Structure and function of different parts of brain.
- Reflex action and its types.
- Autonomic nervous system.

Endocrine Glands

- Thyroid, para-thyroid, adrenal cortex, adrenal medulla, pancreas, pituitary and gonads – Structure and functions. Hormones secreted by these glands, their functions and associated abnormalities.

Immunity:

- Natural immunity, acquired immunity.
- Reticulo-endothelial system.
- Phagocytosis and its phases.

References:

1. Eldra Pearl Solomon,William Davis P.(2000).Human Anatomy & Physiology.17th edition.Holt-Saunders International Editions,Sunders College Publishers.
2. Sembulingam K., and Sembulingam P.(2019).Essentials of Medical physiology.8th edition.Jaypee Brothers Medical Publishers.
3. Walter F.Boron,EmileL.Boulpaep.(2016).Elsevier publishers.
4. Guyton, A. C. and Hall, J. B. (2000) Text book of Medical Physiology, 14th Edition,Elsevier publishers.
5. Jain A. K. Text Book of Physiology Vol. I & II (2017).7th edition. Avichal Publishing Company, New Delhi..
6. Tortora G.J. &Grabowshi S.R. (2017). Principles of Anatomy & Physiology, 15th edition, Wiley Blackwell Publishers.
7. Pal ,G.K.,Pravati Pal (2020).Textbook of Practical Physiology.5th edition. University press (India) pvt.ltd.
8. Martini.(2000).Anatomy & Physiology.6th edition.PrenticeHall.Inc.

9. Elaine N. Marieb. (2021).Human Anatomy and Physiology.5th edition.Pearson education.
10. Vander,Sherman,Lucian.(2011).Human Physiology.6th edition.WCB,McGraw-Hill publishers.

NUTRITIONAL BIOCHEMISTRY

Core

Code: **HSC22102CR**
Credits: **4**
Periods/week: **4 Hours**
Max. Marks: **100**

Learning Objectives:

1. To make the students aware of the importance and relevance of Bio-chemistry and Nutrition
2. To enable the students to understand the basic concepts, structure and function of various nutrients

Learning Outcomes:

1. The students will come to know about the biochemical properties of the major food constituents.
2. Brings out relation of the subject with other biological sciences. It also gives an insight into molecular aspect of transport, biological oxidation, and genetic control of metabolism.
3. Gives an insight into metabolism of micronutrients, biochemical role of micro nutrients and genetic defects in metabolism.
4. Understand the metabolism of nutrient molecules in normal, physiological and pathological conditions.
5. Gain knowledge of biochemical substances and processing and understand their relation to human nutrition.

Unit-I

- **Carbohydrates**: Properties of monosaccharides, optical isomerism, mutarotation, biologically important derivatives of monosaccharides (glycosides, sugar alcohols, sugar acids, sugar phosphates, deoxy sugars, amino

sugars), disaccharides (lactose, maltose, sucrose) structures and functions of poly-saccharides, (starch, glycogen, pectin, cellulose), mucopolysaccharides (hyaluronic acid, heparin, chondroitin sulphate). Flatulence factors.

- **Metabolism**: Glycolysis and TCA cycle, gluconeogenesis, glycogenolysis, hereditary disorders of carbohydrate metabolism.

Unit-II

- **Lipids:** Triglycerides, fatty acids - nomenclature and their properties, phospholipids, lecithin, cephalin, sphingomyelins, glycolipids, lipoproteins (composition and transport) steroids (cholesterol and bile acids) prostaglandins.
- **Metabolism:** Oxidation of fatty acids and ketone bodies. Genetic disorders of lipid metabolism (Gaucher's disease, Niemann-Pick disease, Tay-Sachs disease)

Unit-III

- **Proteins**: Peptides and proteins. Determination of amino acid composition of proteins (N & C terminals). Orders of protein structure, factors responsible for protein structure, structure of collagen, denaturation, precipitation of proteins, isolation and purification of proteins.
- **Metabolism**: Oxidative degradation of amino acids. Urea cycle. Inborn errors of metabolism.

Unit IV

- **Enzymes**: Classification and nomenclature, distribution of enzymes, enzyme specificity, enzyme assay, factors influencing enzyme activity, Michaelis-Menten equation, Line-weaver Burk plot, enzyme inhibition, co-enzymes and prosthetic groups, structure and biochemical role of co-enzymes.
- **Nucleic Acid:** Bases, nucleosides, nucleotides, Structure and properties of DNA, Types of RNA, Replication, Transcription and translation of genetic information, nucleoproteins (Protamines, histones)
- **Uric acid metabolism and Gout**.

References:

1. Murray, R. K., Grannar, D. K., Mayes, P. A. and Rodwell, V. W., (2000): 25th Ed. Harpers Bio-chemistry. Macmillan Worth Publishers.
2. Nelson, D. L. and Cox, M. M. (2000): 3rd Edition Lehningers Principles of Biochemistry, Macmillan Worth Publishers.
3. Devlin, T. M. (1997): 4lh Edition Textbook of Biochemistry with Clinical Correlation, Wiley Liss Inc.
4. Stryer, L. (1998): 4111 Ed. Biochemistry, W. H. Freeman and Co.
5. Raghuramula, N.: Madhavan Nair and K. Kalyanasundaram, S. A Manual of Laboratory Techniques N1N. 1CMR.
6. Fundamentals of Biochemistry (2005): 6th Edition, J. L Jain, S. Chand & company limited
7. Biochemistry 4th Ed. - D. Voet, J. Voet (Wiley, 2011).

PHYSIOLOGY AND NUTRITIONAL BIOCHEMISTRY

(Lab Course)

Core

Code: **HSC22103CR**

Credits: **4**

Periods/week: **8 Hours**

Max. Marks: **100**

1. Qualitative Analysis of carbohydrates.
2. Qualitative Analysis of Proteins/Amino-acids.
3. Qualitative test for Fats, Cholesterol.
4. Qualitative test for Calcium and Phosphorus.
5. Determination of Saponification value of lipids, Acid number of fats and Iodine number of fats.
6. Quantitative estimation of sugar by titrimetric method.
7. Use of pH meter and determination of pH value of dilute and strong acids and bases. Fruits and vegetable extracts.
8. Estimation of glucose in blood.
9. Estimation of soluble proteins in blood (Biuret method).
10. Estimation of calcium & phosphorus.
11. Estimation of bilirubin & cholesterol.
12. Estimation of creatinine & vitamin C.
13. Estimation of blood urea.
14. Microscopic examination of slides of various tissues.
15. Estimation of hemoglobin (Sahil's method).
16. Examination of Total blood count, differential count.
17. Determination of various blood group.
18. Examination of urine.

COMMUNICATION TECHNIQUES

Code: **HSC22104CR** **Core**

Credits: **4**

Periods/Week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To understand the meaning, scope &importance of communication in extension work.
2. To understand the various Audio-visual Aids &their use.
3. To know the various communication & extension approaches.

Learning Outcomes:

1. Help students to communicate with people who are unable to bring forth their needs, preferences, and ideas due to their educational level, gender and dwelling
2. Teach students how to interact both socially and functionally.
3. Understand the meaning, scope & importance of communication in extension work;
4. Understand the various Audio-Visual Aids & their use; know various communication & extension approaches.

Unit I: Communication

- Definition &importance of communication in extension work, communication models, functions of communication, communication relationship, main problems in communication. Modern means of communication and its challenges.

Unit II: Audio-visual Aids

- Definition, classification, cone of experience, advantages and disadvantages.

- Choice of visual aids planning. The use of visual aids, selecting theme for visual layout and design. Three-dimensional effects in visual aids. Evaluation of visual aids.

Unit III: Communication and Extension Approaches

- Individual approach—Personal visits, personal letters.
- Group approach - Demonstration, Group Discussion, Symposium, campaigns

Unit IV: Mass Media Approaches of Communication.

- Motion Pictures, Radio, Television.
- Charts, Posters, Flash Cards.
- Puppetry, folk songs, Storytelling.

References:

1. K. Sampath, A. Pannirselvam, S. Santhanan, Introduction to Education Technology.
2. O. P. Dhama Education and Communication for Development.
3. Gerald A. Yoakan, Robert G. Simpson, Modern Methods and Techniques of Teaching.
4. R. E. de Kieffer Lee W. Cochran Audio Visual Techniques (Manual).

Rather, A. R. (2003) Instructional Technology. Gulshan Publi

METHODS FOR COMMUNITY PARTICIPATION

Code: **HSC22105CR**

Core

Credits: **4**

Periods/Week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To understand meaning and principles of PRA.
2. To acquaint the students with different PRA methods.
3. To understand advantages and obstacles involved in peoples' participation.

Learning Outcomes:

1. Enable development partners, government officials, and local people to work together to plan context-appropriate programs.
2. Incorporate the knowledge and opinions of rural people in the planning and management of development projects and programmes
3. Understand meaning and principles of Participatory Rural Appraisal PRA; acquaint students with different PRA methods; and understand advantages and obstacles involved in people's participation.

Unit I: Conceptual Specification

- Concept and Principles.
- Origin and Sources of PRA.
- Salient features of PRA.
- Peoples' participation advantages and obstacles.
- PRA methods.
- Applications of PRA.
- Concerns about PRA.

Unit II: Space Related PRA Methods

- Social map
- Resources map
- Participatory modeling method.
- Mobility map
- Services and opportunities map.
- Transect map
- Participatory census methods.

Unit III: Time Related PRA- Methods

- Daily activity schedule.
- Time line
- Seasonal diagram
- Trend analysis
- Historical transect
- Participatory genealogy method.
- Dream map

Unit IV: PRA Relation Methods

- Cause effect diagram.
- Systems diagram.
- Network diagram
- Venn Diagram
- Pie Diagram
- Spider Diagram.
- Body Mapping
- Well-being Ranking Method
- Pair wise Raking Method.
- Matrix Ranking/ Scoring method.

References:

1. Somesh Kumar., Methods for Community participation. A Complete Guide for Practitioners.
2. Chandramouli., K (1991) "Pass on the Pen Approach. Identifying the poorest of the poor families; PRA notes 14: December, PP 29-32 IIED, London.
3. Cornwall, A. (1992) "Body Mapping in Health PRA/ PRA' PRA notes 16 July PP 69-76 IIED, London.
4. Kumar Somesh ed., (1996) ABC of PRA – Attitude and Behaviour changes, A report of the Proceeding of South – East Workshop on Attitudes and Behaviour in PRA. Action Aid India and PRAXIS, Patna.
5. Dr. A. Adivi Reddy, 7th Edition 2001, Extension Education.
6. G. L. Ray, 2nd revised and enlarged edition 1996, first published 1991.

COMMUNICATION TECHNIQUES & METHODS FOR COMMUNITY PARTICIPATION (Lab Course)

Code: **HSC22106CR**

Credits: **4**

Core

Periods/Week: **8 Hours**

Max. Marks: **100**

1. Prepare an almanac (a year book) of facts. It should contain common concerns, issues, events and statistics.
2. Prepare leaflets and folders with Home Science messages.
3. Design and build a flannel board for your own instructional use. Select and complete the project by selecting, a number of pictures that you can use in teaching.
4. Prepare and indicate any type of information you could present by a chart related to women/children.
5. Make a poster using appropriate size, colour and lettering to educate the selected group on any problem of importance.
6. Make a series of flash cards to educate rural population on any one problem related to
   health/ hygiene/nutrition.
7. Plan and demonstrate a role play on any relevant problem in a community.
8. Space related PRA Methods
   - Social mapping
   - Resource mapping
   - Mobility mapping
   - Services and Opportunities mapping
9. Time related PRA–methods
   - Time line

- Daily activity schedule
- Dream mapping
- Trend analysis

10. PRA relation methods.
    - Venn Diagram
    - Pair wise ranking method
    - Pie diagram
    - Spider diagram

METHODS OF STUDYING HUMAN DEVELOPMENT

Code: **HSC22107CR**

Core

Credits: **4**

Periods/week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To study different methods and techniques of understanding Human Development.
2. To apply the various methods studied in practical context.

Learning Outcomes:

Students will be able to understand:

1. The application of methods of studying Human Development.
2. Implementation/ execution of various psychological tests for effective assessment of an individual.

Unit I: Studying Human Development

- Importance, Trends and challenges in studying Human Development
- Ethics in life span research
- Objective, Subjective and Projective techniques
- Inventory, Scale, Test. Concept of validity & reliability

Unit II: Observation & Interview Methods

- Observation- Types, Steps, Techniques, Advantages, Disadvantages
- Interview- Types, Steps, Advantages, Disadvantages

Unit III: Questionnaire & Case study methods

- Questionnaire- types, steps, advantages, disadvantages
- Case study- types, steps, advantages, disadvantages

Unit IV: Socio-metric & Psychometric Methods

- Socio-metric Methods:
  - Sociometric questionnaire
  - Guess who Technique
  - Social Distance scale
- Psychometric Methods:
  - Scales of infant assessment
  - Wechsler battery of tests
  - Raven's progressive Matrices

References:

1. Kerlinger. N, F, (1964) Foundations of Behavioral Research. New Delhi: Surjee Publications.
2. Freeman, F.S., (1965) Theory and Practice of Psychological testing. 3rd Ed. Oxford & I.B.H. Publishing Co.
3. Anastasi A., (1982) Psychological Testing 5th Ed. New York, Macmillian Publishing Company.
4. Sharma, B.A.V; Prasad D.R &Satyanayaran P., (1985) Research Methods in social Sciences, New Delhi, Sterling Publications.
5. Blaxter, L. Hughes, C. & Tight, M.(1990) How to research. New Delhi: Uwa Book.
6. John W. B, & James U. Kahn (1993) Research in Education. New Delhi: Prentice hall of India Pvt. Ltd.
7. Alward, G. (1994) Practitioners guide to Developmental & psychological testing. New York: Plenum Press.
8. V.V. Khanzode (1995) Research Methodology techniques & trends. New Delhi: APH Publishing Corporation.
9. Kothari, C. R. (2000) Research Methodology Methods & techniques. New Delhi: Vishwa Prakashan.

10. Rajamanickam, M., (2004). Experimental Psychology -With Advanced Experiments. New Delhi: Concept Publishing Company.
11. Rather, A. R Measurement & Evaluation. Srinagar: Gulshan Publishing.

EARLY CHILDHOOD CARE AND EDUCATION

Code: **HSC22108CR**

Core

Credits: **4**

Periods/week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To gain knowledge and insight regarding principles of early childhood care and education.
2. To develop the skills and techniques to plan activities in ECCE centers of different types.
3. To conduct activities in early childhood care and education and to work effectively with parents and community.

Learning Outcomes:

The students will be able to:

1. Develop an insight about early childhood care and education and the various programmes and services offered.
2. Conduct activities on early childhood care and education and will work effectively with parents and community.
3. Recognize pro-social skills, social competence and emotional well-being among children.

Unit-I: Principles of early childhood care and education

- Importance, need, scope and objectives of ECCE

- Contribution of thinkers to the development of ECCE-Froebel, Maria, Montessori, M.K. Gandhi, Rabindra Nath Tagore.
- Concept of formal, non-formal and play way methods.
- Types of preschool programme- play centres, day care centres, Mobile Crèche. Montessori schools, Kindergarten, Anganwadi, Balwadi.

Unit-II: Historical trends and ECCE in India

- ECCE in pre-independence and post-independence eras
- Kothari Commission, Contribution of Five years plans, Yashpal committee
- Contribution of agencies to ECCE in India- ICDS-UNICEF, NCERT
- Latest trends in ECCE - NEP 2020

Unit-III: Organization and Programme Planning of Pre-school centres- NEP 2020

- Organization, Administration of Early childhood centres. Building and equipment-location and site, arrangement of rooms, play space, selection of different types of outdoor and indoor equipment.
- Planning- Setting goals and objectives, long term, short term daily routines
- Records & Report - Types (Anecdotal, Cumulative and medical)

Unit-IV - Activities for ECCE

- Language- Goals, types and activities (songs, picture talk, games, riddles, jokes and stories)
- Music- Objectives, goals & aspects of music (Composing, listening and singing)
- Mathematics - Goals, developmental concepts at different stages and principles of teaching maths
- Science and Social studies- Thinking, observing, classifying, communicating, concept formation

References:

1. Jenkkins, E. (1977) A practical Guide to early childhood curriculum, C.V Mostey Co.

2. Kaul, V. (1977) Early childhood education programme, New Delhi NCERT
3. Kohn, V. (1977) The exploring child Mumbai Orient Longman.
4. Maximum 9 (1980) The very young California Wordsworth.
5. Read Katherine(1980) The nursery school halt Rineherst and Winston.
6. Hildbe and Verma (1981) Introduction to Early Childhood Education, Macmillian Publication.
7. Day Barbara (1983) Early childhood education New York Macmillan Publication.
8. Grewal, J.S (1984) Early childhood education, Agra National Psychological corporation.
9. Kulbaemis (1988) Parent education perspectives and approaches, Jaipur, Ravat Publications.
10. Murelidharam, R. (1991) Guide to Nursery school teachers: New Delhi NCERT
11. Bhatia and Bhatia (1995).Theory and principles of education. New Delhi Waaba House.
12. Khurshid-ul-Islam S; & Rao V (1997). Early Childhood Care & Education. New Delhi. Commonwealth Publishers.
13. Mohanty, J; & Mohanty, B. (2007) Early Childhood Care & Education. New Delhi. Deep & Deep Publication.
14. Brewee J.A (1998) Introduction to early childhood education 3rd ed. Boston Allyn and Bacon.

Methods of Studying Human Development & Early Childhood Care & Education (Lab Course)

Code: **HSC22109CR**

Core

Credits: **4**

Periods/week: **8 Hours**

Max. Marks: **100**

Intelligence Test:

1. Administration of Ravens Progressive Matrices on young adults
2. WPPSI- (Revised) to be administered on pre- school children

Projective Techniques:

Administration of

1. T.A.T
2. C.A.T
3. Rorsharch ink blot test
4. Personality inventories:
    - Maudsley Personality Inventory (MPI) (Eysenck)
    - 16 Personality Factor Questionnaire (Cattel)
5. Socio metric test
6. Case Study/ Questionnaire/ Interview/ Observation protocols
7. MMPI (Minnesota Multi phasic Personality Inventory)

Visit to Various Centres of ECCE

1. Preschools, day care centre & Anganwadi centers- preparation of observation reports.

2. Placement in any one of the above centres for a week and submission of a report.

Planning, preparing and administering teaching kits on Pre-school children

- Mock set up
- Storytelling, puppets and mobiles
- Song booklet and low-cost musical instruments, readiness games and material.
- Art and craft portfolios.
- Picture talk and object talk related material.
- Role play
- Organization of games for children with special needs

Planning of parent teacher meet

1. Simulation of meet/event/function
2. Planning and activity program for pre-school children

FOOD MICROBIOLOGY

Code: **HSC22110DCE**

Credits: **4**

Periods/week: **4 Hours**

Max. Marks: **100**

Discipline Centric Elective

Learning Objectives:

To enable the students to:

1. Learn about the Micro-organism causing spoilage of food.
2. Study methods for controlling & spoilage of micro-organisms.

Learning Outcomes:

1. The students will gain knowledge about different types of microorganisms including their classification, sources and factors influencing their growth in food products.
2. Knowledge regarding fermented foods and their spoilage will help in understanding the food borne microbial diseases and food poisoning by microbes would make the students capable to increase awareness regarding public health.
3. An understanding of the detection and controlling of microorganisms by various techniques would be beneficial for the students to detect microorganisms in food and as certain the safety of food products.

Unit I:

- **Micro-organisms Associated with Food (Bacteria, mould, yeast):** Types, characteristics and occurrence. Mechanism of food spoilage by these micro-organisms
- **Sources of Micro- organisms: -**Soil, Water, Air, Sources of contaminants in animal and plant food.
- **Effect of Environmental Factors on Growth of Micro-Organism: -** Growth curve. Nutrients, Moisture, pH, Oxidation reduction potential, Temperature and gaseous atmosphere, Inhibitory substances in animal and plant products

Unit II:

- **Microbial Intoxication and Infections:** Food borne illness - Bacterial and fungal, outline of etiological agents, symptoms, foods involved and control. Food borne illness caused by *Staphylococci*, *Salmonellae*, *E. coli*, *Clostridium botulinum*, aflatoxin- its biological effects and control
- **Useful micro-organism** - Lactic acid bacteria and yeast. Probiotics, Prebiotics and their beneficial effects

Unit III:

- **Estimating the number of Microbes:** Sampling, Direct Microscopic Count, Pour plate count, Surface Plate Count, Membrane Filters, MPN, Methylene Blue Reduction test, Tetrazolium Test and PCR
- **Spoilage of food: -** Food Spoilage in fruits, vegetables, cereals, poultry, egg, dairy products fats and oils and canned foods
- **Microbiology of Water:** Water borne Pathogenic Microbes, Sanitary test for Coliform - Presumptive, Confirmed and Completed test, Purification of Water

Unit IV:

- **Control of Micro-Organisms: -** By asepsis (air, water, equipment's use of sanitizing agents, personnel), By removal (washing, centrifugation and filtration), By retarding growth - low temperature storage (Refrigeration, freezing. By drying (Hot air, spray, vacuum, freeze and micro-wave). Controlled atmospheric storage, Use of chemical preservatives

References:

1. Pelezar, M. 1. and Reid, R. D. (1993): Microbiology McGraw Hill Book Company, New York, 5th Edition.
2. Atlas, M. Ronald (1995) Principles of Microbiology latest Edition, Mosby - Year Book, Inc, Missouri, U. S.A.
3. Frazier, W.C. (1998): Food Microbiology Me Graw Hill Inc. 4th Edition.

4. Jay, Janes, M. (2000) Modern Food Microbiology 6th Ed., Aspen Publishers Inc. Maryland.
5. Banwat J. George (1998): Basiv Food Microbiology 2nd Ed., CBS Publishers and Distributors.

COMMUNITY HEALTH MANAGEMENT

Code: **HSC22111DCE**

Discipline Centric Elective

Credits: **4**

Periods/Week: **4 hrs.**

Max. Marks: **100**

Learning Objectives:

1. To understand the concept of health and health indices popularly used.
2. To realize the health problems of the community and their scientific intervention.
3. To know the supportive services and programmes for community health management.
4. To get sensitized to management information systems in health.

Learning Outcomes:

1. Develop and implement health promotion programs that target specific health issues and address the needs of the community.
2. To address the unique health needs and challenges of different communities, by providing care that is holistic, culturally sensitive, and based on the principles of primary health care.
3. To understand and respect the cultural diversity of the communities and provide care that is culturally appropriate and sensitive.
4. To identify health needs and be able to develop targeted interventions.

Unit I: Concept of Health and Health Care

Health

- Concept of health, community health, reproductive health and global health, factors affecting health, health as a human right, health for all. Primary health care –Definitions, principles and components

- Health and related indices in community health, fertility indicators, vital statistics, mortality, morbidity indicators, demographic indicators -sex ratio, female foeticide indicators for social and mental health

Unit II: Community Health Needs and Problems

- Health needs and problems related to sanitation and environment, protected water, personal hygiene and pollution control
- Ecology and environment, global warming – causes, effects and prevention, natural and manmade disaster management
- Health needs and problems of special groups - women, infants, children, adolescents, elderly, urban and rural poor

Unit III: Health Care Services

- Health administrative set up, peripheral, state, national, urban, rural, role of NGO's.
- National Health Programmes
- Child survival and safe motherhood
- Reproductive and child health programme
- National health schemes

Unit IV: Management Information System in Health

- Basic epidemiology, surveillance, health screening
- Health regulations and acts, international health regulations
- Census, sample registration system, national family health surveys
- Major health problems in India.

References:

1. Dutt, P. R. (1993)., Primary Health Care. Vol. 1-3 Gandhigram Institute of Rural Health and Family Welfare Trust, Ambathurai.
2. Menelkar, R. K. (1997): A Textbook of Community Health for Nurses, Vora Medical Publication; Mumbai.

3. Park, K. (2000): Essentials of Community Health Nursing. M/S BanarsidasBhanot; Jabalpur.
4. Park, K. (2000): Textbook of Preventive and Social Medicine. M/S BanarsidasBhanot; Jabalpur.

HISTORY AND THEORIES OF HUMAN DEVELOPMENT

Code: **HSC22112DCE**

Discipline Centric Elective

Credits: **4**

Periods/week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To acquaint the students with the history of Human Development
2. To enable the students to understand the theories of Human Development and behavior.

Learning Outcomes:

1. Understand the historical and philosophical traditions and theories of human development
2. Comprehend the task of knowledge construction with reference to human development and childhood studies
3. Develop skills for critical appraisal and construction of theories of human development

Unit I: Theories of Human Development

- Concept of a theory
- Early Philosophies: Preformationism, Locke, Rousseau
- Darwin, Lorenze, Tinbergen and Bowlby
- Theories of Sigmund Freud, Alfred Adler and Erik Erikson, Criticism of theories

UNIT II: Cognitive, Ecological and Humanistic theories and criticism

- Piaget's theory of Cognitive Development
- Vygotsky's Socio-cultural theory
- Bronfenbrenner's Ecological Systems theory

- Maslow's Self Actualization Theory

UNIT III: Self, Learning and Social learning theories and criticism

- Theories of Self - Contribution of Mead & Cooley to the development of self
- Theories of Learning- Watson, Pavlov and Skinner
- Theories of Social Learning- Bandura

UNIT IV: Theories of Emotions, Language and Moral Development and criticism

- Theories of Emotional Development- James-Lange, Cannon- Bard
- Theories of Language Development-: Behaviorism, Nativism, Interactionism
- Theories of Moral Development: Kohlberg

References:

1. Robert B. Ewen (1998). An Introduction to theories of Personality. 5th Ed. Lawerence Erlbaum Associates, Publishers Mahwah, New Jersey London.
2. Herner, Richard M. Concept & Theories of Human Development.
3. Crain, W.(1992) Theories of Development, Concepts and Applications. New Jersey: Prentice Hall.
4. Roland, A. (1996). Cultural pluralism and Psychoanalysis. New York: Routledge.
5. Vasta, R. (Ed). (1992). Six Theories of Child Development: Revised Formulations And Current Issues. London : Sessica Kingsley Publishers Limited.
6. Berk, L.E. (2001) Child Development- Third Edition. New Delhi: Prentice Hall of India.
7. David R. Shaffer (2005) Social and Personality Development, 5th Edition. Thomson Wadswords USA.
8. Papalia, D.E., Old, & Feldman, R.D. (2010. Human Development (10th) New Delhi: Tata McGraw – Hill Publishing Company Limited.

INDIAN SOCIO-ECONOMIC ENVIRONMENT

Code: HSC22113DCE

Credits: 4

Periods/Week: 4 Hours

Max. Marks: 100

Discipline Centric Elective

Learning Objectives:

1. To understand the socio-economic structure, organization and problems of rural, urban and tribal.
2. To know about policies of development and their impact.
3. To be aware of policies of liberalization and globalization and their impact.

Learning Outcomes:

1. Understand past, future and current socio-economic models, and apply them to societies, governments, businesses and individuals.
2. Learn the organization of goods and services in terms of their production, distribution, and consumption in social context
3. Focus on the relationship between social behaviour and economic development.
4. Understand relationship between social processes and economic activity within a society.

Unit I: Indian Economy

- Structure and organization of rural, urban and tribal areas
- Land ownership, occupational hierarchy, dependence on agriculture
- Caste, class and institutions
- Women development and status
- Poverty, inequality, unemployment, stagnation
- Impact of industrialization on urban life, socio economic aspects of metropolitan life

Unit II: Socio Economic Changes since Independence

- Economic planning and achievements

- Growth *vs* Development, development index, PWLI, HDI, CPI, etc.
- Rural development- concepts, objectives and importance
- Employment policy – Cottage and small industries
- Land reforms – future programmes
- Tribal development strategies and policies
- New economic policy and its impact

Unit III: Industry and Agriculture

- Industrial development and diversification
- New Industrial policies in India
- Agriculture price and credit policy

Unit IV: Co-operatives

- Philosophy, objectives, types and progress. Co-operative movement retrospect and prospect in India.
- Causes of failure of village co-operatives
- Co-operative principles, characteristics of co-operative Enterprise (with special reference to women)
- The progress problems and remedies suggested

References:

1. Ahuwalia, M.S. (2000): India's Economic Reforms and Development, Oxford University Press.
2. Bhattacharya, B. Urban Development in India. Shree Publishing House Delhi.
3. Bose, Ashish: India's Urbanization. Institute of Economic Growth, Delhi University.
4. Bulsara, J.F. Patterns of social life in Metropolitian Areas.
5. Das Ram: Socio- - Economic Transformation of millions through Rural Development; 21st century publishers, Meerut.
6. Dreze, J. and Sen A.K. (1995). India Economic Development and Social opportunity, Oxford University Press.
7. Gulat A: India Agriculture and open Economy
8. Hussain, N. Tribal India Today, Harman Publishing House.

9. Krishan, K. L.: Industrial Growth and Diversification
10. M.B. Nanvati and Anjana J.J. Indian rural Policies
11. Sen. A.K. : Growth Economics
12. Singh, A.K.: Tribal development in India Amber Prakshan, Delhi.
13. Mathur, B. L. (2000) Rural Development and Co-operation. Deepak Parnami RBSA Publishing S.M.S highway Jaipur.
14. Desai Vasant (1988): Rural Development. Himalya Publishing House, Bombay.

Journals:

1. Economic and Political Weekly
2. Journals of rural development
3. Kurushita, publication of development, Govt. of India, New Delhi.
4. Social Change (Council of Social Development, New Delhi)
5. Vohra publication of development, govt. of India, New Delhi.
6. Annual Economic Survey, J&K
7. Diets and Statistics

STUDY OF FAMILY IN SOCIETY

Code: **HSC22114DCE**

Discipline Centric Elective

Credits: **4**

Periods/week: **4 Hours**

Max. Marks: **100**

Learning Objectives:

1. To understand family as a component of socio-cultural milieu and context.
2. To realize and appreciate universality and variations in family life patterns across cultures.
3. To understand theoretical and methodological concerns related to family studies.
4. To create awareness regarding structures functions needs and strengths of families with specific references to the Indian family.

Learning Outcomes:

1. Study of family and society helps students to in enriching them with knowledge of family and society at a higher level & provides scope for employment of students in different sectors.

2. It provides student's knowledge to carry out research and understand society in depth & they would be able to understand society and Social Issues.

3. The student develops an understanding of analysing society from different and various perspectives.

4. It would enable the learners to develop appropriate communication skills both verbal and non-verbal which may help them to have undistorted communication and express through writing reports and dissertations.

Unit I: Family in Social Context

- Family as a component of social system-family composition and function.
- Causes and effects of different family structures on changing role of family.
- Family in historical context from traditional to modern
- Origins of family-functional explanation, conflict explanation

Unit II: Approaches and theories in family studies

- Interactional approach
- Developmental approach
- Structural – functional theory
- Exchange perspective
- Alternative life styles

Unit III: Family and Societal Exchanges/ Influences

- Work and family
- Education and family
- Health and family
- Religion and family
- Ecology and family

Unit IV: Interactional problems in family life

- Child rearing and socialization, gender roles
- Family violence, battered women, child maltreatment and sexual abuse.
- Divorce and remarriage
- Dowry

References:

1. Rao,C.S.(2012) Sociology:Principles of Sociology with an introduction to sociological thought. 7th Ed. S .Chand and company.
2. Bhushan,V and Sachdeva D.R.(2016) Introduction to Sociology. Kitab Mahal Publishers. New Delhi

3. Adam's B.N (1975). The family: A sociological interpretation. Chicago: Rand Mc Nully.
4. Cooer, R. (1975) Family its structure and functions, New York, Macmillian Publishing Co. .
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6. Eshleman J.R., Cashion B.G &Basirico L.A (1988) Sociology- An Introduction USA. Harper Collins, Publishers.
7. Colemar, J.C(1988) Intimate relationships: Marriage and family patterns N.Y Macmillian
8. Hess B.B., Markson E.W & Stein P.J (1988) Sociology 3rd Edition, New York, Macmillian, Publishing Company.
9. Light D; Keller, S & Calhoun C (1989) Sociology 5th Edition, New York Alfred A. Knoff.
10. Thio A (1989) Sociology – An Introduction 2nd Edition New York, Harper & Row Publishers.
11. Bahr, S.J (1989) Family interaction N.Y : Macmillian Publishing Co.
12. Lock, S.L (1992) Sociology of the family, London: Prentice Hall.
13. Ahuja, R. (1997) Indian Social System (2nd Ed) Jaipur: Rawal.
14. Leslie, G.R (1998). The family in Social Context.
15. Macionis J.J (2001) Sociology 8th Ed. New Jersey, Prentice Hall

Nutritional Disorders & Diseases

Code: **HSC22001GE**

Generic Elective

Credits: **2**

Periods/week: **2 Hours**

Max. Marks: **50**

Learning Objectives:

1. To know about the changes of dietary requirements during pathological conditions.
2. To become proficient in planning and calculating diets for various diseases.

Learning Outcomes:

1. The students would gain insight into the role and managements of weight related issues.
2. The students will get knowledge about various lifestyle disorders and their dietary management and apply it to their day to day life.

Unit I: Nutritional Intervention in Weight Management

- Overweight and Obesity
  - Etiology
  - Dietary and life style modification
- Under Weight
  - Etiology
  - Dietary Management

Unit II: Nutritional Intervention of life style disorders

- Coronary Heart Disease
  - Etiology
  - Dietary Management of Dyslipidemia

- Diabetes Mellitus

    - Etiology
    - Dietary Management of Diabetes

References:

1. Barkar, D. J.P. (1998). Mothers, Bahks and Health in Later life. Edinburgh, Churchill Livingstone.
2. Whitney, E., & Rady Rolfes, S. (2008). Understanding Nutrition (11th ed). Canda: Wadsworth, Cengage learning.
3. Mahan, L.K., &Escoh- Sump, S. (2004). Krause's Food Nutrition & Diet Therapy (11th ed). Philadephia Sunders an imprint of Elsevier
4. Anderson Dibble., Nutrition in health Disease.
5. Robinson, C. H., Normal and Therapeutic Nutrition. (17th Edition) Macmillan Publishing Company. Lea &Febiger USA Publishing.
6. Shills M.E., et.al., Modern Nutrition in Health and Disease.

GENDER EQUITY AND SOCIETY

Code: **HSC22001OE**

Open Elective

Credits: **2**

Periods/week: **2 Hours**

Max. Marks: **50**

Learning Objectives:

1. To appreciate gender as a socio-cultural constraint.
2. To create awareness of the gender biases and barriers that prevail in society
3. To develop sensitivity regarding the socio-economic and political factors that determines life experiences in relation to gender.
4. To become aware of the need for proactive approach and empowerment to attain and maintain equality.

Learning Outcomes:

1. Learn gender influences, human options, conditions, and experiences.
2. Knowledge about legal, political, economic, cultural and kinship systems
3. Understand gender patterns, dynamics and biases which enhance the accuracy and scope of work in many fields.

Unit –I Major Concepts and Issues

- Differentiation between sex and gender
- Gender role: Socialization and gender role, Stereotypes
- Gender related division of labour and its implications
- Forms of family in terms of residence and descent, i.e., nuclear, joint and extended families; patrilineal and matrilineal family systems

Unit- II Gender Identities as Inscribed in Culture

- Cultural controls over gender roles
- Construction of gender identities in culture
- Gender and religion
- Media portrayal of gender roles
- Equality –Inequality perspective and impact

References

1. Desai, N. and Krishna, M. (1988) Women and Society in India, New Delhi, Ajanta Publications.

2. Kaila, N. (1987). Session in Indian Education, New Delhi: Vikas Publications

3. Krishnaraj,M. (ed.) (1986). Women's Studies in India, Bombay: Popular Prakashan.

4. Lengan, L. (1998). Understanding Women's health Issues, A Reader, New Delhi; Kali for Women.

5. Patil, A.K. (1995). Women and Development, New Delhi, Ashish Publishing Hourse.

6. Poonacha, V. (1999).Understanding Women's Studies, Contribution to Women's Series:II Mumbai: RCWS, SNDT Women's University.

7. Swarup, H. and Bisaria, S. (1991)(eds). Women, Politics and Religion, Etawah: AC Brothers.