

M.A./M.Sc.(Home Science)
(Food and Nutrition)
Scheme of Examination

Semester I

Marks

1.HS101: Paper I Research Methods and Statistics	100
2.HS102: Paper II Statistics and Computer Applications	100
3.HS103: Paper III Advanced Nutrition	100
4.HS104: Paper IV Applied Physiology	100
5.HSP105: Paper V Practical Related to Theory Papers	<u>100</u>
	500

Semester II

1.HS201: Paper I Problems in Human Nutrition	100
2.HS202: Paper II Clinical and Therapeutic Nutrition	100
3.HS203: Paper III Maternal and Child Nutrition	100
4.HS204: Paper IV Nutrition and Health of Women	100
5.HSP205: Paper V Practical Related to Theory Papers	<u>100</u>
	500

Semester III

1.HS301: Paper I Public Nutrition	100
2.HS302: Paper II Nutrition for Health and Fitness	100
3.HS303: Paper III Assessment of Nutrition Status	100
4.HS304: Paper IV Improving Health and Nutrition	100
5.HSP305: Paper V Practical Related to Theory Papers	<u>100</u>
	500

Semester IV

1. HS401: Paper I Management of Nutrition Programmes	100
2. HS402: Paper II Institutional Food Administration	100
3. HS403: Paper III Food Safety and Quality Control	100
4. HSD404: Paper IV Project Work/dissertation	100
5. HSP405: Paper V Practical Related to Theory papers	<u>100</u>
	500

FIRST SEMESTER: PAPER-I
HS101: RESEARCH METHODS AND STATISTICS

Objectives:

- To understand the significance of statistics and research methodology in Home Science research.
- To understand the types, tools methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
- To understand and apply the appropriate statistical technique for the measurement scale and design.

Unit-I

1. **Science, scientific methods, scientific approach.**
2. **Role of statistics and research in Home Science discipline.**
Objectives of research: Explanation, control and prediction.
3. **Types of Research:** Historical, descriptive, experimental, case study, social research, participatory research.

Unit-II

4. **Definition and Identification of a Research Problem**
 - Selection of research problem
 - Justification
 - Theory, hypothesis, basis assumptions, limitations and delimitations of the problem.
5. **Types of variables**
6. **Theory of probability**
 - Population and sample
 - Probability sampling: simple random, systematic random sampling, two stages and multi stage sampling, cluster sampling.
 - Non-Probability sampling purposive, quota and volunteer sampling/snowball sampling.

Unit-III

7. **Basis principles of Research Design**
 - Purposes of research design: Fundamental, applied and action, exploratory and descriptive, experimental, survey and case study, ex-post facto,
 - Longitudinal and cross sectional, co-relational.
8. **Qualitative Research Methods:**
 - Theory and design in qualitative research
 - Definition and type of qualitative research
 - Methods and techniques of data collection
 - Group discussions
 - Interviews: Key informants, in-depth interviews
 - Observations
 - Social mapping
 - Participatory rapid assessment
 - Participatory learning assessment

Unit-IV

9. **Data Gathering Instruments:**
 - Observation, questionnaire, interview, scaling methods, case study, home visits, reliability and validity of measuring instruments.
10. **Scales of measurement and the appropriate statistical techniques.**
11. **Critical analysis of research.**
12. **Writing a research proposal.**
13. **Analysis of data and research report.**

References

1. Bhandarkar, P.L. and Wilkinson T.S. (2000): Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai.
2. Bhatnagar, G.L. (1990): Research Methods and Measurements in Behavioural and Social Sciences, Agri. Cole Publishing Academy, New Delhi.
3. Gay, L.R. (1981, 2nd Ed): Educational Research, Charles, E. Merrill, Columbus, Ohio
4. Mukherjee, R. (1989): The Quality of Life: Valuation in Social Research, Saga Publications, New Delhi.

FIRST SEMESTER: PAPER-II
HS102: STATISTICS & COMPUTER APPLICATIONS

Objectives:

- To understand the role of statistics and computer applications in research.
- To apply statistical techniques to research data for analyzing and interpreting data meaningfully.

Note: Student should be given hands on experience to use appropriate software packages for selected statistical analyses.

Unit-I

1. Conceptual understanding of statistical measures. Classification and tabulation of data. Measurement of central tendency, measures of variation.
2. Frequency distribution, histogram, frequency, polygons, Ogive.
3. Binomial distribution

Unit-II

1. Normal distribution- Use of normal probability tables.
2. Parametric and non-parametric tests.
3. Testing of hypothesis. Type I and Type II errors. Levels of significance.

Unit-III

1. Chi-square test. Goodness of fit. Independence of attributes 2×2 and $r \times c$ contingency tables.
2. Application of student's 't' tests for small samples Difference in proportion for means and difference in means.
3. Correlation, coefficient of correlation, rank correlation.
4. Regression and prediction
5. Analysis of variance, one way and two way classification

Unit-IV

Experimental Designs

- Completely randomized design
 - Randomized block design
 - Latin square design
 - Factorial design
 - Trend analysis
1. Garrett, Henry E (1971): Statistics in Psychology and Education: David Healy and Co.
 2. Edwards: Experimental Design in Psychological Research
 3. Kerlinger: Foundation of Educational Research
 4. SPSS/PC for the IBM PC/XT :SPSS Inc.

FIRST SEMESTER: PAPER-III HS103: ADVANCED NUTRITION

Objectives

This course is designed to:

- Provide in-depth knowledge of the physiological and metabolic role of various nutrients and their interactions in human nutrition.
- Enable students to understand the basis of human nutritional requirements and recommendations through the life cycle.
- Enable students to understand the pharmacological actions of nutrients and their implications.
- Familiarise students with the recent advances in nutrition.

Unit-I

1. **Energy:** Energy content of foods. Physiological fuel value-review. Measurement of Energy Expenditure: BMR, RMR, thermic effect of feeding and physical activity, methods of measurement. Estimating energy requirements of individuals and groups. Regulation of energy metabolism: control of food intake, digestion, absorption and body weight.
2. **Carbohydrates:** Types, classification, digestion, and transport-review, dietary fibre, fructo-oligosaccharides, resistant starch-chemical composition and physiological effects Glycaemic index of foods. Sweeteners -nutritive and non-nutritive.

Unit-II

3. **Proteins:** Classification, digestion, absorption and transport-review Metabolism of proteins: Role of muscle, liver and gastro intestinal tract. Protein quality, methods of evaluating protein quality. Protein and amino acid requirements. Therapeutic applications of specific amino acids: Branched chain, glutamine arginine, homocysteine, cysteine.
4. **Lipids:** Classification digestion, absorption, transport-review. Functions of EFA. Role of n-3, n-6 fatty acids in health and disease. Requirements of total fat and fatty acids. Trans fatty acids. Prostaglandins.
5. **Water:** Regulation of intra and extra cellular volume. Osmolality, water balance and its regulation.

Unit-III

6. **Minerals:** (Note: for each nutrient sources, bioavailability, metabolism, function, requirements, RDI/ESADDI, deficiency and toxicity, interactions with other nutrients are to be discussed).
Macro minerals: calcium, phosphorus, magnesium, sodium, potassium and chloride.
Micro minerals: Iron, copper, zinc, manganese, iodine, fluoride.
Trace minerals: selenium, cobalt, chromium, vanadium silicon, boron, nickel.
7. **Vitamins:** Historical background, structure, food sources, absorption and transport, metabolism, biochemical function, assessment of status. Interaction with other nutrients. Physiological, pharmacological and therapeutic effects, toxicity and deficiency with respect to the following:
a) Fat Soluble: Vitamins A, D, E & K.
B) Water soluble: Thiamine, riboflavin, niacin, biotin, pyridoxine, folic acid, pantothenic acid, ascorbic acid, cyanocobalamin, choline, inositol.

Unit-IV

1. **Non-nutritive food components with potential health effects:** Polyphenols, tannins, phytate, phytoestrogens, cyanogenic compounds, lectins and saponins.
2. **Nutritional regulation of gene expression.**
3. **Nutrition management in special conditions:** Space travel, high altitudes, low temperatures, submarines.

References

1. Shils, M.E.; Olson, J.; Shike, M. and Roos, C. (1998): Modern Nutrition in Health and Disease. 9th edition Williams and Williams, A Beverly co, London.
2. Indian Council of Medical Research. Recommended Dietary intakes for Indians- Latest Recommendations.
3. Baeurle, P.A. (ed) (1994) Inducible Gene Expression. Part I: Environmental Stresses and Nutrients. Boston: Birkhauser

Journals

1. Nutrition Reviews
2. Journal of Nutrition
3. American Journal of Clinical Nutrition
4. British Journal of Nutrition
5. European Journal of Clinical Nutrition
6. International Journal of Vitamin and Nutrition Research
7. International Journal of Food Science and Nutrition
8. Nutrition Research
9. Ann Nutr Metab

FIRST SEMESTER: PAPER-IV HS104: APPLIED PHYSIOLOGY

Objectives

This course will enable student to:

- Advance their understanding of some of the relevant issues and topics of human physiology.
- Enable the students to understand the integrated function of all system and the grounding of nutritional science in physiology.
- Understand alterations of structure and function in various organs and systems in disease conditions.

Unit-I

1. Cell structure and function

Levels of cellular organization and function-organelles, tissues and systems
Brief review. Cell membrane, transport across cell membrane and intercellular communication. Regulation of cell multiplication.

2. Nervous System

- Review of structure and function of neuron, conduction of nerve impulse synapses and role of neurotransmitters.
- Organisation of central nervous system, structure and function of Brain and spinal cord, Afferent and efferent nerves. Blood Brain Barrier, CSF, Hypothalamus and its role in various body function-obesity, sleep, memory.

Unit-II

1. Endocrine system

- Endocrine glands- structure, function, role of hormones, regulation of hormonal secretion. The neuro endocrine axis. Disorders of endocrine glands. Emphasis on physiology of diabetes and stress hormones.

2. Sense organs

- Review of structure and function. Role of skin, eye, nose and tongue in perception of stimuli.

3. Digestive system

- Review of structure and function Secretary, Digestive and absorptive function. Role of liver, pancreas and gall bladder and their dysfunction Motility and hormones of GIT.

Unit-III

1. Respiratory system

- Review of structure and function. Role of lungs in the exchange of gases, Transport of oxygen and CO₂, Role of haemoglobin and buffer systems Cardio-respiratory response to exercise and physiological effects of training.

2. The circulatory system

- Structure and function of heart and blood vessels Regulation of cardiac output and blood pressure, heart failure, hypertension.

3. Blood formation, composition, blood clotting and haemostasis:

Formation and function of plasma proteins, Use of blood for investigation and diagnosis of specific disorders ,Anaemia.

4. The excretory system

- Structure and function of nephron. Urine formation. Role of kidney in maintaining pH of blood.
- Water, electrolyte and acid base balance , diuretics.

Unit-IV

1. The Musculo-skeletal system

- Structure and function of bone cartilage and connective tissue. Disorders of the skeletal system.
- Types of muscles- structure and function

2. Immune system

- Cell mediated and humeral immunity activation of WBC and production of antibodies. Their Role in inflammation and defence.

3. Reproduction

- Menstrual cycle, spermatogenesis, physiological changes in pregnancy.

References :

1. Gonong, W.F. (1985) review
2. Wilson, K.J.W. and Waugh, A. (1986)
3. Jain, A.K. Textbook of Physiology

SECOND SEMESTER: PAPER-I
HS201: PROBLEMS IN HUMAN NUTRITION

Objectives:

The course is aimed at providing an understanding of:

- Nutritional problems/nutrition-related diseases prevalent among the affluent and the less privileged groups, with reference to their incidence, etiology and public health significance.
- Biochemical and clinical manifestations, preventive and therapeutic measures of the same.

Unit-I

1. Historical background, prevalence, etiology, biochemical and clinical manifestations, preventive and therapeutic measures for the following:

- PEM
- Vitamin A deficiency

Unit-II

- Nutritional anaemia
- Rickets, osteomalacia and osteoporosis

Unit-III

- Fluorosis

2. Historical background, prevalence, etiology, biochemical and clinical manifestations, preventive and therapeutic measures for

- Obesity and overweight
- Diabetes mellitus

Unit-IV

- CHD
- Cancer

References

1. McCollum, E.V. (1957): History of Nutrition, Houghton Mifflin Co.
2. WHO (1970): Fluorides and Human Health
3. Mahan, L.K. & Ecott-Stump, S. (2000): Krause's Food, Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.
4. World Health Organisation's Reports, Monographs and Technical Report Series.

Journals

1. World Review of Nutrition and Dietetics, Kruger
2. Annual Reviews of Nutrition, Palo Alto, California, U.S.A
3. Nutrition Update Series.
4. The Journal of Nutrition.
5. UNU Food and Nutrition Bulletin

SECOND SEMESTER: PAPER-II
HS202: CLINICAL AND THERAPEUTIC NUTRITION

Objectives

The course will enable the students to:

- Understand the etiology, physiological and metabolic anomalies of acute and chronic diseases and patient needs.
- Know the effect of the various diseases on nutritional status and nutritional and dietary requirements.
- Be able to recommend and provide appropriate nutritional care for prevention/and treatment of the various diseases.

Unit-I

1. **Nutritional screening and assessment of nutritional status of hospitalized and outdoor patients.** Identification of high risk patients. Assessment of patient needs based on interpretation of patient data-clinical, biochemical, biophysical, personal etc.
2. **Newer trends in delivery of nutritional care and dietary counseling.**
3. **Diet, nutrient and drug interaction.** Effect of drugs on ingestion, digestion, absorption and metabolism of nutrients. Effect of food, nutritional status on drug dosage and efficacy.

Unit-II

4. **Nutritional support**-Recent advance in techniques and feeding substrates.
5. **Etiopathophysiology, metabolic and clinical aberrations, complications, prevention and recent advances in the medical nutritional management of:**
 - Weight imbalances
 - Cardio vascular disorders
 - Diabetes mellitus and other metabolic disorders
 - GI Tract Disorders
 - Liver and gall bladder, Pancreatic disorders
 - Renal disorders
 - Stress and trauma

Unit-III

- Cancer
- Neurological disorders
- Musculo-skeletal disorders
- Immuno-deficiency disorders
- Genetic disorders
- Infections and AIDS
- Respiratory problems

Unit-IV

6. Childhood problems/disorders including inborn errors of metabolism and their nutritional management.

References

1. Mahan, L.K. and Escott-Stump, S. (2000): Krause's Food Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.
2. Williams, S.R. (1993): Nutrition and Diet Therapy, 7th Edition, Times Mirror/Mosby College Publishing.
3. Davis, J. and Sherer, K. (1994): Applied Nutrition and Diet Therapy for Nurses, 2nd Edition, W.B. Saunders Co.
4. Fauci, S.A. et al (1998): Harrison's Principles of Internal Medicine, 14th Edition, McGraw Hill.
5. World Cancer Research Fund (1997): Food, Nutrition and the Prevention of Cancer-A Global perspective, Washington E.D. WCRF

Journals and other Reference Series

- Nutrition Update Series
- World Review of Nutrition and Dietetics
- Journal of the American dietetic Association
- American Journal of Clinical Nutrition
- European Journal of Clinical Nutrition
- Nutrition Reviews

SECOND SEMESTER: PAPER-III
HS203: MATERNAL AND CHILD NUTRITION

Objectives

The course is designed to enable the students to:

- Understand physiological changes in pregnancy and lactation.
- Get acquainted with growth and developmental changes from conception till adolescence.
- Understand the inter-relationship between nutrition and growth and development during life cycle.

Unit-I

1. Current Nutrition and Health Status of Women and Children in India.
2. Changing concepts and controversies in Maternal and Child Nutrition.

Unit-II

3. Importance of Maternal Nutrition:

Importance of Nutrition prior to and during pregnancy.

Pre-requisites for successful outcome. Effect of under nutrition on mother-child diad including pregnancy outcome and Maternal and Child Health-Short term and Long term.

Physiology and endocrinology of pregnancy and embryonic and foetal growth and development.

Nutritional requirements during pregnancy.

Adolescent Pregnancy

Pregnancy and AIDS

Pregnancy and TB

Intra-uterine growth retardation

Complications of pregnancy and management and importance of antenatal care.

Congenital malformation, foetal alcohol syndrome and gestational diabetes mellitus.

Unit-III

4. **Lactation**

Development of mammary tissue and role of hormones.

Physiology and endocrinology of lactation-synthesis of milk components. let down reflex, role of hormones, lactation amenorrhea, effect of breast feeding on maternal health.

Human milk composition and factors affecting breastfeeding and fertility.

Management of lactation-Prenatal breastfeeding skill education, rooming in, problems, sore nipples, engorged breast, inverted nipples etc.

Exclusive breastfeeding

Baby friendly hospitals initiative.

Breast feeding in the age of AIDS

Unit-IV

5. Growth and development during infancy, childhood and adolescence.
6. Malnutrition in mother and children: etiology and management (in brief)
7. Policies and programmes for promoting maternal and child nutrition and health.

Practical-Planning and preparation of diet for-infants school going children.

- Adolescence
- Pregnant women, lactating mother

References

1. UNICEF (1997). The Care initiative: Assessment, Analysis and Action to improve care for Nutrition, New York, UNICEF
2. WHO (1999) Management of severe malnutrition, A manual for physicians and other senior health workers. Geneva, WHO.

SECOND SEMESTER: PAPER-IV
HS204: NUTRITION AND HEALTH OF WOMEN

Objectives

The course is aims to enable the students to:

1. Be acquainted with the status of women in family and society.
2. Understand how various factors influence the health and nutritional status of women.
3. Plan and undertake various activities to improve the status of women.
4. Understand how health of women influences family, community and national development.

UNIT-I

1. Role of Women in National Development.

2. Women in Family and Community

Demographic changes, menarche, marriage, fertility, morbidity, mortality, life-expectancy, sex ratio, ageing and widowhood, female-headed families.

3. Women and work

Environmental Stress, production activities, nutrition, health and gender, living conditions, occupational health, health facilities.

UNIT-II

4. Women and Society

Women's role, their resources and contribution to family and community and effect on nutritional status.

Effect of urbanisation on women.

Impact of economic policies, industrialization, and globalization on women.

UNIT-III

5. Women and Health

Women's Nutritional Requirement and Food Need

Health facilities

Disease patterns and Reproductive health

Gender and health

Health seeking behaviour

Women-pregnancy and lactation

Safe Motherhood

Care of at-risk mothers

Family planning

Women and ageing. Special concerns in developed and developing societies: Menopause, Osteoporosis, Chronic diseases, neurological problems. Women and AIDS.

6. Women and Nutrition

Situation of women in global, national and local context. Improving the nutritional and health status. Interventions throughout the life cycle.

UNIT-IV

7. Policies and Legislations - CEDAW (Convention on Elimination of all forms of Discrimination Against Women), Women's Right to Life and Health (WRLH)

8. Empowerment of Women- Role of Education and various national schemes.

References:

1. UNICEF (1994): The Urban Poor and Household Food Security, UNICEF.
2. NGO Committee on UNICEF (1997) : Women and Children in Urban Poverty-What Way Out/
3. Census Reports, Government of India
4. International Nutrition Foundation -Micronutrient Initiative (1999) : Preventing Iron Deficiency in Women and Children : Technical Consensus on Key Issues.
5. Gopalan, C. and Kaur, S. (Eds.) (1989): Women and Nutrition in India, Nutrition Foundation of India.

PRACTICALS (SECOND SEMESTER):

1. Make Scrap Book Related to any Field -
Health of Women, Women and society, Women and work, Role of women in National Development.
2. Collection and storage of biological samples for clinical investigations.
3. Market survey of commercial nutritional supplements and nutritional support substrates
4. Commonly used tests for diagnosis of various diseases-system-wise
 - Interpretation of patient data and diagnostic tests and drawing up of patient diet prescription, using a case study approach.
 - Follow up-acceptability of diet prescription, compliance, and discharge diet plan.
5. Preparation of diet counselling aids for common disorders.
6. Planning and preparation of diets for patients with common multiple disorders and complications and discharge diet plans.

THIRD SEMESTER: PAPER-I HS301: PUBLIC Nutrition

Objective

This course will enable the students to:

- Develop a holistic knowledge base and understanding of the nature of important nutrition problems and their prevention and control for the disadvantaged and upper socio-economic strata in society.
- Understand the causes/determinants and consequences of nutrition problems in society
- Be familiar with various approaches to nutrition and health interventions, programmes and policies.

UNIT-I

1. **Concept of public nutrition-** relationship between health and nutrition, role of public nutritionists in the health care delivery.
2. **Sectors and Public Policies relevant to Nutrition.**

UNIT-II

3. **Primary Health Care of the Community**
National Health Care Delivery System
Determinants of Health Status
Indicators of Health
4. **Population Dynamics**
Demographic transition, population structure, fertility behaviour, population policy. fertility, nutrition and quality of life inter-relationship.
5. **Food and Nutrition Security**
Food production, Assess, Distribution Availability, Losses, Consumption, Food Security. Socio-cultural aspects and Dietary Patterns : Their implications for Nutrition and Health.

UNIT-III

6. **Nutritional Status**
Determinants of nutritional status of individual and populations : Nutrition and Non-nutritional indicators : Socio-cultural, biologic, environmental and economic
7. **Major Nutritional Problems** : etiology, prevalence, clinical manifestations, preventive and therapeutic measures of :
Macro and micro nutrient deficiencies.
Other nutritional problems like lathyrism, dropsy, aflatoxicosis, alcoholism, fluorosis. Overweight, obesity and chronic degenerative diseases.
8. **National Food and Nutrition Policy, Plan of Action and Programmes.**

UNIT-IV

9. **Approaches and Strategies for improving nutritional status and health:**
Programmatic options-their advantages and demerits. Feasibility, Political support, available resourced (human, financial, infrastructural) Case studies of selected strategies and programmes: their rationale and context, how to select interventions from a range of possible options:
Health-based interventions, Food-based interventions including fortification and genetic improvement of foods, supplementary feeding, and Nutrition education for behaviour change.
10. Policy Analysis and Operational Research
11. Programme Design Planning, Implementation, Operations Monitoring, Surveillance and Evaluation.
12. Health Economics and Economics of Malnutrition - Its impact on productivity and national development. Cost- Benefit, Cost effectiveness and Cost efficiency.

References

1. Park K. (2000): Park's Textbook of Preventive and Social Medicine, 18th Edition, M/s. Banarasidas Bhanot, Jabalpur.
2. Gopalan C. and Kaur S. (Eds.) (1989) : Women and Nutrition in India, Nutrition Foundation of India.
3. National Family Health Survey I & II (1993, 2000): International Institute for population Studies, Mumbai.
4. National Nutrition Policy (1993): Dept. of WCD, Govt. of India.
5. Nutrition Education for the Public (1997): FAO Food and Nutrition Paper, 62, FAO.
6. World Health Organization (1998) World Health Report: Life in the 21st Century Report of the Director General, WHO, Geneva, Switzerland.
6. Ramakrishnan U. (eds.) (2001), Nutritional Anemias: CRC Press in Modern Nutrition, CRC Press, Boca Raton FL.

THIRD SEMESTER: PAPER-II
HS302: NUTRITION FOR HEALTH AND FITNESS

Objectives

This course will prepare the students to:

- Understand the components of health and fitness and the role of nutrition in these.
- Make nutritional, dietary and physical activity recommendations to achieve fitness and well-being.
- Develop ability to evaluate fitness and well-being.

UNIT-I

1. **Definition, components and assessment criteria of age:** Specific fitness and health status.
2. **Holistic approach to the management of fitness and health:** Energy input and output. Diet and Exercise. Effect of specific nutrients on work performance and physical fitness. Nutrition, exercise, physical fitness and health and their inter-relationships.

UNIT-II

3. **Review of different energy systems for endurance and power activity:** Fuels and nutrients to support physical activity. Shift in carbohydrate and fat metabolism. Mobilization of stores during exercise.
4. **Nutrition in Sports:** Sports specific requirement. Diet manipulation. Pre-game and post game meals. Assessment of different nutrigenic aids and commercial supplements. Diets for persons with high energy requirements, stress, fracture and injury.

UNIT-III

5. Water and electrolyte balance: Losses and their replenishment during exercise and sports events, effect of dehydration, sports drinks.
- 6a Significance of physical fitness and nutrition in the prevention and management of weight control, obesity, diabetes mellitus, CV disorders, bone health and cancer.
- 6b **Nutritional and exercise regimes for management of obesity:** Critical review of various dietary regimes for weight and fat reduction. Prevention of weight cycling .
7. **Defining nutritional goals/guidelines appropriate to health, fitness and prevention and management of the above chronic degenerative disorders.**

UNIT-IV

8. **Nutrition and exercise regimes for pre and post-natal fitness.**
9. **Alternative systems for health and fitness like Ayurveda, yoga, meditation, vegetarianism and traditional diets.**

References

1. Mahan L.K. & Ecott-Stump S. (2000): Krause's Food, nutrition and Diet Therapy, 10th Edition, W.B Saunders Ltd.
- 2.Sizer F. & Whitney, E. (2000): Nutrition - Concepts & Controversies, 8th Edition, Wadsworth Thomson Learning.
3. Whitney E.N. & Rolfes S.R. (1999): Understanding Nutrition, 8th Edition, West/Wadsworth, An international Thomson Publishing Co.
4. Ira Wolinsky (Ed) (1998): Nutrition in Exercise and Sports, 3rd Edition, CRC Press.

Journals

1. Medicine and Science in Sport and Exercise.
2. International Journal of Sports Nutrition

THIRD SEMESTER: PAPER-III
HS303: ASSESSMENT OF NUTRITION STATUS

Objectives

The course is designed to:

- Orient the students with all the important state-of-the-art methodologies applied in nutritional assessment and surveillance of human groups.
- Develop Specific skills to apply the most widely used methods.

UNIT-I

1. Nutritional assessment as a tool for improving the quality of life of various segments of the population including hospitalized patients.

UNIT-II

2. Current methodologies of assessment of nutritional status, their interpretation and comparative applications of the following:
 - Food consumption
 - Anthropometry
 - Clinical and Laboratory
 - Rapid Assessment & PRA
 - Functional indicators such as grip strength, respiratory fitness, Harvard Step test, Squatting test.

UNIT-III

3. Nutritional Surveillance - Basic concepts, uses and setting up of surveillance systems.

UNIT-IV

4. Monitoring and Evaluation

References

1. Jelliffe D.B. and Jelliffe E.F.P. (1989): Community Nutritional Assessment, Oxford University Press.
2. Sauberlich, H.E. (Ed) (1999): Laboratory Tests for the Assessment of Nutrition Status, CRC Press.
3. Bingham, S.A. (1987): The Dietary Assessment of Individuals, Methods, Accuracy, New Techniques and Recommendations. Nutrition Abstracts and Reviews, 57:705-743.
4. Collins, K.J. (Ed)(1990) Handbook of Methods for the measurement of Work Performance, Physical Fitness and Energy Expenditure in Tropical Populations, International Union of Biological Sciences.
5. Himes, J.H. (1991): Anthropometric Assessment of Nutritional Status. Wiley-Liss, New York.
6. Lehman T.G.; Roche, A.F.; and Martorell R. (Ed) Anthropometric Standardization Reference Manual. Human Kinetics Books, Illinois.

THIRD SEMESTER: PAPER-IV
HS304: IMPROVING HEALTH AND NUTRITION

Objectives

This course will enable students to:

- Develop understanding regarding the vital aspects of communication and various Audio and Visual Media/Mass Media and their use in Nutrition and Health Education.
- Be familiar with important IEC programmes.
- Develop skills to plan and use IEC.

UNIT-I

1. **Concept of Communication**
 - Concept of Communication and Mass Communication
 - Scope of Communication
 - Elements of Communication
 - Models of Communication
 - Communication Process
 - Approaches to Communication
 - Barriers to Communication
 - Communication for Extension Education and Development
2. **Introduction to IEC (Information, Education and Communication).**
3. **Aims and Objectives: Importance of IEC, relevance to programmes.**
4. **IEC for Behavioural Changes: Behaviour and determinants of behaviour need for IEC**

UNIT-II

5. **Deferent Media, their characteristics and use**
 - a. Audio visual aids (Graphics aids, puppets and other three dimensional aids, display boards and projected and non-projected aids).
 - b. Mass Media:
Print, Radio/Recordings, Films, Television/video, Advertising, Journalism
6. **Methods, Techniques and Tools.**

UNIT-III

7. **Planning effective IEC Programmes-** Broad-based strategy and for specific objectives. Identification of key messages for re-enforcement, preparation of IEC material. Refining of IEC messages. Social mobilisation, social marketing and role of community. Training to use IEC.
8. **Implementation - Use of IEC, training supportive supervision and monitoring.**
9. **IEC for different target groups:**
Policy makers, Managerial level and middle level officials from Government donor agencies and NGOs, Grassroots functionaries, Community.

UNIT-IV

10. **Impact Assessment**
11. **Case studies of various IEC programmes**
12. **Specific National Programmes and IEC - Influence at mass level**

References

1. Matarazzo J.D.; Weiss S.M.; Herd J.A.; Muller N.E.; Weiss S. (Eds) (1984): Behavioural Health: A handbook of health enhancement and disease prevention, John Wiley, New York.
2. Wallach L.; Dorfman L., Jemigan D., Themba M. (1993): Media Advocacy and Public Health: Power for Prevention, Newbury Park, CA: Sage.

List of Practical Assignments (THIRD SEMESTER):

1. Comparison of rural, urban and tribal communities for: (a) determinants of malnutrition (b) socio-economic groups (c) the types of nutritional problems in different segments and age groups through analysis of secondary data.
2. Critical appraisal of existing interventions and programmes in the voluntary sector and government and suggestions to improve the same vis-a-vis target groups in society and their specific needs.
3. Development of a plan for a nutrition intervention project in the community (The target group (s) need to be specified).
Development of low cost nutritive recipes suitable for various vulnerable groups at micro, meso and macro levels.
4. Field experience in operational public nutrition programmes: nutrition rehabilitation centres, fortification programmes, and cost analysis.
5. Assessment of nutritional status including Body composition.
6. Physiological parameters like heart rate and blood pressure.
7. Assessment of bone health.
8. Planning diets and formulating dietary guidelines for:
 - Fitness and health
 - Prevention of chronic degenerative disorders
 - Obesity management
 - Management of diabetes mellitus and CVD
9. Review of existing alternative diet related systems for physical fitness and health.
10. Training in all assessment techniques applicable for individuals and community, including ones used for hospital - based patients
Validity and reliability of these techniques.
11. Community based project for assessment of nutritional status of any vulnerable group.
12. A small evaluation study of a nutrition project.
13. Practical to be conducted through: Field work, Placements and Project work .
14. Field work: Study of existing IEC approaches and materials in various programmes at micro and macro levels- Appraisal of techniques, tools, messages, coverage and outreach, costs and impact.

FOURTH SEMESTER: PAPER-I
HS401: MANAGEMENT OF NUTRITION PROGRAMMES

Objectives

This course will enable students to:

- Be familiar with various programmes which can be undertaken to prevent and control nutritional problems at regional and national level.
- Be able to plan, implement, monitor and evaluate programmes.

UNIT-I

1. **Global, National and Regional Concerns** - Situation of vulnerable groups vis-a-vis food, nutrition and health security.
2. **Programme Development** - Overview of programme development models. Formative evaluation approach. Precede- proceed planning mode. Sussmean's four-step model of empirical curriculum development, chain model.

UNIT-II

3. **Programme Planning** - Pre-requisites for planning vis-a-vis short term and long term objectives. Planning at various levels - Government local health department, state, voluntary sector and community-based. Approaches used in planning - Top-down approach, need-based approach. Community participation and partnership, rights-based approach.
4. **Appraisal of existing programmes and interventions-** Merits, demerits. Lacunae ,gaps vis-a-vis objectives and goals.

UNIT-III

5. **Implementation of Programmes-** Developing prototypes, training and HRD aspects of the programmes. Pilot and prototype studies, innovations.
6. **Scaling - up of programme.** Centralisation and decentralisation, vertical and horizontal linkages, intersectoral linkages, involvement of corporate sectors. Legal issues. Financial Management, Cost benefits, Cost effectiveness and Cost efficiency.

UNIT-IV

7. **Management Information Systems (MIS):** Study of development of suitable Information Systems for Nutrition Programmes.

FOURTH SEMESTER: PAPER-II
HS402: INSTITUTIONAL FOOD ADMINISTRATION

Objectives

- To develop a knowledge base in key areas of Institutional Food Administration
- To provide practical field level experience in Institutional Food administration
- To impart necessary expertise to function as a food service manager
- To equip individual to start their own food service unit leading to entrepreneurship
- To develop critical abilities and provide basic grounding in research techniques

UNIT-I

1. **Introduction to Food Service Systems**

Evolution of the food service industry, Characteristics of the various types of food service units

2. **Approaches to Management**

Theories of management, Aspects of management, Styles of management, Management tools

3. **Strategies in Planning**

Conceptual strategy, Marketing strategy, Financial Strategy, Types of plans

UNIT-II

4. **Management of Resources**

- **Finance**

Determining the finance needed to establish or run an unit, Budgets, Sources of finance, Planning adequate cash flow

- **Space & Equipment**

Steps in planning layouts, Determining equipment, Selection and placement,

Maintenance of equipment, Layout analysis

UNIT-III

Management of Resources

- **Material**

Menu planning, Planning the material needed, Methods of selection, Storage, Quantity food production, Service and modes of delivery

- **Staff**

Manpower planning, Manpower placement, Recruitment, induction, training.

Motivation and performance appraisal

- **Time and Energy**

- Measures for utilisation and conservation

UNIT-IV

5. **Techno-economic feasibility of food production/service enterprise**

6. **Cost accounting/analysis**

- **Food cost analysis**

- **Records to be maintained**

- **Reports and trend analysis**

7. **Marketing and sales management**

- **Marketing strategies**

- **Sales analysis**

- **Market promotion**

8. **Quality assurance**

- **Food quality**

- **Total quality management**

9. **Computer aided record maintenance and management**

References

Management:

1. West, B Bessie & Wood, Level (1988) Food Service in Institution 6th Edition. Revised by Harger FV. Shuggart SG & Palgne-Palacio: Macmillian Publication Company, New York.
2. Kotas Richard & Jayawardardene C (1994): Profitable Food and Beverage Management, Hodder & Stoughton Publication.
3. Green E.F., Drake G.G. Sweeny J.F. (1978) :Profitable Food and Beverage Management: Planning, Operations :Hayden Book Company, New Jersey.
4. Knootz, HG, O Donnel C (1968) Principles of Management McGraw Hill Book Company

Personnel Management

- 5 Desseler, Garry (1987) Personnel Management Modern Concepts and Techniques, Prentice Hall New Jersey
6. Kumar, H.L. (1986) Personnel Management in Hotel and Catering Industries, Metropolitan Book Company N. Delhi.

Cost Control

1. Keiser, J & Kaillo, E. (1974): Controlling and Analysis of Cost in Food Service Operations Wiley and Sons N. York.
2. Khari, W.L. (I) (1977): Introduction To Modern Food and beverage Service. (1979) Advanced Modern Food and Beverage service: Prentice Hall series
3. Levison (1976): Food and Beverage Operation Cost Control & System Management: Prentice Hall Series.

FOURTH SEMESTER: PAPER-III
HS403: FOOD SAFETY AND QUALITY CONTROL

Objectives

This course will enable students to:

- Know the importance of quality assurance in food industry.
- Know the various tests and standards for quality assessment and food safety.
- Know the various tests used to detect food adulterants.
- Be familiar with the fundamentals that should be considered for a successful quality control programme.

UNIT-I

1. Introduction to quality assurance and food safety assurance. Study of the Current concepts of quality control.
2. Quality assurance programme: Quality plan, documentation of records, product standards Product and purchase specifications, process control and HACCP, hygiene and housekeeping, corrective action, quality and programme and total quality process.
3. Quality Costs: Measurement and Analysis.

UNIT-II

4. Product Evaluation:
 - Sampling for product evaluation and line control.
 - Statistical quality and process control.
 - Specifications and food standards: International, National - Mandatory, Voluntary.
 - Sample preparation

UNIT-III

- Reporting results and reliability of analysis.
- Tests for specific raw food ingredients and processed. Food including additives:
 - a. Proximate principles
 - b. Nutrient analysis
 - c. Quality parameters and tests of adulterants.

UNIT-IV

5. Consumer protection: Laws, Case Studies.

Objectives

1. To test different foods for their quality
2. To detect adulteration in different foods
3. To be familiar with tests used for quality control

Assessment of purity and quality using appropriate standard tests for the following:

- Water including mineral water.
- Milk and milk products
- Fats and oils including butter, ghee and hydrogenated fat.
- Ice creams and sherbets
- Cereals and cereal products
- Pulses and legumes
- Spices and condiments and salt, pickles, sauces and chutneys.
- Tea and coffee
- Canned, dehydrated, frozen and bottled fruit/vegetable products
- Confectionery
- Flesh foods
- Specific food ingredients such as glycerine, vinegar.
- Fruit juices, concentrates and beverages.

References

1. Gould, W.A. and Gould, R.W. (1988): Total Quality Assurance for the Food Industries, CTI Publications Inc Baltimore.
2. Pomeranz, Y. and Meloan, C.E. (1996): Food Analysis: Theory and Practice, CBS Publishers and Distributor, New Delhi.
3. Askar, A. and Treptow, H. (1993): Quality Assurance in Tropical Fruit Processing, Springer - Veriag, Berlin.
4. World Health Organisation (1998): Guidelines for Drinking Water Quality, 2th edition, Vols. 1,2, and 3, Geneva.
5. Bureau of Indian Standards: Specifications and Standard Methods.

List of Practical Assignments (FOURTH SEMESTER):

1. Planning and Implementation of a Project: Identification of a problem/area for IEC. Preparation of suitable IEC material for one-to one, group and mass communication including Implementation, monitoring and evaluation.
- 2.. Practical to be conducted through field placement with:
 - Donor or bilateral agency
 - Government Scheme/Programme
 - NGO's
3. In (a) and (b) the activities will be largely familiarization with various aspects of programme planning. Implementation, monitoring and evaluation.
4. In (c) the students will be required to identify an area and undertake the following.
 - Appraisal of Programme
 - Situation analysis and identification of programming area for intervention.Planning, implementation, monitoring, development of MIS, financial implications, planning for Long-term & impact assessment.
5. Market survey and analysis of processed and finished products.
6. Evaluation of Food Service units - 2 Conventional, commissary.
7. Market survey of Food service equipment.
8. Layout analysis of Kitchens - 2.

M.A./M.Sc. (Home Science)
(Human Development)
Scheme of Examination

First Semester

Marks

1	HD101Paper - I	Research Method and Statistics	100
2	HD102Paper - II	Statistics and Computer Applications	100
3	HD103Paper-III	History and Theories of Human Development	100
4	HD104Paper-IV	Advance Study of Human Development-I	100
5	HDP105Practical	(Related to Theory Papers)	100
			500

Second Semester

1	HD201Paper- I	Adolescence and Youth	100
2	HD202Paper- II	Principles of Guidance and Counseling	100
3	HD203Paper-III	Parenting in Early Childhood	100
4	HD204Paper- IV	Management of Programmes for Children and Families	100
5	HDP205Practical	(Related to Theory Papers)	100
			500

Third Semester

1	HD301Paper- I	Advance Study of Human Development-II	100
2	HD302Paper-II	Early Childhood Care & Education	100
3	HD303Paper-III	Development of Creativity	100
4	HD304PaperIV	Study of Family in Society	100
5	HDP305Practical	(Related to Theory Papers)	100
			500

Fourth Semester

1	HD401Paper- I	Persons with Disabilities	100
2	HD402Paper- II	Care of Children with Disabilities and Illnesses	100
3	HD403Paper-III	Scientific writing	100
4	HDD404PaperIV	Project work/Dissertation	100
5	HDP405Practical	(Related to Theory Papers)	100
			500

FIRST SEMESTER: PAPER-I
HD101: RESEARCH METHODS AND STATISTICS

Objectives:

- To understand the significance of statistics and research methodology in Home Science Research
- To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
- To understand and apply the appropriate statistical technique for the measurement scale and design.

UNIT – I

1. **Science, Scientific methods, Scientific approach.**
2. **Role of statistics and Research in home Science discipline.**
Objectives of research: Explanation, control and prediction.

UNIT-II

3. **Types of Research: Historical, survey, experimental, case study, social research, participative research.**
4. **Definition and identification of a Research Problem**
 - Selection of research problem
 - Justification
 - Theory, Hypothesis, basic assumptions, limitations and delimitations of the problem.

UNIT-III

5. **Types of variables**
6. **Theory of probability**
 - Population and sample
 - Probability sampling: Systematic random sampling, two stage and multi stage sampling, cluster sampling.
 - Non-probability sampling: purposive, quota and volunteer sampling/snow ball sampling.
7. **Basic Principles of Research Design**
 - Purpose of research design: Fundamental, applied and action exploratory and descriptive experimental, survey and case study, ex-post facto
8. **Qualitative Research Methods**
 - Theory and design in qualitative research
 - Definition and types of qualitative research
 - Methods and techniques of data collection
 - * Informal group discussions
 - * Interviews; Key informant, in-depth interviews
 - * Observations
 - * Social mapping
 - * Participatory rapid assessment
 - * Participatory learning assessment

UNIT-IV

9. **Data Gathering Instruments**
 - Observation, questionnaire, interview, scaling methods, case study, home visits, reliability and validity of measuring instruments.
10. **Scales of measurement and the appropriate statistical techniques.**
11. **Critical analysis of research.**
12. **Writing a research proposal.**
13. **Analysis of data and research report.**

References

1. Bandarkar, P.L. and Wilkinson T.S. (2000) : Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai.
2. Bhatnagar, G.L. (1990) : Research Methods and Measurements in Behavioral and Social Sciences, Agri., Cole Publishing Academy, New Delhi.
3. Dooley, D. (1955): Strategies for Interpreting Qualitative Data; Sage Publications, California.
4. Gay, L.R. (1981, 2nd Ed.) : Educational Research Charles, E. Merrill, Columbus, Ohio.
5. Long J.S. (Ed.) (1983) : Common Problems Proper Solutions :Avoiding Errors in Quantitative Research, Beverly Hills, Sage Publications, California.
6. Mukherjee, R. (1989) : The Quality of Life : Valuation in Social Research, Sage Publications, New Delhi.
7. Strauss, A. and Corbin, J (1990) : Basis of Qualitative Research : Grounded theory Procedure and Techniques, Sage Publications, California.

FIRST SEMESTER: PAPER-II
HD102: STATISTICS & COMPUTER APPLICATIONS

Objectives

- To understand the role of statistics and computer applications in research
- To apply statistical technique to research data for analyzing and interpreting data meaningfully.

Note: Students should be given hands on experience to use appropriate software packages for selected statistical analyses.

UNIT-I

1. Conceptual understanding of statistical measures, Classification and tabulation of data, measurement of central tendency, measures of variation.
2. Frequency distribution, histogram, frequency, polygons, Oliver.

UNIT-II

3. Binomial Distribution
4. Normal Distribution-Use of normal probability tables.
5. Parametric and non-parametric tests.
6. Testing of hypothesis, Type I and Type II errors. Levels of significance.

UNIT-III

7. Chi-Square test, Goodness of fit. Independence of attributes 2x2 and $r \times c$ contingency tables.
8. Application of student's 't' tests for small samples. Difference in proportion for means and difference in means.
9. Correlation, coefficient of correlation, rank correlation.
10. Regression and prediction.
11. Analysis of variance-one way and two-way classification.

UNIT-IV

12. Experimental Designs.
 - Completely randomized design
 - Randomized block design
 - Latin square design
 - Factorial design
 - Trend analysis.

References:

1. Garrett, Henry E (1971): Statistics in Psychology and Education, David Healy and Co.
2. Edwards.: Experimental Design and Psychological Research.
3. Kerlinger: Foundation of Education Research
4. SPSS/PC for the IBM PC/XT, SPSS inc.

FIRST SEMESTER: PAPER-III
HD103: HISTORY AND THEORIES OF HUMAN DEVELOPMENT

Objectives

- To understand the need for theory in Human Development
- To see theories in context.
- To examine historical perspectives in the evolution of theory
- To understand the practical applications of a theory
- To discuss various theories of Human Development.
- To critically evaluate the cross-cultural applicability of theory.

UNIT-I

1. **Early Theories**
Performationism, Locke, Rousseau, Eastern Philosophers.
2. **Ethological theories**
Darwin, Lorenz, Tinbergen, and Bowlby: cross-cultural relevance, current status.

UNIT-II

3. **Freud's psychoanalytic theory**
Freudian theory, neo-Freudians, cross-cultural relevance, current status.
4. **Learning theory**
Pavlov, Watson, Skinner, cross-cultural relevance, and current status of learning theory.

UNIT-III

5. **Cognitive developmental theory**
Piaget's theory: cross-cultural relevance and current status.

Vygotsky's cross-cultural relevance and current status.
6. **Social learning and social cognition theories**
Bandura's theory: cross-cultural relevance and current status.

UNIT-IV

7. **Conclusion**
Humanistic Psychology and developmental theory.

Reference

1. Aries P. (1962). Centuries of Childhood, New York: Knopf.
2. Crain, W. (1962). Theories of Development, Concepts and applications. New Jersey: Prentice Hall.
3. James, A. and Prout.J. (Ed.). (1990). Constructing and Reconstructing Childhood, London: Falmer Press.
4. Kar, S. (1977). Cultural and Psyche-Selected Essays, Delhi: Oxford University Press.
5. Kakar, S. (1978). The Inner World, Delhi : Oxford University Press.
6. Roland, A. (1988). In Search of Self in India and Japan. Princeton. N.J. Princeton University Press.
7. Roland, A. (1996). Cultural Pluralism and Psychoanalysis. New York. Routledge.
8. Smith, J.A. Harre, R., and Van Langenhove, L. (1955) Rethinking Psychology, London: Sage.
9. Vasta, R (ed.) (1992). Six Theories of Child Development : Revised formulations and current issues. London : Jessica Kingsley Publishers Ltd.
10. Srivastava D.N. (2002) "Adhunik Asamanya Manovigyan", Sahitya Prakashan Agra (India)

FIRST SEMESTER: PAPER-IV
HD104: ADVANCE STUDY OF HUMAN DEVELOPMENT-I

Objectives

- To undertake an advanced study of the stages in human development with special focus on stages from prenatal development to adolescence'
- To understand ;the principles and factors influencing human development ;in these stages.

UNIT-I

1. Principles and Concept of Development

- Principal of growth and development
- Developmental tasks.
- Basic concepts of development-maturation and learning, sensitive periods, individual difference nature-nature issue.
- Secular trend in growth

2. Prenatal development

- Recapitulation of stages in prenatal development, genetic and environmental factors: maternal conditions and teratogens. Significance of the genome project for understanding human development.
- Importance of Indian practices during pregnancy.

UNIT-II

3. Infancy: (Birth-2 years)

- The newborn: birth process and the neonate Physical description, sensory capacities and reflexes Becoming coordinated - feeding, sleeping, crying.
- Limitation, objects permanence and other cognitive accomplishments.
- Early language development.
- Social relationship during infancy.
- The cultural experience of being an infant.

UNIT-III

4. Early Childhood (2-6 years)

- Transition from infancy to childhood
- Physical and motor development.
- Play and social relationships. The emerging self.
- Language, cognition and emotions in early years.
- Early childhood education.
- Early socialization, parenting and cultural processes.

5. Middle Childhood (7-11 years)

- Physical and motor development: changes and challenges.
- Sense of industry and personality development
- Cognitive, moral and language development.
- Social relationships - peers, siblings and parents.
- The experience of schooling - academic achievement.

UNIT-IV

6. Adolescence (11-18 years)

- Transition from childhood to sexual maturity-puberty and its consequences. Emotional changes.
- Development of Formal operations - Adolescent thought. Integration of the self -issues of identity.
- Role of family, peers, community and ethnic group.
- Moral reasoning and judgment.
- Health, sexuality, mental health, delinquency-conformity.

References

- Rice, F.P. (1995). Human Development. New Jersey : Prentice Hall.
Berk, L.E. (12995). Child Development. London : Allen & Bacon
Cole, M. & Cole, S. (1993). The development of children. (2nd ed.)

Practical

1. Prepare case studies on any two inmates.
2. Prepare a project play based on the information - secured on an existing program in the locality.

SECOND SEMESTER: PAPER-I
HD201: ADOLESCENCE AND YOUTH

Objectives

- To understand the stages of adolescence and youth in human development.
- To study the major developmental characteristics of these stages.
- To study the issues of identity, developmental tasks and problems associated with these stages.

UNIT-I

1. **The adolescent stage**
 - Its link with middle childhood and youth.
 - The concept of adolescence in India.
 - Developmental tasks of adolescence.
2. **Theoretical perspectives**
G.Stanley Hall, Anna Freud, Erik Erikson, James Marcia, Kagan and Margaret Mead. Indian perspectives.

UNIT-II

3. **Physical and sexual development**
 - Puberty, development of primary and secondary sex characteristics
 - Psychological response to puberty.
 - Gender differences. Sexuality, Sexual needs and sex education.
4. **Cognitive development**
 - Formal operations-Piaget's theory, Intellectual development at adolescence and youth.
 - The Information - Processing view.
 - Reasoning, thinking critically, reflective judgment, moral reasoning and judgment.
5. **Identity formation**
 - Different perspectives; construct of self and development of self-concept Daniel Offer.
 - Indian views on adolescent's identity.
6. **Social and emotional development**
 - Family, peers and friendships, interpersonal relations. Emotional competence.
 - Conflict with authority.
7. **School, college, work and career**
 - Adolescence and youth in the context of differential opportunities for education and formal training.
 - Importance of academic achievement and failure, related issues.
 - Training for career and work.
8. **Important agents of influence**
 - Family, community and culture
 - Electronic media.
9. **Marriage**
 - Legal age and its relationship to development. Marriage as a family/individual issue.
 - Marriage choices and significance of marriage in human development.
10. **Delinquency and disturbance:**
 - Juvenile delinquency: causes and prevention.
 - Psychological disturbances: depression, suicide, substance abuse.
 - Causes of HIV/AIDS and prevention

References

1. Balk, E.E. (1995). Adolescent Development. New York:Brooks/Cole.
2. Erikson, E.H. (1968). Identity : Youth and crisis. London : Faber & Faber.
3. Kroger, J. (1996). Identity In Adolescence. London : Routledge.
4. Kakar, S (1992). Identity and Adulthood. Delhi : Oxford University Press

SECOND SEMESTER: PAPER-II
HD202: PRINCIPLES OF GUIDANCE AND COUNSELLING

Objectives

- To understand the need for guidance and counseling in human development.
- To introduce basic concepts in guidance, counseling and therapy.
- To discuss the processes involved in counselling at different stages in life.

UNIT-I

1. Construct of guidance, counseling and therapy

- Basic differences,
- Guidance and counseling needs of individuals, families and systems.
- Role of culture in influencing counseling needs and practices.

UNIT-II

2. Nature of psychological disorders at different stages that require counseling and therapy.

- At childhood
- At adolescence and youth
- At adulthood
- In Old age

UNIT-III

3. Principals of counseling and therapy

- Approaches to counseling at different developmental stages.
- Family therapy approach

UNIT-IV

4. Qualities and skills of a counselor

5. The process of counseling

First contact, assessment, intervention, closure, follow-up

References

1. Bernard, P. (1999). Counseling skills training. New Delhi: Viva Books.
2. Manthel, R. (1997). Counseling: The skills of finding solutions to problems, London, Routledge.
3. Nicolson, D & Ayers. H (1995). Individual Counseling: Therapy and practice, London: David Fulton

SECOND SEMESTER: PAPER-III
HD203: PARENTING IN EARLY CHILDHOOD

Objectives

- To understand the significance of parents role in early childhood.
- To develop skills to involve parents in early childhood education programmes.
- To learn to conduct parent education programmes.

UNIT-I

1. Introduction:

- The task of parenting and the concept of parenting skills.
- Changing concept of parenthood and childhood
- Being a competent parent.

2. Individual Parenting Roles

- Determinants of parenting behavior
- Characteristics of the parenting roles.
- The mothering role
- The fathering role
- Concept of family, the family life cycle stages.

UNIT-II

3. Developmental Interaction in Early Childhood Years

- Parents role in developing self awareness in children
- Family relations and communication.
- Helping the child to learn to express and control emotions.
- Helping children discover personal capabilities.
- Establishing routines and showing responsible behavior.
- Learning social role and interactions with others.
- Meeting the family needs during this stage.
- Meeting the children's needs.

UNIT-III

4. Techniques of Parent Education in Preschool Setting

- Informal Meetings: Occasional/accidental meeting, written/printed-newsletters, circulars, notices etc.
- Parent library, toy library
- Workshops/demonstration centre
- Parent's corner
- Open house
- Large/small group meetings.
- Individual meetings: House visits, individual sessions.
- Working with vulnerable families.

UNIT-IV

5. Parent Education and Support

- Role of professionals
- Parents as family workers
- Flexibly to different needs.
- Personal development for parents

References

1. Binger, J. (1979): Parent child relation: An introduction to parenting. N.Y.: McMillan Pub.
2. Brim, Harman (1980): Learning to be parents, principles, programmes and methods, Saga Pub.
3. Fine Marvin (1980): Handbook on parent education, New York: Academic Press Inc.

SECOND SEMESTER: PAPER IV
HD204: MANAGEMENT OF PROGRAMMES FOR CHILDREN AND FAMILIES

Objective

- To understand the purpose, scope and challenges in the in the management of programmes for children and families.
- To understand the various approaches to programmes management.
- To offer students the opportunity to apply & translate the theoretical knowledge into practice.
- To offer students the opportunity to apply & translate the theoretical knowledge into practice.
- To organize, implement & Evaluate programmes for children & family.
- To critically evaluate & review programme models.

UNIT-I

1. Management

- Meaning and importance of management.
- Management skills.
- Review of success & failure of different programmes.

UNIT-II

2. Programmes for children

- Identification of specific Programmes for Children.
- Types of programmes & Their management.
- Family Counseling.

UNIT-III

3. Trends and issues related to life span development

1. Infancy
2. Early Childhood

UNIT-IV

4. Trends and issues related to life span development

3. Young Adulthood
4. Adolescence
5. Old Age

References

1. Chaudhary. P. (1985). Child Welfare Services. New Delhi: Atmaram & Sons.
2. Daughtery, A.S. and Ricks, B.R. (1989) Contemporary Supervision: Managing people and technology. New York: Mac Graw Hill.
3. Greval, J.S. (1984). Early childhood Education Foundations & Practice, Agra: National Psychological Corporation.
4. Hildbrand V (1984). Management of Child Development Centres, New York: Collier Macmillan Publishing, 1984.
5. Leeper, S.H. Wither Spoon, R.L. & Day. B. 1984). Good Schools for Young Children (5th edition), New York: Macmillan.
6. Maluccio, A.N., Fein, E and Olmstead, K.A. (186). Permanency Planning for Children: Concepts & Methods. New York: Tavistock Publication.
7. Mohanty, J. Mohanty B (1984). Early Childhood Care & education, New Delhi: Deep & Deep.
8. Peter T (1997). The Circle of Innovation: You can't Shrink Your Way to greatness, U.K.: Hodder & Stoughten.
9. Shaffir, W.B. (1991). Experiencing Field-work, New-York: Sage.
10. Watkins, P.K. & Divant L. (1987). Preschool director's Staff Development Handbook. New York: Centre for applied research in education.

Other Sources

1. Encyclopedia of Social Work in India, Ministry of Welfare Govt. of India, Vol. 1,2,3,4.
2. Social welfare Administration Vol. 1, Theory & Practice. S.L. Goel, R.K. Jain, Deep & Deep Publications, New Delhi 1988.

Practicals(FOR SECOND SEMESTER):

- i) Conducting home visits and interviewing/talking to parents. Arranging workshops for parents.
- ii) Organizing parent education programmes based on parents needs.
- iii) Conducting parent-teacher meetings.
- iv) Reports and resource files to be maintained by students. Interactions with practicing counselors and therapists hospitals etc.
- v) Learn about the counseling process role play, mock sessions etc.
- vi) Planning and working with children and parents.
- vii) Case study of a child with disability.
- viii) Case study of an organization for young children with disabilities with particular reference to its physical and social environment.

THIRD SEMESTER: PAPER-I
HD301: ADVANCE STUDY OF HUMAN DEVELOPMENT-II

Objectives

- To understand an advanced study of the stages in human development with specific focus on youth, adulthood and old age;
- To understand the principles and factors influencing human development in these stages.

UNIT-I

1. Youth/Young adulthood (20-35)

- Introduction: Biological, cultural and developmental perspectives on youth and adulthood.
- Developmental needs, Importance of social organization.
- Life cycle approach - sexuality, marriage, marital adjustment, parenthood.
- Census data on adult population in India

UNIT-II

2. Middle adulthood (35-50 years)

- Physical continuity and changes. Adult intelligence.
- Personality development - role in family.
- Development of the self. Inter - generation relationships, Maintaining family relationships.
- Friendships.
- Parenting adult offspring and their marriage.
- Menopause in women. Health and disease, Adult sexuality. Work and career development - gender differences.

UNIT-III

3. Late adulthood (50-65 years)

- Continuity and change in personality-the family lifecycle.
- Social relationships.
- Grand parenthood - intergenerational relations.
- Occupational continuity and change - effect in identity.
- Retirement from formal work.
- Health and disease.

UNIT-IV

4. Old age (65+years)

- Physical aspects of aging.
- Change in cognitive abilities and creativity.
- Psychosocial development.
- Changes in family life cycle. Health and disease.
- Death, dying and bereavement.

References

1. Rice, F.P. (1992). Human development: A life-span approach. New jersey: Prentice Hall.
2. Schimberg, L.B.&Smith, K.U. (1982). Human Development. New York: Macmillan.
3. Shamrock, J.W. (1997). Life span development. Brown and Benchmark.

THIRD SEMESTER: PAPER-II
HD302: EARLY CHILDHOOD CARE AND EDUCATION

Objectives

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

UNIT-I

1. Principles of Early childhood Care and Education

Importance, need and scope of ECCE. Objectives of ECCE, Types of preschools/programmes: Play centres, day care, Montessori, kindergarten, anganwadi etc. Concepts of non-formal, formal and play way methods.

UNIT-II

2. Historical Trends (overview)

Contribution of the following thinkers to the development of ECCE (their principles, applications and limitations) in the context of ECCE. Pestalozzi, Rousseau, Froebel, Maria Montessori, John Dewey, Gijubhai Badheka, Tarabai Modak, M.K. Gandhi, Rabindranath Tagore,

3. ECCE in India

Pre Independence period, Post Independence - Kothari Commission, contribution of the five-year plans to ECCE Yashpal Committee, Maharashtra Preschool Centre Act.

4. Contribution of the following agencies/programmes to ECCE IN India
ICCW, IAPE, NCERT, ICDS, UNICEF, NCTE, Mobile Crèche etc.

UNIT-III

5. Organization of Pre-school Centers

Concept of organization and administration of early childhood centers.

Administrative set up and functions of personnel working at different levels.

Building and equipment: Location and site, arrangement of rooms, different types and size of rooms play ground, storage facilities, selection of different types of outdoor and indoor equipment, maintenance and display of equipment and material. Staff/Personnel service conditions and role: Role and responsibilities, essential qualities of a care giver/teacher, other personnel. Record and Report: Types, aim and purpose/need, general characteristics e.g. anecdotal, cumulative, sample work, medical etc.

6. Programme Planning

Planning: Setting goals and objectives of plans-long term, short term, weekly and daily planning, routine and schedules.

UNIT-IV

7. Activities for ECCE

Language Arts: Goals of language, types of listening and activities to promote listening various activities (songs, object task, free conversation, books games, riddles, jokes, stories, Criteria and selection of activities, teacher's role). Art and Craft Activities (Creative activities of expression): Types of activities-chalk, crayon, paints, paper work and best out of waste. Role of teacher in planning the activity, motivating children. Fostering appreciation of art and craft activities.

Music, Songs, objectives of music education, establishing goals, setting the stage and role of the teacher. Three aspect of music, making, listening and singing.

Mathematics: Goals of mathematical learning, developmental concepts at different stages; principles of teaching mathematics - first hand experience, interaction with others, using language, reflection. Mathematical concepts like : classification, conservation, seriating, comparison, counting, fraction, one to one correspondence, addition and subtraction.

Science: a) Thinking; Observing, inferring, classifying, communicating, b) Concept formation: Differentiation, grouping, labeling, Role of science, developing scientific outlook by a spirit of inquiry, objectivity, observation. Role of teacher in some important science experiences.

Social Studies: Goals of social studies, field trips, of fostering good self-concept and respect for others. Promoting social studies through celebrations of festivals. Role of teacher.

References:

1. Bhatia & Bhatia (1995). Theory and principles of Education. Doaba House, Delhi.
2. Brewer, J.A. (1998). Introduction to early childhood Education. (3rd Ed.). Boston : Allyn & Bacon.
3. Carol, M E.C. and Jan Allen (1993). Early childhood curriculum, university of Tennessee, Now York : Macmillan.
4. Day Barbara (1983). Early childhood education. New York : Macmillan.

THIRD SEMESTER: PAPER-III
HD303: DEVELOPMENT OF CREATIVITY

Objective

- To understand the relevance and scope of studying creativity.
- To discuss the concept of creativity and various approaches to its study.
- To understand the role of the individual, the context and socialization in developing creativity.
- To become familiar with psychometric measurement and alternate ways of assessing creativity.

UNIT-I

1. Definition and concept of creativity

- Types and degree of creativity (everyday creativity and eminent creativity)
- Domains, insight and problems solving as related to creativity.

UNIT-II

2. Relevance and Scope of the Study of Creativity

3. Approaches to the study of creativity

- Mystical approach (divine gift),
- Psychology-dynamical approach (Freud)
- Psychometric approach (Guilford & Torrance),
- Cognitive approach (Weisberg),
- Social personality approach (McKinnon),
- Confluence approach (Gardner)

UNIT-III

4. The role of the individual

- Cognition, abilities, interests, attitude, motivation, intelligence, knowledge, skills, beliefs, values and cognitive styles.

5. Relationship between creativity and intelligence

UNIT-IV

6. Influence of child-rearing practices, family

7. Enhancing creativity - brainstorming, problem solving, creative dramatics & visualization.

8. Measurement.

- Psychometric and alternate methods of assessing creativity.

References

1. Vernon, P.E. (ed.) (1982). Creativity : Selected readings Middlesex U.K. : Penguin.
2. Petty.G. (1998). How to be better at creativity. London. Kagan Page (The Industrial Society).
3. Passi, B.K. (1979). Passi Test of Creativity. Agra : National Psychological Corporation.
4. Dagar, B.S. (1989). Cultural Education and Creativity. New Delhi : Uppal Publication House.
5. Khandwalla, P.N. (1988). Fourth eye: Excellence through creativity. Allahabad : A.H. Wheeler.
6. Chaddha, N.K. (1984). Perspectives in creativity. New Delhi : Ess Ess Publications.
7. Sternberg, R.J. (ed.) (1999). Handbook of creativity, U.K. : Cambridge University Press.
8. Runco. M.A. et.al. (eds.) (1999) Encyclopaedia of creativity Vol. I & II, New York : Academic Press.
9. Weisberg, R.W. (1986) Creativity, genius and other myths NY;Freeman

Journals

1. Journal of Creative behaviour
2. Creative Research Journal.

THIRD SEMESTER: PAPER-IV HD304: STUDY OF FAMILY IN SOCIETY

Objectives

- To understand family as a component of socio-cultural milieu and context.
- To familiarize students with developmental perspective in family life cycle.
- To realize and appreciate universals and variations in family life patterns across cultures and sub-cultures.
- To create awareness regarding philosophy, structure, function, needs and strengths of families with specific reference to the Indian family.
- To understand theoretical and methodological concerns related to family studies.

UNIT-I

1. Family in social context

- Family as a component of social system, structure and context.
- Family as an evolving and dynamic institution
- Functions of family

UNIT-II

2. Socio-cultural studies of family patterns in India

- Family structure: Traditional extended/joint families.
- Alternate families - single parent, childless, female headed
- Unitary families.
- Cause and effect of different family structures on changing roles of family.

UNIT-III

3. Approaches and theories in Family Studies

- Developmental approach
- Interactional approach
- Institutional approach
- Systemic approach
- Family life-cycle approach
- Cyclical Theory
- Progressive theory
- Structural - functional theory

4. Family and societal exchanges/influences

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

UNIT-IV

5. Contemporary Issues and concerns

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

References: 1. Adams, B.N. (1975). *The Family : A sociological interpretation*. Chicago : Rand MC Nully. 2. Ahuja, J. (1997). *Indian Social system* (2nd Ed.). Jaiur Rawat. 3. Arcus, H.E. and Others (1993). *Handbook of Family Life Education : The Practice of Family life education* (Vol. II). N.Y.: Sage. 4. Bahr, S.J. (1989). *Family Interaction*. N.Y.: Macmillan.

Practicals(FOR THIRD SEMESTER):

1. Visits to various centres, which cater to the preschool stage e.g.: Day care Centre, Balwadi, Anganwadi, Mobile Creche etc.
2. Preparing a resource unit file on the basis of play way method/approach.
3. Preparing teaching material kit and presentation in mock set up.
4. Story and their techniques
5. Types of puppets and mobiles.
6. Art and craft portfolio .
7. Song booklet and low cost musical instruments .
8. Readiness games and material
9. Picture talks and object talk related material etc.
10. Preparing a programme of activities for children with special abilities.
11. Planning and executing activities in ECCE centres.
12. Role play of home visits and conducting a home visit to a family known through practice teaching.
13. Planning of a parent teacher meeting: Stimulation of meeting/event/function-planning programme-evaluating and reporting the programme.
14. Test of creativity : Torrance test of Creative Thinking (TTCT), Baqer Mehdi's Indian adaptation.
15. Use of consensual assessment technique to rate the creative work of children and adults (Stories, poems and artwork).

FOURTH SEMESTER: PAPER-I
HD401: PERSONS WITH DISABILITIES

Objectives

- To become aware of various impairments and the manner in which these affect the lives of individuals.
- To identify the physical and social barriers which create difficulties for people with disabilities.
- To understand that there is a wide variation between people with disabilities and they are not a single group.
- To realize that the experiences of individuals with disabilities are related to their age, gender and also shaped by the context.
- To become aware of experiences for persons with disabilities and recognize that having impairments is only one aspect of their lives.
- To develop an understanding of their rights.
- To apply the understanding gained from the experiences of people with disabilities in planning services for them.

UNIT-I

1. Various approaches to defining and understanding disability
 - Philanthropic, medical, administrative, legal and the social.
2. Different types of impairments, causes and effects on individuals
 - Physical
 - Intellectual
 - Emotional
 - Sensory

UNIT-II

3. The role of context in the meaning of normality and disability, attitudes of people towards disability.
4. The philosophy of inclusion.
5. Techniques of identification and assessment.

UNIT-III

6. Physical and social barriers in the development of persons with disabilities, modification of physical and social environment, enabling participation of persons with disabilities as a contributing member of society.
7. Use of assistive devices.
8. The shared and varied experiences of those so affected.

UNIT-IV

9. The rights versus needs of persons with disabilities.
10. Examples of programmes and policies for persons with disabilities.
11. Issues in planning inclusive programmes for persons with disabilities

References

1. Baquer, A. (1994). Disabled, Disablement, Disableism, New Delhi: Voluntary Health Association of India.
2. Council for advancement of people's action and rural technology (CAPART). (1996). Disability: A strategy to promote the participation of people with disabilities in programmes for rural development. New Delhi: CAPART.
3. P. Immanuel, C. Koenig & S. Tesni. (Eds.): Listening to sounds and signs: Trends in deaf education and communication (pp. 1-4). Bangalore, India: Cridtoffel-Blindenmission & Books for Change.

Journals

1. Disability and Society
2. Action Aid Disability News
3. Impairment and disability
4. Asia pacific Disability Rehabilitation Journal

FOURTH SEMESTER: PAPER-II
HD402: CARE OF CHILDREN WITH DISABILITIES AND ILLNESSES

Objectives

- To gain information on different impairments and illnesses that affect children.
- To be sensitive to desires and wishes of children.
- To identify and assess impairment, illness, disability and the child's physical and social environment.
- To plan for inclusive education programmes for children and involving the disabled child in the process.
- To become sensitive to concerns of parents of children with disabilities and collaborate with them for children's education and development.
- To interact and relate sensitively with children with disability, accepting individual differences and enable others to do so

UNIT-I

1. Different types of impairments and serious illness, causes and the effects on children.
 - Physical, intellectual, sensory and emotional impairments.
 - Illnesses such as juvenile diabetes, asthma
2. The philosophy of inclusion.
3. Attitudes of others in the family and community
4. Techniques for identification, and recording progress.

UNIT-II

5. Physical, organizational and social barriers in the development of children with disabilities.
 - Modification and adaptation of physical and social environment, the meaning of inclusion, enabling participation of children with disabilities in the school and community so that they have a sense of belonging as well as an opportunity to become contributing members.

UNIT-III

6. Use of assistive devices.
7. Listening to children and including their views in life at school and home.
8. Care of the child in the family, role of parents, siblings and other members.

UNIT-IV

9. The rights versus needs of the children.
10. Examples of programmes for children with disabilities, innovative projects.
11. Issue in planning; inclusive care programmes.

Reference

1. D. Mitchell & R.I. Brown (Eds.) Early Intervention studies for young children with special needs (pp 19-49) London Chapman and Hall.
2. Date, N. (1996). Working with families of children with special needs London : Routledge.
3. Kaur, B.&Daranth. P. (1983). Education for young children with special needs. In T.S. Saraswati & B. Kaur (Eds.) Human Development and Family Studies in India: An agenda for research and policy (pp.300-314). New Delhi: Saga.

Journals

1. Disability and society
2. Action Aid Disability News
3. Impairment and disability.
4. Asia Pacific Disability Rehabilitation Journal

FOURTH SEMESTER: PAPER-III
HD403: SCIENTIFIC WRITING

Objectives

- To be able to appreciate and understand importance of writing scientifically.
- to develop competence in writing and abstracting skills.

UNIT-I

1. Scientific writing as a means of communication

- Different forms of scientific writing.
Articles Journals, Research notes and reports, Review articles, Monographs,
- Dissertations, Bibliographies, Book chapters and articles.

UNIT-II

2. How to formulate outlines

- The reasons for preparing outlines:
 - As a guide for plan of writing
 - As skeleton for the manuscript
- Kinds of outline
 - Topic outlines
 - Conceptual outlines
 - Sentence outlines
 - Combination of topic and sentence outlines

3. Drafting titles, sub titles, tables, illustrations

- Tables as systematic means of presenting data in rows and columns and lucid way of indicating relationships and results.
- Formatting tables: Title, Body stab, Stab Column, Column Head, Spanner Head, Box Head.
- Appendices: Use and guidelines.

4. The writing process

Getting started:

Use outline as a starting device, Drafting, Reflecting, Re-reading, Checking organization, Checking headings, Checking content, checking clarity

Checking grammar:

Brevity and precision in writing, Drafting and re-drafting based on critical evaluation

UNIT-III

Introduction, Review of literature, Methods, Results and discussion, Summary and abstract, References

Ask questions related to : content, continuity, clarity, validity internal consistency and objectivity during writing each of the above parts

UNIT-IV

6. Writing for Grants

- The question to be addressed
- Rationale and importance of the question being addressed
- Empirical and theoretical framework
- Presenting pilot study/data or background information
- Research proposal and time frame
- Specificity of methodology
- Organization of different phases of study
- Expected out come of study and its implications
- Budgeting
- Available infra-structure and resources
- Executive summary

Reference

1. Harman, E & Montagnes I. (Ed.) (1997). The thesis and the book. Now Delhi : Vistaar.
2. Locke, L.F. and others (1987). Proposals that work : A guide fro planning dissertations & Grant proposals (2nd Ed.). Beverly Hills : Sage.
3. Mullins, C.J. (1997). A guide to writing and publishing in social and behavioral sciences. New York : John Wiley & Sons.
4. Stenberg, R.J. (1991). The psychologist's companion: A guide to scientific writing for students & researchers. Cambridge : CUP.