

Template For Programme Information(PG)

(1) Name of the Programme: M.Sc. Home Science (Food, Nutrition & Dietetics)

**KURUKSHETRA UNIVERSITY, KURUKSHETRA
(‘A+’ Grade NAAC Accredited)
Department of Home Science**



**Programme: M.Sc. Home Science (Food, Nutrition and Dietetics)
under CBCS-LOCF Pattern
W.e.f. 2020-21**



KURUKSHETRA UNIVERSITY, KURUKSHETRA
(‘A+’ Grade NAAC Accredited)
Department of Home Science
M.Sc. Home Science (Food, Nutrition and Dietetics)

INTRODUCTION

The Department of Home Science, Kurukshetra University, Kurukshetra, offers M.Sc. in Food, Nutrition and Dietetics. The aim of the programme is to foster a team of experts who can generate nutrition awareness to promote healthy lifestyle among the masses. The courses in the programme are planned so as to augment the fundamental aptitude of learners in the fields of human nutrition, food service management, public health nutrition and clinical dietetics etc. The curriculum offers a robust theoretic background and experimental learning is also promoted through field trainings and practicals. This programme targets to reinforce the research expertise of learners to allow them to grow into academicians and researchers in the field of food science, nutrition and dietetics.

Program Outcomes (POs) for PG courses of Faculty of Life Sciences

PO1. To acquaint students with recent knowledge and techniques in basic and applied biological sciences.

PO2. To develop understanding of organismal, cellular, biochemical and environmental basis of life.

PO3. To provide insight into ethical implications of biological research for environmental protection and good laboratory practices and bio safety.

PO4. To develop problem solving innovative thinking with robust communication and writing skills in youth with reference to biological, environmental and nutritional sciences.

PO5. To understand application of biotic material in health, medicine, food security for human wellbeing and sustainable development.

PO6. To impart practical and project based vocational training for preparing youth for a career in research and entrepreneurship in fields of life sciences for self-reliance.

Programme Specific Objectives:

The objectives of M.Sc. Food, Nutrition and Dietetics programme are:

- To make the students comprehend the theories of nutritional biochemistry, food science, clinical dietetics and public health nutrition.
- To assist the learners in acquiring the methods of assessment of human nutrition requirements and diet planning.
- To relate the application of concepts of the above mentioned areas to laboratory settings.

- To comprehend the implementation of clinical nutrition, to communicate the health promotion, food science and food service management.
- To advance knowledge and improve abilities for monitoring, planning and management of public health nutrition programmes executed by the government.
- To gain expertise to carry out methodical investigation in the areas of public health nutrition, food science and clinical nutrition.

Programme Specific Outcomes:

The programme equips students to grow into experts who can work as nutritionists, dieticians and researchers. After completing this programme the learner will be able to:

PSO1. Evaluate nutrition status and design suitable diets.

PSO2. Use the information about nutrition in clinical conditions and health promotion communications.

PSO3. Work in the arena of public health nutrition as program organizers and supervisors.

PSO4. Work as nutrition experts and quality assurance specialists.

PSO5. Run a food service institution.

PSO6. Apply theoretic knowledge and practical exercises for investigation in the arena of public health nutrition, food science and clinical nutrition.

Home Science M.Sc. (Food, Nutrition and Dietetics)

Eligibility (Passed one of the following examinations from this University or any other recognized University)

Candidate who has passed one of the following examinations with any field of specialization, obtaining at least 50% marks in aggregate: B.Sc. (Home Science)/B.Sc. (Home Science) with Honours /B.Sc. Clinical Nutrition and Dietetics/B.Sc. Human Nutrition & Dietetics/B.Sc. Nursing. **OR**

Bachelor of Science with Home Science/ Botany/ Zoology/ Genetics/ Biochemistry/ Microbiology/ Biotechnology/ Food Technology/ Food Microbiology/ Food Sc./ Food Processing as one of the main subjects.

Note: A candidate who has passed B.Sc. (Agriculture) or B.A. with Home Science as one of the main subjects or B.A. with any subject combination is not eligible for admission to M.Sc. (HomeScience) course for any field of specialization

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 Department of Home Science

**Scheme of Examinations for M.Sc. Home Science (Food, Nutrition and Dietetics) under
 CBCS-LOCF w.e.f. 2020-21 in Phased Manner for UTD only**
Semester-1

| Paper Code | Title of Paper | Type of Paper | Hours/Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|--------------|---|---------------|------------|-----------|-----------------|------------|------------------|
| FND-101 | Advanced Human Nutrition-I | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-102 | Advanced Nutritional Biochemistry-I | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-103 | Food Science-I | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-104 | Food Service Management-I | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-105 | Practical: Advanced Human Nutrition and Advanced Nutritional Biochemistry-I | Core | 8 | 4 | 80+20 | 100 | 3 |
| FND-106 | Practical: Food Science and Food Service Management-I | Core | 8 | 4 | 80+20 | 100 | 3 |
| Total | | | | 24 | | 600 | |

Semester-2

| Paper Code | Title of Paper | Type of Paper | Hours/Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|--------------|--|----------------|------------|-----------|-----------------|------------|------------------|
| FND-201 | Advanced Human Nutrition-II | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-202 | Advanced Nutritional Biochemistry-II | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-203 | Food Science-II | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-204 | Food Service Management-II | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-205 | Seminar | Core | 1 | 1 | 25 | 25 | 1 |
| FND-206 | Nutrition for Holistic Health/Any other MOOC Course available on SWAYAM Portal | Open* elective | 2 | 2 | 40+10 | 50 | 3 |
| FND-207 | Practical: Advanced Human Nutrition and Advanced Nutritional Biochemistry-II | Core | 8 | 4 | 80+20 | 100 | 3 |
| FND-208 | Practical: Food Science and Food Service Management-II | Core | 8 | 4 | 60+20+20** | 100 | 3 |
| Total | | | | 27 | | 675 | |

*will be offered to the students within faculty.

**Viva-voice of the training of one month in Food Processing unit & its report.

Semester-3

| Paper Code | Title of Paper | Type of Paper | Hours/Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|--------------|--|----------------|------------|-----------|-----------------|------------|------------------|
| FND-301 | Clinical Dietetics-I | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-302 | Public Health Nutrition-I | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-303 | Research Methods, Statistics and Computer Applications | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-304 | Food Microbiology | Elective | 4 | 4 | 80+20 | 100 | 3 |
| FND-305 | Food Safety & Quality Control | | | | | | |
| FND-306 | Human Physiology | | | | | | |
| FND-307 | Nutrition During Life Cycle/Any other MOOC Course available on SWAYAM Portal | Open* elective | 2 | 2 | 40+10 | 50 | 3 |
| FND-308 | Seminar | Core | 1 | 1 | 25 | 25 | 1 |
| FND-309 | Clinical Dietetics-I | Core | 8 | 4 | 80+20 | 100 | 3 |
| FND-310 | Public Health Nutrition-I | Core | 8 | 4 | 80+20 | 100 | 3 |
| Total | | | | 27 | | 675 | |

*will be offered to the students within faculty.

Semester4

| Paper Code | Title of Paper | Type of Paper | Hours/Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|--------------|-------------------------------------|---------------|------------|-----------|-----------------|------------|------------------|
| FND-401 | Clinical Dietetics-II | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-402 | Public Health Nutrition-II | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-403 | Physical Fitness & Sports Nutrition | Core | 4 | 4 | 80+20 | 100 | 3 |
| FND-404 | *Dissertation | Elective | 4 | 4 | 80+20 | 100 | 3 |
| FND-405 | Food Toxicology | | | | | | |
| FND-406 | Food Processing and Technology | | | | | | |
| FND-407 | Clinical Dietetics-II | Core | 8 | 4 | 60 +20+20** | 100 | 3 |
| FND-408 | Public Health Nutrition-II | Core | 8 | 4 | 80+20 | 100 | 3 |
| Total | | | | 24 | | 600 | |

*Dissertation subject to the condition that the student has obtained 70% or more marks after IInd Semester (M.Sc Ist year).

** Viva-voice of the training of 45 days in hospitals & its report.

Total Credits =102

Total Marks =2550

M. Sc. (Food, Nutrition & Dietetics) CBCS
Semester -I
Core
Paper -FND-101
Advanced Human Nutrition –I

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit- 4

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions(having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To familiarize the student about physiological and metabolic role of various nutrients,
- To learn the requirement & interaction of various nutrients.

Course Outcomes:

After successful completion of this course students will be able to know about :

FND101 1. Physiological and metabolic role of various nutrients and their interactions in human nutrition.

FND101 2. Understand the basis of human nutritional requirement and recommendations through the life cycle.

FND101 3. Learn the actions of nutrients and their implications.

FND101 4. Familiarize with the recent advances in nutrition.

Unit-I

- 1. Carbohydrates:** Types, classification, digestion, absorption and transport- review. Chemical composition and physiological effect of dietary fiber, fructo-oligosaccharides and resistance starch. Glycemic index of foods. Sweeteners- nutritive and non nutritive. Role of carbohydrates in health and disease, health significance of carbohydrates.
- 2. 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, health significance of lipids.

UNIT- II

- 3. Proteins:** Classification, digestion, absorption and transport - review. Protein quality, methods of evaluating protein quality. Protein and amino acid requirements. Protein as

an energy source. Therapeutic applications of specific amino acids: Branched chain, glutamine, arginine, homocysteine, cysteine, taurine, health significance of proteins.

- 4. Interaction of Nutrition, Immunity & Infection:** Host defense mechanism and nutrients essential in the development of immune system. Effect of infection on the nutritional status of an individual, impact of malnutrition on immunity and occurrence of infection, effect of infection on nutritional status.

UNIT III

- 5. Vitamins:** Historical background, food sources, absorption and transport, biochemical function, RDA, physiological, pharmacological and therapeutic effects, toxicity and deficiency with respect to the following:
- Fat soluble vitamins: A, D, E & K.
 - Water soluble vitamin: Thiamine, riboflavin, niacin, biotin, pyridoxine, folic acid, pantothenic acid, ascorbic acid, cyanocobalamin, choline, inositol.

UNIT- IV

- 6. Minerals:** (Note: For each nutrient sources, bioavailability, 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.

Books Recommended:

- Modern Nutrition in: Health and Disease – Goodhearth, R. S.
- Recommended dietary allowance for Indian – I.C.M.R., 1980
- Nutrition and Development- Winick 1973, Univ. of Calombia.
- Biology of Nutrition – Eclames 1972, Palaniuma Press
- Foods & Nutrition – Krause 1972, Saunders.
- Proteins and Human Foods 1970, Lowrie, Avi. Pub. Co.
- Nut. &Physical ;fitness-BoGert L.J.
- Principles of Nut. – Wilson, L.D. and Fisher. K.H.
- Standardised diets for Hospital – National Nut. Advisory Committee
- Nutrition in Health & Disease – Cooper, L. Barher, L. Mitehell, HandRynheraen.
- Nutrition A comprehensive: Beaton and McHanery, Treatise Vol-1, II, & III.
- Human Nut. &Dietectics- Davidson S., Passmore, R., Brook, J.E. and Truswell.
- Foods and Nut.- Rankin, W. Munn. Hildath E.N.
- Iron deficiency – Holiberth, H.C. Harvorth, vannotti, N.Y.
- Trace Elements in Human and Animal Nut. – Underwood, N.Y.
- Essays in Biochemistry – Samul Graff, Tandon Book Dept. Sec. –16
- Diabetes Mellitus- The Williams and Wilkinas Co., U.S.A.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|----------------|---|---|
| 1. | Physiological and metabolic role of various nutrients and their interactions in human nutrition. | Power Point Presentations and discussions |
| 2. | Understand the basis of human nutritional requirement and recommendations through the life cycle. | Power Point Presentations and discussions |
| 3. | Learn the actions of nutrients and their implications. | Power Point Presentations and discussions |
| 4. | Familiarize with the recent advances in nutrition. | Power Point Presentations and discussions |

CO-PO matrix for the course FND101 (Advanced Human Nutrition-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|------|-----|------|-----|-----|-----|
| FND101.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND101.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND101.3 | 2 | 3 | 3 | 3 | 3 | 3 |
| FND101.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course FND101 (Advanced Human Nutrition-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND101.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND101.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND101.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND101.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 3 | 2.75 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –I
Core
Paper - FND-102
Advanced Nutritional Biochemistry –I

Max. Marks: 100
Theory Exam: 80
Int. Assessment: 20
Duration of Exam: 3 hrs
Credit- 4

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives: -

- To facilitate the learners about fundamentals of nutritional biochemistry and its other aspects arming them with knowledge for better understanding of food, nutrition and dietetics.

Course Outcomes:

This course will enable the students to:

- FND102 1. Expand the nutritional biochemistry knowledge acquired at the undergraduate level.
- FND102 2. Understand the fundamentals of energetics of biochemical reactions.
- FND102 3. Comprehend the different aspects of carbohydrates, lipids, proteins, enzymes and nucleic acids as biomolecules.
- FND102 4. Know the mechanism of action of hormones.
- FND102 5. Learn about basic idea about nutrigenomics and nutraceuticals.

Unit-I

- 1. PRINCIPALS OF BIOENERGETICS-** Concept of free energy, Oxidation and reduction, concept of cell, high energy compounds (ATP, PEP, and Phosphogens), role of ATP/ADP cycle in transfer of high energy phosphates, concept of coupled reactions, equilibrium & non- equilibrium reactions, committed steps, caloric homeostasis & futile cycles.
- 2. CARBOHYDRATES-** Definition, classification. Monosaccharides Classification, occurrence, structure, stereoisomerism (DL and RS systems), optical isomerism and chemical reactions of the functional groups, derivatives of monosaccharides- deoxy sugars and amino sugars. Disaccharides of nutritional importance (sucrose, maltose, lactose), Polysaccharides-Homopolysaccharides- starch, glycogen, cellulose, Heteropolysaccharides- glycoprotein, proteoglycans, mucopolysaccharides, pectins.

Unit-II

- 3. LIPIDS-** Definition, classification. Structure, properties and functions of fatty acids (including essential fatty acids) Trans fatty acids, prostaglandins, acylglycerols, phospholipids, sphingolipids, glycolipids, steroids (including role of cholesterol). Chemical composition and biological role of lipoproteins, Characterization of fats-saponification, iodine, acid, acetyl and peroxide value.
- 4. AMINO ACIDS AND PROTEINS-** Common structural features, classification based on the nature of R group, non-protein amino acids, essential amino acids and titration curves of monoamino-monocarboxylic, monoamino-dicarboxylic and diamino-monocarboxylic acids. Peptide bond, biological role of proteins, classification of proteins, levels of protein structure- primary, secondary (super secondary elements in brief), tertiary and quaternary structure, forces stabilizing protein structure, denaturation of proteins.

Unit-III

- 5. ENZYMOLOGY-** General Characteristics, classification and nomenclature, coenzyme, cofactor, prosthetic group, concept of holoenzyme and apoenzyme, units of enzyme activity, Multienzyme systems and multifunctional enzymes with specific examples and significance, Enzyme kinetics- Michaelis-Menten and Lineweaver-Burk equation for monosubstrate reactions, K_m , k_{cat} (turnover number), bisubstrate reactions.
- 6. MECHANISM OF ACTION OF HORMONES-**Classes of hormones, signal transduction and intracellular messengers, chemistry and functions of thyroid, parathyroid, adrenal, pancreatic, gastric and reproductive hormones; hypothalamus and pituitary, hormone replacement therapy

Unit-IV

- 7. NUCLEIC ACIDS-** Nitrogenous bases, experimental proof of DNA and RNA as genetic material, Chargaff's rules, double helical model of DNA (A, B and Z), DNA packaging, types of RNA and their functions.
- 8. Nutrigenomics and Nutraceuticals.**

Books Recommended

1. Harper's Biochemistry- Robert K. Murray
2. Textbook of Biochemistry- West and Todd
3. Bio chemical aspect of Nutrition – S.X.C.- Okoyo
4. Food Chemistry – O.R. Fennema
5. Biochemistry– Voet and Voet
6. Principles of Biochemistry – A.L. Lehninger
7. Outlines of Biochemistry- E. E. Conn

8. Practical Clinical Biochemistry- Harold Varley

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|---|---|
| 1. | Expand the nutritional biochemistry knowledge acquired at the undergraduate level. | Class room lectures and discussions |
| 2. | Understand the fundamentals of energetics of biochemical reactions. | PPT presentations and discussions |
| 3. | Comprehend the different aspects of carbohydrates, lipids, proteins, enzymes and nucleic acids as biomolecules. | Class room lectures and power point presentations |
| 4. | Know the mechanism of action of hormones. | PPT presentations and discussions |
| 5. | Learn about basic idea about nutrigenomics and nutraceuticals. | Class room lectures and discussions |

CO-PO matrix for the course FND102 (Advanced Nutritional Biochemistry-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND102.1 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND102.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND102.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND102.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND102.5 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.8 | 3 | 2.8 | 3 | 3 |

CO-PSO matrix for the course FND102 (Advanced Nutritional Biochemistry-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND102.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND102.2 | 2 | 3 | 3 | 2 | 3 | 3 |
| FND102.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND102.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND102.5 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.8 | 3 | 3 | 2.8 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –I
Core
Paper –FND-103
Food Science-I

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit- 4

NOTE:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To learn about the basic concepts and composition of food.
- To provide the knowledge about the principles of food science in various food preparations.

Course Outcomes:

After successful completion of this course students will be able to:

FND103 1. Familiarize with changes occurring in various foodstuffs as a result of processing and cooking.

FND103 2. Use the theoretical knowledge of food science in day to day life.

Unit-I

1. **Relation of cookery to colloidal chemistry:** Definition of colloidal system, altering degree of dispersion, Hydrophilic and Hydrophobic colloids, stabilization of colloidal systems, properties i.e. surface tension, adsorption, foam formation, rheology, gel, formation and emulsions.
2. **Fermentation process, merits and demerits, fortification process, merits, types and nutritional importance of fortified foods.**

Unit-II

3. Starch Cookery:

- a) Sources, types and uses of starch, gelatinization.
- b) Flours- Composition and baking qualities. Batters and dough (chapatti and poori), Leavening agents: biologically and chemically leavened products.
- c) Cooking and parboiling of rice.

- Sugar Cookery:** Introduction, types, uses and properties of crystallization of sugar, stages of sugar cookery, physical and chemical properties of sugar, sweetness index, types of honey and its products, fondant, fudge, caramel and brittles.

Unit- III

- Fats and Oils:** Sources, structure and type of fats, physical & chemical properties and cooking uses of fats and oils. Absorption of fat. Changes during storage, fat deterioration and antioxidants.
- Nuts and Oilseeds:** Composition, classification, nutritional value, Oil extraction and by-products, uses and storage of oil seeds, toxins in nuts and oil seeds.

Unit –IV

- Beverages:** Classification and types of beverages. Some major beverages such as coffee, tea, cocoa, malted drinks.
- Spices and Condiments:** Composition, functions of spices, nutritional importance of Indian spices and condiments.
- Sensory Evaluation:** Sensory characteristics of food: appearance, colour, flavor, odour, taste, mouth feel and texture, objective and subjective evaluation.

BOOKS RECOMMENDED:

- Experimental Cookery: Low Bells.
- Food Selection and Preparation: Sweetman, M.D.
- Handbook of Food Preparation: A.N. Hime Ec. Asso.
- Our Food: Swaminathan, M, and Bhagiam, R.K.
- Experimental Foods: Swaminathan
- Food Science and Application: L Paul, C. Pauling.
- Food Science: Mudami, S.R. & Rao, S.M. 1994, Wiley Eastern Ltd. New Delhi
- Food Facts & Principles: Maney N. S. & Shudarshan Swamy M. 1966. New Age International Pub. N. Delhi

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|---|--|
| 1. | Familiarize with changes occurring in various foodstuffs as a result of processing and cooking. | Power Point Presentations, discussions and demonstration |
| 2. | Use the theoretical knowledge of food science in day to day life. | Power Point Presentations, discussions and demonstration |

CO-PO matrix for the course FND103 (Food Science-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND103.1 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND103.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.5 | 3 | 3 | 2.5 |

CO-PSO matrix for the course FND103 (Food Science-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND103.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| FND103.2 | 3 | 3 | 3 | 3 | 2 | 3 |
| Average | 2.5 | 3 | 3 | 3 | 2.5 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –I
Core
Paper –FND-104
Food Service Management –I

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit- 4

NOTE:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To equip the students about basic abilities and necessary expertise in key areas of institutional food administration.
- To impart necessary expertise to function as a food service manager.

Course Outcomes:

After successful completion of this course students will be able to:

- FND104 1. Know about field level experience in Institutional Food Administration.
- FND104 2. Equip with basic grounding in research techniques.

Unit-I

1. Introduction to Food Service Systems:

- History and development of the food service industry
- Broad categories of catering services; Commercial and Institutional
- Characteristics of the various types of food service units – Canteens, Hostels, Hospitals and Restaurants.

2. Principles of Institutional food Management

- Role and functions of management in food service.
- Management tools: Tangible, Intangible tools

UNIT- II

- 3. Personnel Management: Objectives, importance and need.**
 - Principles of manpower planning
 - Recruitment, selection and orientation
 - Training and motivation, theories and approaches of employees
- 4. Legal Aspects**
 - National and International Labour Laws
 - Welfare policies and schemes for employees
 - Offences and Penalties

Unit –III

- 5. Space Organization**
 - Planning and design consideration for kitchen and service area
 - Space requirements for kitchen and service areas
 - Types of kitchens
 - Layout of service areas
- 6. Equipment**
 - Types of equipment
 - Selection of equipment
 - Maintenance of equipment
- 7. Time and Energy Management**
 - Importance of time and energy management
 - Types of energy – Human and fuel energy
 - Measures for utilization and conservation

UNIT- IV

- 8. Management of Finance**
 - Sources of finance
 - Budgets
- 9. Cost Accounting /Analysis**
 - Objectives of food cost control
 - Food cost analysis
 - Labour cost analysis
 - Cost control techniques

BOOKS RECOMMENDED:

1. Food Service in Institutions – Wood
2. Food Service in Institutions – West, Bessin, Brooks.
3. Handbook of Food Preparations – A.M. Home Economics Association.
4. Food Selection and Preparations – Sweetman, M.D., 4, Mackeller.
5. School Lunch Room Service – Oliver B. Watson.
6. Food service Planning: layout Equipment – Lender H. Ketshevar and Marget E. Terrel.

7. Human Nutrition and Dietetics – Davidson and Passmore

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|----------------|---|--|
| 1. | Know about field level experience in Institutional Food Administration. | Discussions and demonstration |
| 2. | Equip with basic grounding in research techniques. | Power Point Presentations, discussions and demonstration |

CO-PO matrix for the course FND104 (Food Service Management-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND104.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND104.2 | 2 | 3 | 3 | 2 | 3 | 3 |
| Average | 2.5 | 3 | 3 | 2.5 | 3 | 3 |

CO-PSO matrix for the course FND104 (Food Service Management-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND104.1 | 3 | 2 | 3 | 2 | 3 | 3 |
| FND104.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 3 | 2.5 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –I
Core
Paper- FND-105(Practical)
Advanced Human Nutrition and Advanced Nutritional Biochemistry-I

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit- 4

Course Objectives: -

- To acquaint the students about various body parameters.
- To facilitate the students about colorimetry and enzyme assays.

Course Outcomes:

This course will enable the students to:

- FND105 1. Measure blood pressure, BMI and body fat.
- FND105 2. Acquire skills to prepare standard solution.
- FND105 3. Estimate biomolecules and minerals.
- FND105 4. Assess the enzyme activity.

a) Advanced Human Nutrition-I

1. Measurement of Blood Pressure.
2. Measurement of Body fat.
3. Calculation of BMI (Body Mass Index).
4. Estimation of glucose in blood and urine.
5. Estimation of cholesterol in blood.

b) Advanced Nutritional Biochemistry-I

1. Preparation of standard solutions.
2. Preparation of buffers using buffer tables and verify pH.
3. Isolation and estimation of casein from milk.
4. Estimation of ascorbic acid in foods.
5. Estimation of calcium, phosphorous and Iron in various food stuffs.
6. Extraction and quantitative estimation of total sugars and reducing sugars from food stuffs.
7. Estimation of proteins in food stuffs.

8. Estimation of activity of alkaline phosphatase in Moong bean seeds.
9. Effect of pH, concentration, time and temperature of incubation on enzyme activity.
10. Estimation of Moisture, ash in the food stuffs.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|----------------|--|--------------------------------------|
| 1. | Measure blood pressure, BMI and body fat. | Demonstration and discussions |
| 2. | Acquire skills to prepare standard solution. | Demonstration and discussions |
| 3. | Estimate biomolecules and minerals. | Demonstration and discussions |
| 4. | Assess the enzyme activity. | Demonstration and discussions |

CO-PO matrix for the course FND105 (Advanced Human Nutrition and Advanced Nutritional Biochemistry-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND105.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND105.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND105.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND105.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 3 | 3 | 3 | 3 |

CO-PSO matrix for the course FND105 (Advanced Human Nutrition and Advanced Nutritional Biochemistry-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND105.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND105.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND105.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND105.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 3 | 3 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –I
Core
Paper- FND-106(Practical)
Food Science and Food Service Management –I

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit: 4

Course Objectives:

- To perform physical and nutritional analysis of commonly consumed raw and processed food.
- To familiarize students with the techniques and methods used for food processing.
- To equip the students about the work knowledge of different types of food service units such as commercial and noncommercial ones.
- To impart the knowledge about planning and cost analysis of different types of menus.

Course Outcomes:

This course will enable the students to:

FND106 1.Learn the chemistry of food groups.

FND106 2.Understand the physical and chemical structure of foods and their components.

FND106 3.Understand the basic principles and applications of food preservation and food processing.

FND106 4.Develop skills for quantity cooking.

FND106 5.Analyze the cost of menu in food service organization.

FND106 6.Standardize the recipes for more than 100 persons.

a) **Food Science-I**

1. Effect of solutes on boiling point of water.
2. Effect of types of water on characteristics of cooked vegetables, pulses and cereals.
3. **Leavened Products:** Fermentation-Use of micro organisms (lactic acid, yeast), steam as an agent, egg as an agent, chemical agents.
4. **Starches, Vegetable Gums and Cereals:** Dextrinization, gelatinization, thickening power. Factors affecting gels. Gluten formation and factors affecting gluten formation.
5. **Sugar and Jaggery Cookery:** solubility and sizes of sugar, stages of sugar cookery, caramelization, factors affecting crystal formation.

6. **Fats and Oils:** Flash point, melting point and smoking point. Role of fats and oils in cookery as: shortening agent, frying medium. Factors affecting fat absorption Permanent and semi-permanent emulsions.
7. **Beverages:** Development & factors affecting quality of beverages.

b) Food Service Management-I

1. Market survey of Food service equipment.
2. Evaluation of Food Service units-2 Commercial & non-commercial.
3. Layout analysis of Kitchens of different food service Institutions.
4. Analysis of Food safety and Hygiene.
5. Planning menus for quantity.
 - Banquet
 - Outdoor catering
 - Packed meals
 - restaurant
6. Cost analysis of menus in
 - College canteen
 - Hostel mess
 - Hospitals (private, charitable, govt.)
7. Standardising recipes for 100 servings/ persons

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|--|-------------------------------|
| 1. | Learn the chemistry of food groups. | Demonstration and discussions |
| 2. | Understand the physical and chemical structure of foods and their components. | Demonstration and discussions |
| 3. | Understand the basic principles and applications of food preservation and food processing. | Demonstration and discussions |
| 4. | Develop skills for quantity cooking. | Demonstration and discussions |
| 5. | Analyze the cost of menu in food service organization. | Demonstration and discussions |
| 6. | Standardize the recipes for more than 100 persons. | Demonstration and discussions |

CO-PO matrix for the course FND106 (Food Science and Food Service Management -I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND106.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND106.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.4 | 3 | 3 | 3 | 3 | 3 | 3 |

| | | | | | | |
|----------|------|---|---|------|---|---|
| FND106.5 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.6 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.83 | 3 | 3 | 2.83 | 3 | 3 |

CO-PSO matrix for the course FND106 (Food Science and Food Service Management –I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND106.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND106.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.5 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND106.6 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.83 | 3 | 3 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS

Semester –II

Core

Paper -FND-201

Advanced Human Nutrition –II

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credit- 4

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To equip the students about action of nutrients and their implications in the body.
- To know about the recent advances in nutrition.

Course Outcomes:

After successful completion of this course students will be able to know about:

FND201 1. Energy content of food.

FND201 2. Determination of energy metabolism.

FND201 3. Body composition, physiology of hunger and various eating disorders.

FND201 4. Interrelationship between drugs and various nutrients.

UNIT-I

1. Energy: Energy content of food stuffs –unit and determination of gross and physiological energy value of food. Energy expenditure: factors affecting, components of energy requirement, BMR and factors affecting it. Determination of energy metabolism of humans by direct and indirect method. Thermogenesis, Specific Dynamic Action (SDA)

UNIT-II

2. Water: Water intake and loss, exchange of water in body, effect of low and excess intake of water. Electrolyte (Sodium, Potassium and Chloride): Functions, dietary sources, absorption, transport and excretion, water intake and effect of electrolytes on water balance, obligatory water loss, effects of dehydration.

UNIT- III

3. Body Composition: General body composition, determination of body water, acid-base balance, extra cellular water, cell mass and body fat. Change in body composition throughout life, Body mass index: formula to calculate BMI, WHR- waist hip ratio.

UNIT- IV

4. Physiology of hunger, Causes of Eating disorders, types of eating disorders, behavioral and clinical signs, prevention and treatment of Bulimia, Anorexia Nervosa, Bing eating disorder..

5. Drug-nutrient interaction: Drug use and nutritional status, effects of drugs on food intake, nutrient absorption and metabolism, effects of food on drug absorption, distribution and metabolism.

Books Recommended:

1. Modern Nutrition in Health and Disease – Goodhearth, R. S.
2. Recommended dietary allowance for Indian – I.C.M.R., 1980
3. Nutrition and Development- Winick 1973, Univ. of Calombia.
4. Biology of Nutrition – Eclames 1972, Palaniuma Press
5. Foods & Nutrition – Krause 1972, Saunders.
6. Proteins and Human Foods 1970, Lowrie, Avi. Pub. Co.
7. Nut. & Physical fitness-BoGert L.J.
8. Principles of Nut. – Wilson, L.D. and Fisher. K.H.
9. Standardised diets for Hospital – National Nut. Advisory Committee
10. Nutrition in Health & Disease – Cooper, L. Barher, L. Mitehell, Hand Rynheraen.
11. Nutrition A comprehensive: Beaton and McHanery, Treatise Vol-1, II, & III.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|--|--|
| 1. | Energy content of food. | Through class room lectures, power point presentations |
| 2. | Determination of energy metabolism. | Through class room lectures, power point presentations |
| 3. | Body composition, physiology of hunger and various eating disorders. | Through class room lectures, power point presentations |
| 4. | Interrelationship between drugs and various nutrients. | Through class room lectures, power point presentations |

CO-PO matrix for the course FND201 (Advanced Human Nutrition-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|------|-----|-----|-----|
| FND201.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND201.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND201.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND201.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course FND201 (Advanced Human Nutrition-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND201.1 | 3 | 3 | 3 | 3 | 2 | 3 |
| FND201.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND201.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND201.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 3 | 3 | 2.75 | 3 |

**M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –II
Core
Paper - FND-202
Advanced Nutritional Biochemistry –II**

Max. Marks: 100
Theory Exam: 80
Int. Assessment: 20
Duration of Exam: 3 hrs
Credit- 4

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the interrelationship between different nutrients and their metabolism.
- To provide basic knowledge about molecular processes and biophysical techniques.
- To prepare students for research and field jobs.

Course Outcomes:

This course will enable the students to:

- FND202 1. Acquire an insight into interrelationships among various metabolic pathways.
- FND202 2. Understand the mechanisms adopted by the human body for regulation of metabolic pathways.
- FND202 3. Comprehend the different aspects of molecular biology.
- FND202 4. Know about the mechanism of metabolism of xenobiotics.
- FND202 5. Become proficient for specialization in nutrition.

Unit-I

- 1. METABOLISM OF CARBOHYDRATES***- Review of glycolysis, fate of pyruvate: alcoholic and homolactic fermentation, Pasteur effect, Cori cycle, Pyruvate dehydrogenase complex and its regulation; Reactions, regulation and amphibolic nature of TCA Cycle; Anaplerotic reactions, Hexose monophosphate shunt, Biosynthesis of lactose and sucrose, glycogenesis, glycogenolysis, gluconeogenesis, glyoxalate cycle. Regulation of blood glucose level.
- 2. AMINO ACID METABOLISM***- Transamination, deamination and decarboxylation reactions; Role of glutamine in ammonia transport; Glucose-Alanine Cycle, urea cycle, amino acids as biosynthetic precursors- biosynthesis of heme, biologically active amines and glutathione.

Unit-II

- 3. LIPID METABOLISM***- Beta-oxidation of saturated and unsaturated fatty acids (including brief account of minor pathways of fatty acid oxidation, de novo synthesis of fatty acids, biosynthesis and breakdown of cholesterol, triacylglycerols, Phospholipids, ketone body formation and their utilization, Formation of prostaglandins, prostacyclins, thromboxanes and leukotrienes from arachidonic acid.
- 4. BIOLOGICAL OXIDATION***- Electron transport chain (ETC): components, operation and inhibitors of electron transport chain, oxidative phosphorylation and its mechanism, P/O and P/H ratio, uncouplers.

Unit-III

- 5. NUCLEOTIDE METABOLISM AND MOLECULAR BIOLOGY** - Biosynthesis and breakdown of purines and pyrimidines, DNA replication, transcription, translation (prokaryotes & eukaryotes), regulation of gene expression (Prokaryotes), mutagenesis and DNA repair, recombinant DNA technology and genetically modified foods, nutritional regulation of gene expression.
- 6. DETOXIFICATION**- Metabolism of xenobiotics.

Unit-IV

- 7. ENZYMOLOGY**- Mechanism of enzyme action (acid base catalysis, covalent catalysis, metal ion catalysis, electrostatic catalysis, proximity and orientation effect, preferential binding of the transition state complex, strain and distortion theory) Enzyme inhibition – irreversible(non-competitive, uncompetitive), reversible(competitive), feedback and product inhibition, regulation of enzyme activity by covalent modification, allosteric modification, isoenzymes, Ribozyme and Abzyme, applications of enzymes in medicine and food industry
- 8. BIOPHYSICAL TECHNIQUES**- Chromatography- Column, Thin layer, Paper, Ion exchange, Affinity, Molecular exclusion, GLC and HPLC. Electrophoresis- cellulose acetate and gel electrophoresis, isoelectric focusing. Spectrophotometry- Beer Lambert's Law, determination and application of extinction coefficient. Centrifugation- sedimentation velocity and analytical methods, ultracentrifugation. Immunochemical Methods – RIA, ELISA. Uses of Isotopes in biochemistry.

***Regulation of metabolic pathways should be discussed along with.**

Books Recommended:

1. Harper's Biochemistry- Robert K. Murray
2. Textbook of Biochemistry- West and Todd
3. Biochemistry – Voet and Voet
4. Principles of Biochemistry – A.L. Lehninger
5. Outlines of Biochemistry- E. E. Conn
6. Biochemistry- UshaSatyanarayan

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|----------------|---|--|
| 1. | Acquire an insight into interrelationships among various metabolic pathways. | Through class room lectures, group discussions and power point presentations |
| 2. | Understand the mechanisms adopted by the human body for regulation of metabolic pathways. | Through class room lectures, group discussions and power point presentations |
| 3. | Comprehend the different aspects of molecular biology. | Through class room lectures, group discussions and power point presentations |
| 4. | Know about the mechanism of metabolism of xenobiotics. | Through class room lectures, group discussions and power point presentations |
| 5. | Become proficient for specialization in nutrition. | Through class room lectures, group discussions and power point presentations |

CO-PO matrix for the course FND202 (Advanced Nutritional Biochemistry-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND202.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND202.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND202.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND202.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND202.5 | 3 | 3 | 3 | 3 | 3 | 2 |
| Average | 3 | 2.8 | 3 | 3 | 3 | 2.8 |

CO-PSO matrix for the course FND202 (Advanced Nutritional Biochemistry-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND202.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND202.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND202.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND202.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND202.5 | 3 | 3 | 3 | 3 | 3 | 2 |
| Average | 3 | 2.8 | 3 | 3 | 3 | 2.8 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –II
Core
Paper - FND-203
Food Science-II

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit- 4

NOTE:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions(having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To know about the composition of various foods.
- To learn about the significance of Food Science in the Food industry.

Course Outcomes:

After successful completion of this course the student will able to:

FND203 1. Describe the composition, types, impact of various processing techniques on different food groups as well as their byproducts.

Unit-I

- 1. Vegetables and Fruits:** Composition, classification of fruits and vegetables, pigments and acids in vegetables and fruits, browning reaction. Pectic substances: Characteristics, uses, changes during ripening, methods of artificial ripening, testing of pectin, factors affecting jelly formation, loss of nutrients while cooking vegetables and it's solutions.

Unit-II

- 2. Grams and Dhals:** Composition, methods of processing and cooking, Effect of processing such as roasting, parching, soaking, germination and fermentation. Toxins in pulses.

Unit –III

3. Milk and Milk products: Composition and components of milk. Milk types. Coagulation of milk protein. Setting of curds, different types of cheese, non-enzymatic browning.

Dairy products: Cultured milk, Yogurt, Butter, Whey, Concentrated and dried products, frozen desserts, dairy product substitutes.

Unit -IV

- 4. Eggs:** Structure, composition and selection. Changes during storage and spoilage. Coagulation of eggs protein: proteins in egg white and yolk, egg fat. Egg types. Eggs cooked in shells, poached eggs, and omelettes, units of egg quality, egg products: types and advantages.
- 5. Meat:** Structure, constituents and types of meat, meat protein, post-mortem changes, ageing of meat, curing and smoking, meat analogues: types and characteristics, tenderness and juiciness.
- 6. Fish and sea food:** Types and composition, Storage, selection, spoilage and preservation, byproducts and newer products of fish, fish cookery.

BOOKS RECOMMENDED:

1. Experimental Cookery: Low Bells.
2. Food Selection and Preparation: Sweetman, M.D.
3. Handbook of Food Preparation: A.N. Hime Ec. Asso.
4. Our Food: Swaminathan, M., and Bhagiam, R.K.
5. Experimental Foods: Swaminathan
6. Food Science and Application: L Paul, C. Pauling.
7. Food Science: Mudami, S.R. & Rao, S.M. 1994, Wiley Eastern Ltd. New Delhi
8. Food Facts & Principles: Maney N. S. & Shudarshan Swamy M. 1966. New Age International Pub. N. Delhi

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|--|--|
| 1. | Describe the composition, types, impact of various processing techniques on different food groups as well as their byproducts. | Through power point presentations, class room lectures and group discussions |

CO-PO matrix for the course FND203 (Food Science-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND203.1 | 3 | 2 | 3 | 3 | 3 | 2 |
| Average | 3 | 2 | 3 | 3 | 3 | 2 |

CO-PSO matrix for the course FND203 (Food Science-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND203.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 3 | 3 | 2 | 3 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –II
Core
Paper - FND-204
Food Service Management-II

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credit- 4

NOTE:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To impart knowledge about the concept of large scale cooking techniques.
- To equip students about strategies for pricing, sales and marketing of food products.

Course Outcomes:

After doing this course the students will be able to:

FND204 1. Equip basic abilities and necessary expertise to start their own food unit leading to entrepreneurship.

Unit-I

1. Menu Planning

- Types of menus
- Objectives of menu planning
- Considerations in menu planning
- Steps in Menu planning
- Planning menus for canteens, cafeterias, boarding school, hostel mess and old age homes

2. Food Service

- Principles, objectives and scope of food service management.
- Styles of food service in restaurants
- Food service in hospitals
- Food service in institutions

Unit-II

3. Food management

- Purchasing: principles, purchasing process and methods
- Receiving: receiving process delivery methods and procedure
- Issuing process

4. Food Storage

- Layout of stores
- Storage procedure
- Inventory management
- Store records

UNIT-III

5. Food Production Management

- Food production process
- Large quantity cooking techniques
- Holding food

6. Marketing and sales management

- Marketing strategies
- Sales analysis
- Market promotion

UNIT –IV

7. Safety

- General safety rules
- Types of accidents
- Accident prevention
- Review of first aid
- Safety tips for employees
- Kitchen equipment safety.

8. Hygiene, Sanitation and food standards

- Principles of food sanitation, safety and hygiene
- Sources of food contamination
- Food handling practices
- Good manufacturing practices (GMP)
- Good hygiene practices (GHP)
- Food standards
- Waste disposal

BOOKS RECOMMENDED:

1. Food Service in Institutions – Wood
2. Food Service in Institutions – West, Bessin, Brooks.
3. Handbook of Food Preparations – A.M. Home Economics Association.
4. Food Selection and Preparations – Sweetman, M.D., 4, Mackeller.
5. School Lunch Room Service – Oliver B. Watson.
6. Food service Planning: layout Equipment – Lender H. Ketshevar and Marget E. Terrel.
7. Human Nutrition and Dietetics – Davidson and Passmore

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|----------------|---|--|
| 1. | Equip basic abilities and necessary expertise to start their own food unit leading to entrepreneurship. | Through power point presentations, class room lectures and demonstration |

CO-PO matrix for the course FND204 (Food Service Management-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND204.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 3 | 3 | 2 | 3 | 3 | 3 |

CO-PSO matrix for the course FND204 (Food Service Management-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND204.1 | 3 | 3 | 3 | 2 | 3 | 3 |
| Average | 3 | 3 | 3 | 2 | 3 | 3 |

M.Sc. (Foods, Nutrition & Dietetics) CBCS
Semester –II
Open Elective
Paper - FND-206
Nutrition for Holistic Health

Total Marks: 50
External: 40
Internal: 10
Duration of Exam: 3 hrs
Credit- 2

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To provide basic knowledge regarding food, nutrients & different techniques of cooking.

Course Outcomes:

After successful completion of this course students will be able to:

FND206 1. Familiarize with the basic food group system.

FND206 2. Importance of different nutrients in maintaining good health.

Unit –I

1. **Food:** Functions of food & classification.
2. **Essential food constituents:** Carbohydrates, Protein, Fats.

Unit –II

3. **Food source:** Functions, daily allowances, deficiency and excess intake of followings:
-**Vitamins:** A, D, E, K, B1, B2, B3, C, B12, Folic acid.
-**Minerals:** Calcium, Iron, Iodine, Sodium, Potassium.
-**Enzymes:** Definition, importance and factors affecting enzyme activity.

Unit –III

4. **Fiber:** Role of dietary fiber in human nutrition.

5. Methods of enhancing nutritive value of food stuff.

-Importance of enhancing nutritive value of food stuffs.

-Method of enhancing nutritive value of food stuffs, sprouting, fermentation, fortification and supplementation.

Unit-IV

6. Water: Function of water in the body.

7. Principles and methods of cooking: Advantages of cooking of the food. Effect of cooking on different nutrients:

- Moist heat
- Dry heat
- Frying
- Radiation
- Boiling, stewing, steaming
- Roasting, grilling, baking
- Shallow and deep
- Solar and microwave

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|---|--------------------------------------|
| 1. | Familiarize with the basic food group system. | Through class room lectures and PPTs |
| 2. | Importance of different nutrients in maintaining good health. | Through class room lectures and PPTs |

CO-PO matrix for the course FND206 (Nutrition for Holistic Health)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND206.1 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND206.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 3 | 3 | 3 | 2.5 |

CO-PSO matrix for the course FND206 (Nutrition for Holistic Health)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND206.1 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND206.2 | 3 | 3 | 3 | 3 | 2 | 3 |
| Average | 3 | 2.5 | 3 | 3 | 2.5 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –II
Core
Paper- FND-207(Practical)
Advanced Human Nutrition and Advanced Nutritional Biochemistry-II

Max. Marks: 100
Theory Exam: 80
Int. Assessment: 20
Duration of Exam: 3 hrs
Credit- 4

Course objectives:

- To understand the principles of various analytical techniques available for nutrition research.
- To familiarize with the applications of the above techniques.

Course Outcomes:

This course will enable the students to:

FND207 1. Analyze different parameters of blood/ serum.

FND207 2. Assess food intake of individuals.

FND207 3. Calculate the amount of sodium and potassium in various foods/ drinks.

FND207 4. Apply the biophysical techniques for estimation of amino acids and proteins.

a) Advanced Human Nutrition-II

1. Determination of iodine value of given fat sample.
2. Estimation of haemoglobin and RBC.
3. Identification of Blood groups.
4. Assessment of food intake.
5. Anthropometric Measurements for Children and Adults.

b) Advanced Nutritional Biochemistry-II

1. **Calcium:** Estimation of calcium in serum.
2. **Phosphorus:** Estimation of inorganic phosphorus in serum.
3. **Protein:** Estimation of albumin, globulin and albumin/globulin ratio in serum.
4. **Enzyme assay:** Estimation of activity of serum alkaline phosphatase and transaminase.
5. **Urea and Creatinine:** Estimation of urea and creatinine in serum.
6. **Minerals:** Determination of Sodium & Potassium of food /drinks through Flame Photometer.
7. Separation of amino acids by paper chromatography, TLC.
8. Separation of proteins by gel electrophoresis.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|--|--|
| 1. | Analyze different parameters of blood/serum. | Through demonstration and presentation |
| 2. | Assess food intake of individuals. | Through demonstration and presentation |
| 3. | Calculate the amount of sodium and potassium in various foods/ drinks. | Through demonstration and presentation |
| 4. | Apply the biophysical techniques for estimation of amino acids and proteins. | Through demonstration and presentation |

CO-PO matrix for the course FND207 (Advanced Human Nutrition and Advanced Nutritional Biochemistry-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|------|-----|-----|------|-----|
| FND207.1 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND207.2 | 3 | 3 | 3 | 3 | 2 | 3 |
| FND207.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND207.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 3 | 3 | 2.75 | 3 |

CO-PSO matrix for the course FND207 (Advanced Human Nutrition and Advanced Nutritional Biochemistry-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND207.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND207.2 | 3 | 3 | 2 | 3 | 2 | 3 |
| FND207.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND207.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.75 | 3 | 2.75 | 3 |

M.Sc. (Food, Nutrition & Dietetics) CBCS
Semester –II
Core
Paper- FND-208 (Practical)
Food Science and Food Service Management -II

Max. Marks: 100
Theory Exam: 60
Int. Assessment: 20+20
Duration of Exam: 6 hrs
Credit- 4

Course Objectives:

- To develop an understanding of various food processing techniques and methods.
- To gain knowledge and experience about food processing by working in various food industries during internship.
- To equip the students about planning a menu, standardization of recipe and running a cafeteria on large scale.

Course Outcomes:

This course will enable the students to:

FND208 1. Learn about processing of different food products, their shelf life and processing techniques.

FND208 2. Understand the sensory evaluation of foods and its application.

FND208 3. Learn about processing, quality control and packaging of different food products through one month internship in food processing industries.

FND208 4. Develop understanding about concept of food service management.

FND208 5. Develop skills in planning different menus according to the different types of food service organizations.

FND208 6. Understand rules and regulations related to hygiene and sanitation for food service units.

a) Food Science-II

1. **Fruits and Vegetables:** Pigments: Effects of cooking. Effect of various cooking processes on different characteristics of vegetables. Prevention of enzymatic browning.
2. **Pulses:** Effect of various cooking and processing methods on pulses & their products.
3. **Jams and Jellies:** pectin content of fruits, role of acid, pectin and sugar in jam and jelly formation. Use of gums as emulsifiers/stabilizers.
4. **Milk and Milk Products:** Scalding, denaturation. Effect of acid, salt, alkali, sugar, heat, enzymes, polyphenols on milk. Khoa, curd, paneer, cheese (ripened and unripened).
5. **Egg:** Structure, assessing egg quality. Use of egg in cookery: - Emulsions, air incorporation, thickening, binding, gelling. Method of egg cookery and effect of heat. Egg white foams and factors affecting foams.
6. **Meat and Poultry:** Method affecting tenderness of meat, effect of various methods of cooking and ingredients on colour, volume, texture, flavor, aroma and water holding capacity.
7. **Fish and Sea Food:** Effect of different cooking methods on various fish and seafoods.
8. **Gelatin:** Gelation, gel strength and factors affecting gelation. Ability to foam.

b) Food Service Management-II

(To be evaluated internally on the basis of regular Practical Classes)

In plant training in Cafeteria – Running cafeteria based on the recipes standardized in Ist semester.

Attainment of Course Outcomes (Cos)

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|--|---|
| 1. | Learn about processing of different food products, their shelf life and processing techniques. | Through demonstration and hands on training |
| 2. | Understand the sensory evaluation of foods and its application. | Through demonstration and hands on training |
| 3. | Learn about processing, quality control and packaging of different food products through one month internship in food processing industries. | Through demonstration and hands on training |
| 4. | Develop understanding about concept of food service management. | Through demonstration and hands on training |
| 5. | Develop skills in planning different menus according to the different types of food service organizations. | Through demonstration and hands on training |
| 6. | Understand rules and regulations related to hygiene and sanitation for food service units. | Through demonstration and hands on training |

CO-PO matrix for the course FND208 (Food Science and Food Service Management – II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|------|-----|-----|-----|------|-----|
| FND208.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| FND208.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.5 | 3 | 3 | 3 | 3 | 2 | 3 |
| FND208.6 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.83 | 3 | 3 | 3 | 2.83 | 3 |

CO-PSO matrix for the course FND208 (Food Science and Food Service Management – II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND208.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| FND208.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.5 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND208.6 | 3 | 3 | 3 | 3 | 3 | 2 |
| Average | 2.83 | 3 | 3 | 3 | 3 | 2.83 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCFw.e.f 2021-22

Semester –III

Core

Paper -FND-301

Clinical Dietetics- I

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the role of diet in health and disease.
- To know about the nutritional problems related to various diseases.
- To equip the students about the etiology, clinical aberrations, prevention and nutritional management of various diseases.

Learning Outcomes:

This course will enable the students to know about:

FND301 1. Therapeutic science

FND301 2. Inter relationship between different diseases and their nutritional management.

UNIT-I

1. Therapeutic modification of the normal diet:

- Principles of Diet therapy
- Routine Hospital diet
- Diet modifications for therapeutic care
- Enteral and Parenteral nutrition

2. Nutrition in surgical conditions: pre and postoperative.

- **Common surgical conditions- Intestinal obstruction, Bowel obstruction, colostomy & gleostomy. Complications of abdominal surgery.**

UNIT-II

3. Etiology, clinical aberrations, prevention and nutritional management of:

- Infection
- Fever (Acute and chronic) & Metabolism in fever

- Food Allergy
- Metabolic Stress
- Burns

UNIT-III

4. Nutrition in bone and joint diseases:

- Arthritis
- Osteoarthritis
- Gout
- Rheumatoid arthritis

4. Etiology, manifestations and dietary management of:

- **Gastro intestinal tract disorders:** Peptic ulcer, Diarrhea, Constipation
- **Malabsorption syndrome:** Carbohydrates, Fat and Lactose intolerance, Sprue and Celiac disease.

UNIT-IV

5. Etiology, manifestation and dietary its types management in disorders of

- Liver disease-
 1. Jaundice-Etiology, types, symptoms & dietary management
Hepatitis-Types, symptoms & dietary management
Liver Cirrhosis- Etiology, symptoms & dietary management
Hepatic failure- Etiology, symptoms & dietary management
 2. Pancreas Disease- Pancreatitis (Acute & Chronic)
 3. Disease of Gall Bladder- Cholecystitis or Gall stones

References:

1. Diet Therapy- Williams
2. Nutrition and Physical fitness: Bogert, L.J.
3. Human Nutrition Mc Durt, Maxine
4. Applied Nutrition – Rajalakshmi, R.
5. Hand book of diet therapy: Dorothea, Turner.
6. Human Nutrition and dietetics- Davidson, S. Passmore, R. Brock- J.F. and Turswell A.S.
7. Clinical Dietetics and Nutrition - Antia, F.P.
8. Modern Nutrition in health and disease by Goodhearth R., S. Shills.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|---|--|
| 1. | Therapeutic science | Through class room lectures and discussion |
| 2. | Inter relationship between different diseases and their nutritional management. | Through class room lectures and discussion |

CO-PO matrix for the course FND 301 (Clinical Dietetics-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|-----------|-----|-----|-----|-----|-----|-----|
| FND301 1. | 2 | 3 | 2 | 3 | 3 | 3 |
| FND301 2. | 3 | 2 | 3 | 2 | 3 | 3 |
| Average | 2.5 | 2.5 | 2.5 | 2.5 | 3 | 3 |

CO-PSO matrix for the course FND 301 (Clinical Dietetics-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----------|------|------|------|------|------|------|
| FND301 1. | 3 | 3 | 2 | 3 | 3 | 2 |
| FND301 2. | 3 | 2 | 3 | 3 | 2 | 3 |
| Average | 3 | 2.5 | 2.5 | 3 | 2.5 | 2.5 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –III

Core

Paper -FND-302

Public Health Nutrition- I

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand prevalence, etiology, biochemical and clinical manifestation and preventive measures for different community diseases.
- Develop a holistic knowledge base and understanding of the nature of important nutritional problems and their prevention and control for the disadvantaged and upper socio-economic strata in society.

Course Outcomes:

This course will enable the students to know about:

FND302 1. Causes/determinants and consequences of nutrition problems in society.

UNIT-I

Aim, Scope and content of Public Health Nutrition

Role of Public Health Nutritionist in National Development

1. Prevalence, etiology, biochemical and clinical manifestation and preventive measures for:

- Protein calories Malnutrition
- Beri-beri
- Scurvy

UNIT-II

2. Prevalence, etiology, biochemical and clinical manifestation and preventive measures for:

- Vitamin A deficiency
- Iodine deficiency
- Pellagra

UNIT-III

3. Prevalence, etiology, biochemical and clinical manifestation and preventive measures for:

- Nutritional Anemia
- Fluorine Deficiency and Toxicity

Unit-IV

4. Prevalence, etiology, biochemical and clinical manifestation and preventive measures for:

- Rickets
- Osteomalacia
- Osteoporosis

References:

1. Nutritional evaluation of food processing, Roberts Haris John willy & Sons, N.Y. London.
2. Nutrition and Physical Fitness: Bogrert, L.J.
3. Nutrition in India: V.N.
4. Human Nutrition- M.C. Durtt, Maxine
5. Applied Nutrition- Rajalakshmi-R.
6. Biology of nutrition – Elements 1972, Platinum Press
7. Nutritional Evaluation of Food

Attainment of Course Outcomes (COs):

| Sr.No. | Course Outcomes | Methods for attainment of Cos |
|--------|--|---|
| 1. | Causes/determinants and consequences of nutrition problems in society. | Through demonstration and class room lectures |

CO-PO matrix for the course FND 302 (Public Health Nutrition-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|-----------|-----|-----|-----|-----|-----|-----|
| FND302 1. | 2 | 3 | 3 | 2 | 3 | 3 |
| Average | 2 | 3 | 3 | 2 | 3 | 3 |

CO-PSO matrix for the course FND 302 (Public Health Nutrition-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----------|------|------|------|------|------|------|
| FND302 1. | 3 | 2 | 3 | 2 | 2 | 3 |
| Average | 3 | 2 | 3 | 2 | 2 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22
Semester –III
Core
Paper -FND-303
Research Methods, Statistics and Computer Applications

Total Marks: 100
External: 80
Internal: 20
Credits:4
Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

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 apply statistical techniques to research data for analyzing and interpreting data meaningfully

Course Outcomes:

FND303 1. This course will enable the students to understand the different research methods and their implication to different kind of research.

FND303 2. Provide a deeper knowledge about the statistical skills to interpret the data and get the research outcomes.

FND303 3. Equip the students about the role of computer softwares in research and statistical analysis of data.

Note: Students should be given hands on experiences to use appropriate software package for selected statistical analyses

UNIT-I

1. Role of Statistics and research in Home Science discipline:

Objective of research: Explanation, Control and Prediction

2. Nature, types, advantages and limitations of Research: Historical, Descriptive, Social Research, Experimental, Field studies, Case study.

3. Definition and Identification of a Research Problem:

- Selection of research problems
- Justification
- Hypothesis

4. Concept and types of variables and its advantages: Dependent, independent, random, discrete, continuous, qualitative and quantitative.

UNIT-II

5. Sampling, characteristics and advantages: Meaning, importance and types:

Random (simple, systemic, stratified, cluster, two stages and multi stage)

Non-random (incidental, purposive, quota, snow ball).

6. Data gathering Instruments: Meaning and importance, Interview, Observation, Questionnaire, Rating scale, Reliability and validity of measuring instruments.

7. Analysis of data and research report

UNIT-III

8. Statistics: Meaning, scope, function and importance,

9. Collection of data

10. Frequency, frequency distribution, graphical representation of frequency distribution and its type.

11. Measure of central tendency: Mean, medium, mode, quartiles

12. Measure of dispersion: Range, mean deviation, standard deviation, skewness and kurtosis.

13. Characteristics of normal distribution

14. Parametric and Non parametric test.

UNIT-IV

15. Chi – square test

16. T-test: Single mean, independent mean, paired mean.

17. Correlation and coefficient of correlation

18. Analysis of variance: One way and two-way classification

19. Software related to Home Science; application and importance

References:

1. S.C. Gupta & V.K. Kapoor: Fundamentals of Mathematical Statistics
2. S.C. Gupta: Fundamentals of statistics
3. G. Udny Yule, N.M.G. Kendall: An Introduction to the theory of Statistics
4. Croxton, F.C. and Cowden, D. J. Applied General Statistics, Prentics hall Inc. 1955
5. Garrett. H. Statistical in Psychology and Education. Oxford book Co.1960.
6. R.P. Hooda: Introduction to statistics. The MacMillon Co.
7. Scotharman, W. A. Textbook of Statistics, (Revised edition) 1973.
8. Kerlinge, Foundations of Behavioral Research
9. Sneedecer G. W. Statistical Methods. Applied Pacific Private Ltd., 1961.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|---|---|
| 1. | This course will enable the students to understand the different research methods and their implication to different kind of research | Classroom lecture and Power Point Presentations |

| | | |
|-----------|---|---|
| 2. | Provide a deeper knowledge about the statistical skills to interpret the data and get the research outcomes | Classroom lecture and Power Point Presentations |
| 3. | Equip the students about the role of computer softwares in research and statistical analysis of data | Classroom lecture and Power Point Presentations |

CO-PO matrix for the course FND303 (Research Methods, Statistics and Computer Applications)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND303.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND303.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND303.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.6 | 3 | 3 | 3 | 3 |

CO-PSO matrix for the course FND303 (Research Methods, Statistics and Computer Applications)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND303.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND303.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND303.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.6 | 3 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –III

Elective

Paper -FND-304

Food Microbiology

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To gain deeper knowledge about role of microorganism in human environment.

Course Outcomes:

After completing this course students will be able to:

FND304 1. Acquire an insight into different parameters of microbial growth.

FND3042. Know about various aspects of microbial nutrition, spoilage and food preservation.

FND304 3. Identify the role of microbes in different fermented foods and food borne diseases.

FND304 4. Gain knowledge into cultivation of microbes as foods and microbiological criteria for food testing and quality control.

UNIT-I

- 1. Introduction to Food Microbiology.**
- 2. Microbial growth and methods of measurement of growth.**
- 3. Factors affecting growth of microorganisms in food:** intrinsic (nutrient content, pH and buffering capacity, redox potential, antimicrobial constituents, water activity), extrinsic (relative humidity, temperature, gaseous atmosphere).

UNIT-II

- 4. Nutritional requirements, nutritional types, culture media and its types for microorganism.**
- 5. Sources of contamination and microbial spoilage of:** milk and milk products, eggs and poultry, fish and other sea foods, Cereal and cereal products, meat and meat products, Vegetables and fruits, canned foods.

6. Food Preservation: General principles of food preservation, various classical physical, chemical, and biological methods of preservation. New developments in food preservation techniques.

UNIT-III

- 7. Fermented foods:** Production of fermented milk and milk products, plant-based products, pickles, fish products, and meat products, Bread, Vinegar, Yoghurt, Beer, Wine, probiotics and prebiotics.
- 8. Food borne diseases:** Food borne infections including bacterial, viral and fungal infections. Study of infections due to food borne parasites. Symptoms and methods of prevention and control of food borne diseases caused by following:
- **Bacterial agents:** Salmonella, Staphylococcus, Clostridium, E. coli.
 - **Fungal agents:** Aspergillus, Fusarium, penicillium.
 - **Viruses:** Polio, Hepatitis.
 - **Protozoa:** Giardia, Entamoeba.

UNIT – IV

- 9. Microorganisms as food:** single cell proteins, Mushrooms.
- 10. Microbiological criteria for food testing and Quality control.** The HACCP system and food safety used in controlling microbiological hazards.

References:

1. General Microbiology – Powar
2. Good Microbiology – Frazier and Westhoff
3. Microbiology – Prescott, Harley, Klein
4. Food Microbiology – Adams
5. An Introduction of Microbiology _ P. Tauro
6. General Microbiology – Stanier
7. Food Microbiology – James M. H Jay
8. Food Hygiene, microbiology & HACCP – 3rd edition – S.J. Forsythe & P.R. Hayes

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|---|
| 1. | Acquire an insight into different parameters of microbial growth. | Through class room lectures and demonstration |
| 2. | Know about various aspects of microbial nutrition, spoilage and food preservation. | Through power point presentations |
| 3. | Identify the role of microbes in different fermented foods and food borne diseases. | Through class room lectures and demonstration |
| 4. | Gain knowledge into cultivation of microbes as foods and microbiological criteria for food testing and quality control. | Through power point presentations |

CO-PO matrix for the course FND304 (Food Microbiology)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|------|-----|-----|-----|-----|-----|-----|
|------|-----|-----|-----|-----|-----|-----|

| | | | | | | |
|----------|---|------|---|------|------|---|
| FND304.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND304.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND304.3 | 3 | 3 | 3 | 3 | 2 | 3 |
| FND304.4 | 3 | 3 | 3 | 2 | 3 | 3 |
| Average | 3 | 2.75 | 3 | 2.75 | 2.75 | 3 |

CO-PSO matrix for the course FND304 (Food Microbiology)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND304.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND304.2 | 3 | 3 | 3 | 2 | 2 | 3 |
| FND304.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND304.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 2.75 | 3 | 2.75 | 2.75 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22
Semester –III
Elective
Paper -FND-305
Food Safety & Quality Control

Total Marks: 100
External: 80
Internal: 20
Credits: 4
Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To equip the students about, food safety.
- To understand the different types of food processing in food industries.
- To learn about various food laws and standards related to quality management of food.

Course Outcomes:

After successful completion of this course, students will be able to know about:

- FND305 1. Food safety standards.
- FND305 2. Different types of food processing.
- FND305 3. Implications of food laws to assure food safety.

UNIT-I

- 1. Introduction to food safety:** definition, food safety issues, factors affecting food safety, importance of safe foods.
- 2. Shelf life of Food Products:** factors affecting shelf life and methods to check the shelf life.
- 3. Food additives:** meaning, various types of additives and their numbering: food colours, preservatives, antimicrobial substances, flavoring, emulsifying, stabilizing agents, anticaking, antifoaming, glazing, acid regulator, chelating agent.
- 4. Food contaminants of natural origin:** seafood toxins, toxic amino acids and lathyrism, goitrogens, haemagglutinins, phytates, cyanogenic glycosides.

UNIT-II

- 5. Concerns in food safety:** Food adulteration, nature of adulterants, methods of evaluation of food adulterants and toxic constituents, food inspection and safety measurements, food grades, genetically modified foods, nano particles in foods
- 6. Food processing:** types of processing methods, effect of processing treatments

– Processing of application of heat, processing by removal of heat, ambient temperature processing. Minimal processing.

UNIT-III

- 7. Food laws and regulations:** national food legislation, other food legislations/authorities and their role- essential commodities act, 1955, standard of weight and measures act, 1976, export (quality control and inspection) act, 1963, voluntary based product certifications (ISI mark of BIS and AGMARK), Food safety and Standards Act 2006: salient provision and prospects, international: USFDA, FSSAI, Consumer protection.
- 8. Organizations and agreements:** Food and agricultural organization (FAO), world health organization (WHO), codex Alimentarius, codex India, joint FAO/WHO expert committee on food additives (JECFA), world trade organization (WTO), sanitary and phytosanitary measures (SPS), international organization for standardization (ISO).

UNIT-IV

- 9. Food safety and quality management systems:** General principle of food safety risk management, hazard analysis critical control point system (HACCP), quality management system, quality plan, documentation of records, total quality process.
- 10. Latest Trends in different types in Food Packaging:** Meaning, Functions and types of Food Packaging Materials, Active packaging, Intelligent packaging, modified atmosphere packaging, Gas flushed packaging, Vacuum packaging, Retort pouches, Aseptic packaging and edible films.
- 11. Food labeling.** Definition, nutrition labeling (health, function and nutrition claims) and mandatory labeling requirements.

References:

- WHO, 1998 world health report life in the 21st century Report of the director general who Geneva.
- FAO food and nutrition paper manual of food quality control – part 14/1 (1979), to 14/8 (1986) FAO of the United Nations.
- Curricula on food safety. Directorate general of health services. Ministry of health and family welfare. Government of India. Nirman Bhavan, New Delhi.
- Graham, H.D. 1980: the safety of foods, AVI publishing company Inc. Westport.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|--|---|
| 1. | Food safety standards. | Through discussions and class room lectures |
| 2. | Different types of food processing. | Through PPTs |
| 3. | Implications of food laws to assure food safety. | Through discussions and class room lectures |

CO-PO matrix for the course FND305 (Food Safety and Quality Control)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND305.1 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND305.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND305.3 | 3 | 3 | 3 | 3 | 2 | 3 |

| | | | | | | |
|---------|---|------|---|------|------|---|
| Average | 3 | 2.66 | 3 | 2.66 | 2.66 | 3 |
|---------|---|------|---|------|------|---|

CO-PSO matrix for the course FND305 (Food Safety and Quality Control)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND305.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND305.2 | 3 | 3 | 3 | 3 | 2 | 2 |
| FND305.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.66 | 3 | 3 | 2.66 | 2.66 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCFw.e.f 2021-22

Semester –III

Elective

Paper -FND-306

Human Physiology

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

To apply the knowledge of general and altered physiology to the field of nutrition such as by designing appropriate diets etc.

Course Outcomes:

This course will enable students to:

FND306 1. Advance their understanding of some of the relevant issues and topics of Human Physiology.

FND306 2. Understand the integrated function of all systems and the grounding of nutritional science in physiology.

FND306 3. Understand alteration of structure and function in various organs and systems in disease conditions.

UNIT-I

1. **Digestive System-** Different parts of digestive system, Secretory and digestive functions of the salivary glands, stomach, pancreas, liver and intestines, mechanism of absorption of carbohydrates, proteins and fats.
2. **Cardiovascular system-** Structure and function of the heart, ECG, cardiac cycle, cardiac output, heart sounds, regulation of heart rate, blood pressure: Factors affecting it and hypertension.
Blood formation, composition, blood clotting- formation and functions of plasma proteins, erythropoiesis, blood groups, histocompatibility and blood indices.
Immune system- cell mediated and humoral immunity, Innate and adaptive immunity, Activation of WBCs and production of antibodies and role in inflammation and defence.

UNIT-II

3. **Respiratory system-** Structure of respiratory organs, uptake and delivery of respiratory gases and regulation of breathing, Laryngitis, pharyngitis bronchitis, asthma in brief.

- Reproductive system**- Structure and function of testis and ovaries, menstrual cycle, puberty, menopause, breast and cervical cancer, menstrual disorders, infertility, ultra sound imaging in brief.
- Musculo-skeletal system**- Structure and function of bone, cartilage and connective tissue. Disorders of the skeletal system, types of muscles, structure and function.

UNIT-III

- Excretory System**- Structure and function of nephron, mechanism of urine formation and the role of the kidneys in water and electrolyte balance, diuretics, renal stone, albuminuria, haematuria, oedema, uremia, incontinence, in brief.
- Sensory System**- General senses (types, structure and functions). Special senses (structure and functions: olfaction, vision, gustation, equilibrium and hearing).

UNIT-IV

- Endocrine System**- structure, functions and the different syndromes resulting from hypo or hyperactivity of the following glands: Thyroid, parathyroid, adrenal cortex, adrenal medulla, endocrine pancreas, pituitary.
- Nervous system**- Main divisions, structure and function of various parts of brain: brain stem, cerebral cortex, cerebellum and diencephalon, structure and function of spinal cord, cerebrospinal fluid, cranial and spinal nerves, introduction to autonomic nervous system, neuralgia, sciatica, coma, poliomyelitis, EEG, CT, MRI in brief.

References:

- Stand, F.L. Modern Physiology the Macmillan Company Latest Ed.
- Guyton, A.C. Text Book of Medical Physiology W.S. Saunders
- Davidson, B. and Smith E., Text book of Physiology and Biochemistry, 1972 (8th Ed.).
- Human Physiology – A.J. Vander
- Principles of Anatomy and Physiology – Anagnastakes.
- Text Book of Physiology – Patton
- Bloom W. & Favcott. D.W.A. – Text Book of Histology, W.B. Saunders and Company
- Martini: Fundamentals of Anatomy and Physiology (6th & 7th Ed)

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|---|
| 1. | Advance their understanding of some of the relevant issues and topics of Human Physiology. | Through PPTs, demonstration and class room lectures |
| 2. | Understand the integrated function of all systems and the grounding of nutritional science in physiology. | Through PPTs, demonstration and class room lectures |
| 3. | Understand alteration of structure and function in various organs and systems in disease conditions. | Through PPTs, demonstration and class room lectures |

CO-PO matrix for the course FND306 (Human Physiology)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND306.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND306.2 | 3 | 3 | 2 | 3 | 3 | 2 |
| FND306.3 | 3 | 3 | 3 | 2 | 3 | 3 |

| | | | | | | |
|---------|---|---|------|------|---|------|
| Average | 3 | 3 | 2.66 | 2.66 | 3 | 2.66 |
|---------|---|---|------|------|---|------|

CO-PSO matrix for the course FND306 (Human Physiology)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND306.1 | 3 | 2 | 3 | 2 | 3 | 3 |
| FND306.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND306.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 3 | 2.66 | 2.66 | 2.66 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22
Semester –III
Open Elective
Paper -FND-307
Nutrition During Life Cycle

Total Marks: 50
External: 40
Internal: 10
Credits: 2
Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

This course will enable students to:

- To impart knowledge on the importance of nutrition during life span.
- To enlighten on the dietary modification.

Course Outcomes:

FND307 1. To provide the basic knowledge about role of nutrition in different conditions/ diseases.

UNIT-I

1. Meal Planning: Meaning and introduction
2. Concept of balanced diet.
3. Principles of meal planning, factors affecting it.

UNIT-II

4. **Principles of meal planning and nutritional requirement for-** infancy, children 3 to 5 years old school going children, adolescents and adults.
5. **Principles of meal planning and nutritional requirement for -**Pregnant women and lactating mother.

UNIT-III

6. **Principals and types of therapeutic diets**
7. **Introduction to therapeutic nutrition.** Therapeutic adaption of the normal diets: soft and fluid diet. Planning of dietary modification, food avoided and included in following conditions:
 - Obesity
 - Diarrhea

- Constipation

UNIT-IV

8. **Introduction to therapeutic nutrition.** Therapeutic adaption of the normal diets: soft and fluid diet. Planning of dietary modification, food avoided and included in following conditions:
- Typhoid fever
 - Diabetes
 - High Blood Pressure

References:

1. Diet Therapy- Williams
3. Human Nutrition Mc Durt, Maxine
4. Applied Nutrition – Rajalakshmi, R.
5. Hand book of diet therapy: Dorothea, Turner.
6. Human Nutrition and dietetics- Davidson, S. Passmore, R. Brock- J.F. and Turswell A.S.
7. Clinical Dietetics and Nutrition - Antia, F.P.
8. Modern Nutrition in health and disease by Goodhearh R., S. Shills.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|-------------------------------|
| 1. | To provide the basic knowledge about role of nutrition in different conditions/ diseases. | Classroom lecture |

CO-PO matrix for the course FND-307 (Nutrition During Life Cycle)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND307.1 | 3 | 3 | 3 | 2 | 3 | 3 |
| Average | 3 | 3 | 3 | 2 | 3 | 3 |

CO-PSO matrix for the course FND-307 (Nutrition During Life Cycle)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND307.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 3 | 3 | 2 | 3 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22
Semester –III
Core
Paper- FND-309(Practical)
Clinical Dietetics- I

Total Marks: 100
 External: 80
 Internal: 20
 Credits: 4
 Duration of Exam: 3 hrs

Course Objectives:

- To give knowledge about the diet therapy and therapeutic nutrition.
- To enable students to plan, calculate and prepare therapeutic diets.

Course Outcomes: After doing this course students will be able to:

FND309 1. Plan and prepare therapeutic diets for various disorders.

FND309 2. Know about commercial nutritional supplements available in market.

FND309 3. Develop skills in preparing teaching aids for the diagnosis of different diseases.

- Planning, Calculation, Preparation, serving and evaluation of therapeutic diets for diseases covered in theory.
- Preparation of diet counseling aids for common disorders.
- Market survey of the following products:
 1. Food Supplements
 2. External formulas
 3. Disease specific foods

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|--|-------------------------------|
| 1. | Plan and prepare therapeutic diets for various disorders. | Hands on approach |
| 2. | Know about commercial nutritional supplements available in market. | Demonstration through survey |
| 3. | Develop skills in preparing teaching aids for the diagnosis of different diseases. | Hands on approach |

CO-PO matrix for the course FND-309(Clinical Dietetics- I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|-----------|-----|-----|-----|-----|-----|-----|
| FND309. 1 | 3 | 3 | 3 | 2 | 3 | 3 |

| | | | | | | |
|-----------|---|---|---|---|---|---|
| FND309. 2 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND309. 3 | 3 | 3 | 3 | 2 | 3 | 3 |
| Average | 3 | 3 | 3 | 2 | 3 | 3 |

CO-PSO matrix for the course FND-309 (Clinical Dietetics- I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----------|------|------|------|------|------|------|
| FND309. 1 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND309. 2 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND309. 3 | 2 | 3 | 2 | 3 | 2 | 2 |
| Average | 2.66 | 3 | 2 | 3 | 2.66 | 2.66 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –III

Core

Paper- FND-310(Practical)

Public Health Nutrition- I

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Course Outcomes: After doing this course students will be able to:

FND310 1. Become familiar and understand the concept and current concerns of Public Health Nutrition.

FND310 2. Develop low-cost standardized recipes for different age groups and physiology.

FND310 3. Prepare cyclic menus for feeding programmes and institutions.

- Development and standardization of low-cost nutritious recipes based on locally available food and better quality.
- Development and standardization of low-cost nutritive recipes suitable for various vulnerable groups.
- Field experience in operational public nutrition programmes: nutrition rehabilitation centers, fortification programmes and cost analysis.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|--------------------------------------|
| 1. | Become familiar and understand the concept and current concerns of Public Health Nutrition. | Through practicals and presentations |
| 2. | Develop low-cost standardized recipes for different age groups and physiology. | Through practicals and presentations |
| 3. | Prepare cyclic menus for feeding programmes and institutions. | Through practicals and presentations |

CO-PO matrix for the course FND-310 (Public Health Nutrition-I)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|-----------|------|------|-----|-----|-----|-----|
| FND310. 1 | 3 | 2 | 2 | 2 | 3 | 3 |
| FND310. 2 | 3 | 3 | 2 | 2 | 3 | 3 |
| FND310. 3 | 2 | 3 | 2 | 2 | 3 | 3 |
| Average | 2.66 | 2.66 | 2 | 2 | 3 | 3 |

CO-PSO matrix for the course FND-310 (Public Health Nutrition-I)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----------|------|------|------|------|------|------|
| FND310. 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND310. 2 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND310. 3 | 2 | 3 | 3 | 3 | 3 | 2 |
| Average | 2.66 | 3 | 2.66 | 3 | 3 | 2.66 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22
Semester –IV
Core
Paper –FND-401
Clinical Dietetics–II

Total Marks: 100
External: 80
Internal: 20
Credits: 4
Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the etiology, physiology and metabolic anomalies of acute and chronic diseases and patients need.
- To know the effect of the various diseases on nutritional status and nutritional and dietary requirements.

Learning Outcomes:

After successful completion of this course students will be able to:

FND401 1. Recommend and provide appropriate nutritional care for prevention/ and treatment of the various diseases.

UNIT-I

1. Etiology, manifestations and dietary management of Renal Disorders:

- Glomerulonephritis
- Nephrotic syndrome
- Acute renal failure
- Chronic renal failure
- Renal stones- Major types of stones

UNIT-II

2. Nutrition Therapy management in:

- AIDS
- Cancer- various types of cancer, treatment & Nutrition support and common nutritional problems in cancer patients.

3. Nutrition management in special conditions:

- Space travel
- High altitude/ Low temperature

UNIT-III

4. Etiology, metabolic and clinical aberrations, complications, prevention and nutritional management of:

- Weight imbalances (over and under nutrition)
- Diabetes mellitus
- Cardiovascular disorders: Hypertension, Atherosclerosis, Coronary heart disease

UNIT-IV

5. Chronic alcoholism:

- Effect of Alcohol on digestion and absorption
- Alcohol nutrient interaction
- Dietary management

6. Introduction, clinical features, dietary management of:

- Inborn errors of metabolism:
 1. Phenylketonuria
 2. Galactosemia
 3. Alkaptonuria

References:

1. Mal-Nutrition and the Eye: Donal Sterart McLaren, Academic Press, New York and London.
2. Diabetes Mellitus: Williams and Wikins Co., USA
3. Nutrition and Physical fitness: Bogert, L.J.
4. Human Nutrition Mc Durt, Maxine
5. Applied Nutrition – Rajalakshmi, R.
6. Hand boom of diet therapy: Dorothea, Turner.
7. Human Nutrition and dietetics- Davidson, S. Passmore, R. Brock- J.F. and Turswell A.S.
8. Clinical Dietetics and Nutrition - Antia, F.P.
9. Food Science and Technology: Pyke, Maonus.
10. Modern Nutrition in health and disease by Goodhearth R.S. Shills.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|--|
| 1. | Recommend and provide appropriate nutritional care for prevention/ and treatment of the various diseases. | Through demonstration, Power Point Presentations and discussions |

CO-PO matrix for the course FND 401 (Clinical Dietetics-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|-----------|-----|-----|-----|-----|-----|-----|
| FND401 1. | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2 | 3 | 2 | 3 | 3 | 3 |

CO-PSO matrix for the course FND 401 (Clinical Dietetics-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----------|------|------|------|------|------|------|
| FND401 1. | 3 | 3 | 2 | 3 | 3 | 2 |
| Average | 3 | 3 | 2 | 3 | 3 | 2 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Core

Paper –FND-402

Public Health Nutrition-II

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

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

Course Outcomes:

After successful completion of this course students will be able to:

FND402 1. Familiarize with various approaches to nutrition and health interventions, programmes and policies.

UNIT-I

1. Concept, definitions and factors affecting Food and Nutrition Security at National, Household and Individual level.
2. Public sector programmes for improving Food and Nutrition Security and POSHAN ABHIYAN.

Unit II

3. National nutrition Policy.
4. Assessment of Nutritional status of the Community
 - Clinical
 - Biochemical

- Anthropometric measurements
- Dietary surveys

Unit III

5. Nutritional Programmes for improvement of Nutritional status:
- Nutrient Deficiency control programmes.
 - Supplementary Feeding programmes.
 - Food Security Programmes
 - Self Employment and Wage Employment Schemes.

Unit IV

6. Nutrition Education:
- Methods
 - Planning and execution
 - Evaluation and follow up

References:

- 1 Nutritional evaluation of food processing, Roberts Haris John willy & Sons, N.Y. London.
- 2 Nutrition and Physical Fitness: Bogrert, L.J.
- 3 Nutrition in India: V.N.
- 4 Human Nutrition- M.C. Durtt, Maxine
- 5 Applied Nutrition- Rajalakshmi-R.
- 6 Biology of nutrition – Elements 1972, Platinum Press
- 7 Nutritional Evaluation of Food

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|--|
| 1. | Familiarize with various approaches to nutrition and health interventions, programmes and policies. | Through demonstration, Power Point Presentations and discussions |

CO-PO matrix for the course FND 402 (Public Health Nutrition-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|-----------|-----|-----|-----|-----|-----|-----|
| FND402 1. | 3 | 2 | 3 | 2 | 2 | 3 |
| Average | 3 | 2 | 3 | 2 | 2 | 3 |

CO-PSO matrix for the course FND 402 (Public Health Nutrition-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-----------|------|------|------|------|------|------|
| FND402 1. | 3 | 3 | 2 | 2 | 2 | 3 |
| Average | 3 | 3 | 2 | 2 | 2 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22
Semester –IV
Core
Paper -FND-403
Physical Fitness and Sports Nutrition

Total Marks: 100
External: 80
Internal: 20
Credits: 4
Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the component of health and fitness.
- To make nutritional dietary and physical activity recommendations to achieve fitness and well being.
- To develop ability to evaluate fitness well being.

Course Outcomes:

After successful completion of this course students will be able to know about:

- FND403 1. Physical fitness and wellness
- FND403 2. Type of nutrient to support physical activity.
- FND403 3. Sports specific diets.

UNIT-I

- 1. Physical Fitness and health status:** Definition, concept, goal, assessment criteria and management
- 2. Healthy life style:** Strategies, factors that promote life style changes.
- 3. Self-management skills to attain physical fitness; its benefits and advantages.**

UNIT-II

- 4. Body composition:** in exercise and sport, health benefits of exercise.
- 5. Physical Activity:** need, principles of physical activity
- 6. Energy input and output:** Different energy systems for endurance and power activity. Fuels and nutrients to support physical activity, carbohydrate loading

Unit-III

7. **Nutrition in Sports:** Introduction and benefits of sports nutrition, sports specific requirement, Diet manipulation, Pre-game, during and post-game meals.
8. **Diets for athletes with high energy requirements:** Stress, Fracture and Injury.
9. **Water and electrolyte balance:** Losses and their replenishment during exercise and sports events, types and effect of dehydration, health benefits of sports drinks.

Unit-IV

10. **Special Nutrition considerations for:** Female, Older and Disabled athletes, adolescent athlete
11. **Nutrition education of athletes and coaches.**
12. **Alternative system for health and fitness like:** Yoga and its types, Meditation, advantages of Vegan and Traditional Diets.

References:

1. Ira Wolinsky, (1998) Nutrition in Exercise and sport
2. Charles B. Corbin, Ruth Lindsey and grey walk (2000) Concepts of fitness and wellness.
3. Robert A. Robergers and Scott O. Roberts (2000) exercise physiology.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of COs |
|---------|---|---|
| 1. | Students will be able to know about physical fitness and wellness | Classroom lecture and Power Point Presentations |
| 2. | Students will be able to know about type of nutrient to support physical activity | Classroom lecture and Power Point Presentations |
| 3. | Students will be able to know about sports specific diets. | Classroom lecture and Power Point Presentations |

CO-PO matrix for the course FND403 (Physical Fitness and Sports Nutrition)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|------|-----|-----|------|-----|-----|
| FND403.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND403.2 | 2 | 3 | 3 | 2 | 3 | 3 |
| FND403.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.66 | 3 | 3 | 2.66 | 3 | 3 |

CO-PSO matrix for the course FND403 (Physical Fitness and Sports Nutrition)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|

| | | | | | | |
|----------|------|---|---|------|---|---|
| FND403.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND403.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND403.3 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.66 | 3 | 3 | 2.66 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Elective

Paper -FND-405

Food Toxicology

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To familiarize with hazards and toxicity associated with food and their implications for health.
- Know the various kinds of hazards.
- Be familiar with various tests.

Course Outcomes:

After successful completion of this course students will be able to:

FND405 1. Assess and evaluate different aspects of food safety and various types of hazards.

FND405 2. Know about the microbial problems in food safety.

FND405 3. Get the idea about contaminants and additives.

UNIT-I

- 1. Introduction to food safety and Toxicology:** Hazards- Microbiological, Nutritional, Environmental.
- 2. Assessment of Food Safety**

- Risk assessment and risk benefit
- Acute toxicity
- Mutagenicity and carcinogenicity
- Reproductive and development toxicity
- Neurotoxicity and behavioural effects
- Immunotoxicity

UNIT-II

- 3. Agricultural and industrial contaminants in foods:** pesticides residues in fruits and vegetables, metal contaminants in foods and their toxicity in human body; animal drug residues in food and water, dioxins and related compounds in food; metals such as lead, arsenic and mercury.
- 4. Microbial Problems in Food Safety including Mycotoxins and viruses**

UNIT-III

- 5. Intentional Direct Additives:** Preservatives, Nitrate and N-nitroso Compounds.
- 6. Indirect Additives, Residues and Contaminants:** Anti-microbial drugs, polyhalogenated aromatic hydrocarbons, polycyclic aromatic hydrocarbons, packaging materials, radio nuclides in foods.

UNIT-IV

- 7. Naturally occurring toxicants & food contaminants:** Sea food toxins, biogenic amines, mutagens & carcinogens in heated & processed foods, coffee & methylxanthines, toxicity of mushrooms alkaloids compounds, glucosinolates, protease inhibitors, phytate.
- 8. Food additives as toxicants:** Sweeteners; toxicants formed during food processing such as maillard reaction products acrylamide, benzene; risk of genetically modified food, food supplements, persistent organic pollutants.

References:

1. OECD Documents (1996): Food Safety Evaluation. Organization for Economic Co-operation and Development Paris.
2. World Health Organization (1990): Strategies for Assessing the Safety of Food Produced by Biotechnology. Report of a Joint FAO/WHO Consultation- Geneva.
3. Walker and Quattrucci, E. (eds) (1980): Nutritional and Toxicological Aspects of Food Processing, Tayloss and Francis, New York.
4. Lava, K.; Muller, E.I.; Toxicological Aspects of Foods; Elevier Applied Science, London.
5. Lee, L.W. (ed) (1995): Human Tissue Monitoring and Specimen Banking; Opportunities for Exposure Assessment, Risk Assessment and Epidemiologic Research. Proceedings of a Symposium Research Triangle Park, NC, March 30 to April 1, 1993. Environ. Health Perspect. 103 (suppl.3)1.
6. Hayes, A.W. (ed) (1994): Principles and Methods of Toxicology, 3rdrd, Raven Press, New York.
7. Tyson, C.A.; Fraizer, J.M. eds (1994): Methods in Toxicology, Academic Press, New York

8. Yang, R.S.H. (ed) (1994): Toxicology of Chemical Mixtures, Case Studies, Mechanisms and Novel Approaches, Academic Press, New York.
9. Finley, J.W., Robinson, S.F. and Armstrong, D.J. (1992): Food Safety Assessment, ACS Symposium Series, American Chemical Society, Washington.
10. Graham. H.D. (1980): The Safety of Foods, AVI publishing Company Inc., Westport.
11. Steinhart, C.E. Doyce , N.E. and Coohrance, B.A. (1996): Food Satety, Food Research Institute, Marcel Dekker Inc., New York.
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Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|--|---|
| 1. | Assess and evaluate different aspects of food safety and various types of hazards. | Classroom lecture and Power Point Presentations |
| 2. | Know about the microbial problems in food safety. | Classroom lecture and Power Point Presentations |
| 3. | Get the idea about contaminants and additives. | Classroom lecture and Power Point Presentations |

CO-PO matrix for the course FND405 (Food Toxicology)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|------|------|-----|-----|------|------|
| FND405.1 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND405.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND405.3 | 2 | 3 | 3 | 3 | 2 | 3 |
| Average | 2.66 | 2.66 | 3 | 3 | 2.66 | 2.66 |

CO-PSO matrix for the course FND405 (Food Toxicology)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND405.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND405.2 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND405.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.66 | 2.66 | 3 | 3 | 2.66 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Elective

Paper -FND-406

Food Processing and Technology

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To impart knowledge about the importance of food processing and technology.
- To enlighten about the various food processing methods and processing of different foods.

Course Outcomes:

This course will enable students to:

- FND406 1. Get the basic knowledge about role of physical principles in food processing operations.
- FND406 2. Know of chemical principles in food processing.
- FND406 3. Have an idea about processing of different types of foods.

UNIT-I

1. **Introduction:** Main crops growing in the country- importance and storage
2. **Physical principles in food processing operations:**
 - Thermal processing- Degree of processing or preservation, selecting heat treatment, heat resistance of microorganism, nature of heat transfer, protective effects of food constituents, types of thermal treatment.
 - Refrigeration – Refrigeration, cold storage and shelf life extension; cold storages with air circulation, humidity control and gas modification (i.e. CA, MA, & SA)
 - Freezing – Changes during freezing- rate of freezing, choice for final temperature for frozen foods, freezing methods, freezing effects.
 - Dehydration- Dehydration, water activity and food safety/quality; methods of dehydration.
 - Ionizing radiations- Forms of radiant energy; ionizing radiations, sources and properties; radiation units; radiation effects, limiting indirect effects; dose fixing factors; objectives in food irradiation, safety and quality of irradiated food; irradiation of various foods and comparison with other methods of preservation.

UNIT –II

3. **Chemical principles in food processing:** Preservation/processing by sugar, salt, curing, smoke, acid and chemicals; chemical changes in foods that affect texture, flavor, colour, nutritive value and safety during handling, storage and processing; Chemical and biochemical reactions affecting food quality and safety.
4. **Cereals and Pulses:** Wheat grain characteristics and products; wheat milling process; milling of drum or semolina; macaroni or pasta products noodles, wheat starch and gluten fraction, baking technology, production of bread, biscuits and cakes.
 - Corn wet milling; dry milling and air classification; wet fractionation of barley, pearling.
 - Barley malting; dry milling and air classification; wet fractionation of barley. Pearling.
 - Storage and quality of cereal grains
 - Rice processing, fractionation, quick-cooking rice, parboiled rice, rice based instant foods.
 - Pulses – processing, elimination of toxic factors, quick-cooking dals, fermentation and germination.

UNIT -III

5. **Fruits and vegetables:**
 - Structure, composition, physiological and biochemical changes during ripening, handling and storage.
 - Varietal, harvesting and pre- processing considerations for vegetables; post-harvest processing practices. Processing of vegetables, canning, freezing, dehydration, pickles and chutneys.
 - Potato processing- Raw material handling and storage, raw material quality and suitability for chips, French fries, dehydrated granules and boiled/canned potatoes; processing for chips, French fries, dehydrated granules.
 - Fruit processing- Canning, fruit-based beverages and concentrates, squashes, jams, jellies, ketchup's sauces, high sugar, high acid products.
6. **Meat, Fish and Eggs:**
 - Chemistry of processed meats, Ageing and tenderizing, curing, smoking and freezing of meat, fresh storage of meat.
 - Fish preservation and processing.
 - Meat and fish products: preservation by curing, smoking, salting and pickling and dehydration, corned beef, sausages, salami, bacon, luncheon meat.
 - Dehydrated egg powder and frozen egg, egg storage.
 - Sources of bone meal, gelatin, casing plasma and blood, curing.

UNIT –IV

7. **Oilseeds:** Oilseed pressing, solvent extraction, purification (degumming, refining, bleaching, deodorization), hydrogenation, plasticizing and tempering, products- butter, margarine, shortening, mayonnaise and salad dressing, inter- esterification and production of MCT.
8. **Spices:** Processing and extraction of essential oils and colours, stability, storage and preservation.

9. **Fermentation Technology:** Fermentation technology, yeast, milk products, fermented vegetables, beer, vinegar, fermented soy products. Enrichment and fortification technology, high protein food technology.
10. **Additives and Preservatives:** definition of food additives; acids, bases, buffer systems and salts, chelating agents, antimicrobial agents, sweeteners, stabilizers and thickeners, fat replacers, firming texturizers, appearance control and clarifying agents. Flavour enhancers, aroma substances, sugar substitutes, antioxidants, anticaking agents, bleaching agents, protective gases.
11. **Functional foods and Technologies to meet special needs. New advances.**
12. **Waste disposal and sanitation:** Waste characteristics, treatment and technologies, food plant sanitation.

Reference:

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2. Connor, J.M. and Schick W.A. (1997), Food Processing An Industrial Powerhouse in Transition, John Wiley and Sons, New York.
3. Stadelman, W.J. and Cotterill, D.J. (1986), Egg Science and Technology, AVI Publishing Co., INC., Westport.
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5. Philips, R.D. and Finley J.W. (1989), Protein Quality & Effects of Processing, Marcel Dekker, INC, New York.
6. Inglett, G.C. and Munet, L. (1980), Cereals for Food and Beverages, Academic Press, New York.
7. Jelen, P.(1985), Restron Publishing Co., INC, A Prentice-hall Co., Virginia.
8. Hirasa, K and Takemasa, M. (1998), Spice Science and Technology, Lion Corporation, Tokyo, Japan.
9. Kalp, K. Lorenz, k. and Brummer, J. (1995), Frozen and Refrigerated Doughs and Batters, American Association of Cereal Chemists INC. St. Paul, Minnesota.
10. Von Leosecke, H.W. (1998), Food Technology Series: Drying and Dehydration of Foods, Allied Scientific Publishers.
11. Marts, S.A. (1996), Bakery Technology and Engineering, Third Edition, CBCs Publishers, New Delhi.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|--|---|
| 1. | Get the basic knowledge about role of physical principles in food processing operations. | Through class room lectures, group discussions and PPTs |
| 2. | Know of chemical principles in food processing. | Through class room lectures, group discussions and PPTs |
| 3. | Have an idea about processing of different types of foods. | Through class room lectures, group discussions and PPTs |

CO-PO matrix for the course FND406 (Food Processing and Technology)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|------|------|-----|-----|------|
| FND406.1 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND406.2 | 3 | 2 | 3 | 3 | 3 | 3 |
| FND406.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 3 | 2.66 | 2.66 | 3 | 3 | 2.66 |

CO-PSO matrix for the course FND406 (Food Processing and Technology)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND406.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND406.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND406.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 3 | 3 | 3 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Core

Paper- FND-407 (Practical)

Clinical Dietetics- II

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Objectives:

- To impart knowledge about planning, calculation & preparation of Therapeutic diets based on patient's needs.
- To give them knowledge about dietary counseling for treatment of various clinical diseases.
-

Course Outcomes:

This course will enable students to:

FND407 1. Assessment of Patient's needs of various clinical disorders.

FND407 2. To gain hands on experience after doing internship in various hospitals.

FND407 3. To develop skill in Planning, Calculation & Preparation of therapeutic diets for various clinical conditions.

- Planning, Calculation, Preparation, serving and evaluation of therapeutic diets for diseases covered in theory.
- Market survey of commercial nutritional supplements and nutritional support substrate.
- Study of the management of food services in selected Hospitals.
- Visits to dietetic clinics in hospitals- case study of patients needing specific therapeutic diets.
- Internship in a hospital for 45 days after the theory exam with report submission.
- Preparations of teaching aids for common disorders.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|--|--|
| 1. | Assessment of Patient's needs of various clinical disorders. | Through case studies and class practicals. |

| | | |
|----|---|---|
| 2. | To gain hands on experience after doing internship in various hospitals. | Through gaining first hand Knowledge in clinical setup. |
| 3. | To develop skill in Planning, Calculation & Preparation of therapeutic diets for various clinical conditions. | Through class practicals and presentations. |

CO-PO matrix for the course FND407 (Clinical Dietetics- II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|------|
| FND407.1 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND407.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND407.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 3 | 3 | 3 | 2.66 |

CO-PSO matrix for the course FND407 (Clinical Dietetics- II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND407.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND407.2 | 2 | 3 | 3 | 3 | 2 | 3 |
| FND407.3 | 3 | 3 | 2 | 3 | 2 | 3 |
| Average | 2.66 | 3 | 2.66 | 3 | 2.33 | 3 |

M.Sc. (Food, Nutrition & Dietetics) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Core

Paper- FND-408 (Practical)

Public Health Nutrition- II

Total Marks: 100

External: 80

Internal: 20

Credits: 4

Duration of Exam: 3 hrs

Course Outcomes:

This course will enable students to:

FND408 1.Acquire knowledge about the concept of Food & Nutrition Security.

FND408 2.Understand the concept & purpose of Nutritional status assessment in community sitting.

FND408 3.Be familiar with standard methods & Techniques for assessing nutritional status.

FND408 4.Gain knowledge on the basis of Nutrition education, communication strategies for the improvement of nutritional status.

- Assessment of nutritional status of community by using anthropometric, dietary measurement. (Report to be submitted in the practical exam).
- Preparation of visual aids like charts/ posters, pamphlets/ brochures, nutritional games/ nutritional stories for addressing Public Health Nutrition Problem in the community.
- Preparation and effective use of aids for improving Nutritional status.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|---------------------------------------|
| 1. | Acquire knowledge about the concept of Food & Nutrition Security. | Through practicals and presentations. |
| 2. | Understand the concept & purpose of Nutritional status assessment in community sitting. | Through practicals and presentations. |
| 3. | Be familiar with standard methods & Techniques for assessing nutritional status. | Through practicals and presentations. |
| 4. | Gain knowledge on the basis of Nutrition education, communication strategies for the improvement of nutritional status. | Through practicals and presentations. |

CO-PO matrix for the course FND408 (Public Health Nutrition-II)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|----------|-----|-----|-----|-----|-----|-----|
| FND408.1 | 3 | 3 | 3 | 3 | 3 | 2 |
| FND408.2 | 3 | 3 | 3 | 3 | 3 | 3 |

| | | | | | | |
|----------|---|---|---|---|---|-----|
| FND408.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND408.4 | 3 | 3 | 3 | 3 | 3 | 2 |
| Average | 3 | 3 | 3 | 3 | 3 | 2.5 |

CO-PSO matrix for the course FND408(Public Health Nutrition-II)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|----------|------|------|------|------|------|------|
| FND408.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND408.2 | 2 | 3 | 3 | 3 | 2 | 3 |
| FND408.3 | 3 | 3 | 2 | 3 | 2 | 3 |
| FND408.4 | 3 | 2 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 2.75 | 2.5 | 3 | 2.5 | 3 |

CO-PO-PSO Mapping Matrix for all the courses of M.Sc. Home Science (Food, Nutrition and Dietetics)

| Course Code | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| FND-101 | 2.75 | 3 | 2.75 | 3 | 3 | 3 | 3 | 2.75 | 3 | 2.75 | 3 | 3 |
| FND-102 | 3 | 2.8 | 3 | 2.8 | 3 | 3 | 2.8 | 3 | 3 | 2.8 | 3 | 3 |
| FND-103 | 3 | 3 | 2.5 | 3 | 3 | 2.5 | 2.5 | 3 | 3 | 3 | 2.5 | 3 |
| FND-104 | 2.5 | 3 | 3 | 2.5 | 3 | 3 | 3 | 2.5 | 3 | 2.5 | 3 | 3 |
| FND-105 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND-106 | 2.83 | 3 | 3 | 2.83 | 3 | 3 | 3 | 2.83 | 3 | 3 | 3 | 3 |
| FND-201 | 3 | 3 | 2.75 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2.75 | 3 |
| FND-202 | 3 | 2.8 | 3 | 3 | 3 | 2.8 | 3 | 2.8 | 3 | 3 | 3 | 2.8 |
| FND-203 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND-204 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 |
| FND-206 | 3 | 2.5 | 3 | 3 | 3 | 2.5 | 3 | 2.5 | 3 | 3 | 2.5 | 3 |
| FND-207 | 3 | 2.75 | 3 | 3 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2.75 | 3 |
| FND-208 | 2.83 | 3 | 3 | 3 | 2.83 | 3 | 2.83 | 3 | 3 | 3 | 3 | 2.83 |
| FND-301 | 2.5 | 2.5 | 2.5 | 2.5 | 3 | 3 | 3 | 2.5 | 2.5 | 3 | 2.5 | 2.5 |
| FND-302 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 |
| FND-303 | 3 | 2.6 | 3 | 3 | 3 | 3 | 3 | 3 | 2.6 | 3 | 3 | 3 |
| FND-304 | 3 | 2.75 | 3 | 2.75 | 2.75 | 3 | 2.75 | 2.75 | 3 | 2.75 | 2.75 | 3 |
| FND-305 | 3 | 2.66 | 3 | 2.66 | 2.66 | 3 | 3 | 2.66 | 3 | 3 | 2.66 | 2.66 |
| FND-306 | 3 | 3 | 2.66 | 2.66 | 3 | 2.66 | 3 | 2.66 | 2.66 | 2.66 | 3 | 3 |

| | | | | | | | | | | | | |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|
| FND-307 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 |
| FND-309 | 3 | 3 | 3 | 2 | 3 | 3 | 2.66 | 3 | 2 | 3 | 2.66 | 2.66 |
| FND-310 | 2.66 | 2.66 | 2 | 2 | 3 | 3 | 2.66 | 3 | 2.66 | 3 | 3 | 2.66 |
| FND-401 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 2 |
| FND-402 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 |
| FND-403 | 2.66 | 3 | 3 | 2.66 | 3 | 3 | 2.66 | 3 | 3 | 2.66 | 3 | 3 |
| FND-405 | 2.66 | 2.66 | 3 | 3 | 2.66 | 2.66 | 3 | 2.66 | 2.66 | 3 | 3 | 2.66 |
| FND-406 | 3 | 2.66 | 2.66 | 3 | 3 | 2.66 | 3 | 3 | 3 | 3 | 3 | 3 |
| FND-407 | 3 | 3 | 3 | 3 | 3 | 2.66 | 2.66 | 3 | 2.66 | 3 | 2.33 | 3 |
| FND-408 | 3 | 3 | 3 | 3 | 3 | 2.5 | 2.75 | 2.75 | 2.5 | 3 | 2.5 | 3 |

(2) Name of the Programme: M.Sc. Home Science (Human Development)

**KURUKSHETRA UNIVERSITY, KURUKSHETRA
(‘A+’ Grade NAAC Accredited)
Department of Home Science**



**Programme: M.Sc. Home Science (Human Development)
under CBCS-LOCF Pattern
W.e.f. 2020-21**



KURUKSHETRA UNIVERSITY, KURUKSHETRA
(‘A+’ Grade NAAC Accredited)
Department of Home Science
M.Sc. Home Science (Human Development)

INTRODUCTION

The Department of Home Science, Kurukshetra University, Kurukshetra, offers M.Sc. in Human Development. Human Development is a comprehensive field of study which integrates areas of human development dealing with a variety of arena related to it. The study defines the progress of Human Development happening in the areas of Biology, Humanity, detailing of Human Development Index and Development Psychology.

The program defines Human Development as an important aspect which both directly and indirectly affects the growth of an economy. Based on the development of human needs from psychological to physical level deems the grounds for the progress of a country. Laying more weightage to this aspect, the program trains to imbibe in candidates the skills of leadership, communication and carrying out management related tasks.

Program Outcomes for PG courses of Faculty of Life Sciences

1. To acquaint students with recent knowledge and techniques in basic and applied biological sciences.
2. To develop understanding of organismal, cellular, biochemical and environmental basis of life
3. To provide insight into ethical implications of biological research for environmental protection and good laboratory practices and bio safety.

4. To develop problem solving innovative thinking with robust communication and writing skills in youth with reference to biological ,environmental and nutritional sciences.
5. To understand application of biotic material in health, medicine, food security for human well being and sustainable development.
6. To impart practical and project based vocational training for preparing youth for a career in research and entrepreneurship in fields of life sciences for self reliance.

Programme Specific Objectives:

The objectives of M.Sc. Human Development programme are:

- To enable students to describe the typical development of individuals from conception to late adulthood, as well as divergent development route that may occur in response to a range of bio-psychological issues.
- To develop effective skills in counseling and provide intervention by learning to deal with personal and family issues through scientific measures like psychological tests, case study approach, research methodologies and practical sessions on family counseling and family therapy.
- To analyze and evaluate major theoretical frameworks that explains individual development through infancy to aging in the social context of family, community, culture and larger environment.
- To enable the understanding and develop skills to establish Entrepreneurial setups and Human Resource Development centers.
- To understand the rights and developmental needs of special children.

Program Specific Outcomes:

The programme equips the students to grow into experts who can work as counsellors, PO's, CDPO's, ECCE workers, researchers etc. After completing this programme the learner will be able to:

PSO1: Students will come to know about the various domains of development from conception to death of Life Span development.

PSO2: Students will gain insight about the various methods and techniques available for the study and assessment of behaviour and personality in Human Development.

PSO3: Students will become competent in the fields of ECCE training, elementary education and different Play Way techniques for imparting knowledge to children.

PSO4: Students will come to know about various Human Rights, child rights, gender equality, various cultural, political, civic, international rights and discriminations.

PSO5: Students will acquire knowledge about specific groups, their needs, problems, rights and various counselling and therapeutic procedures needed for handling them.

PSO6: Students will become sensitized about women empowerment, gender biasness, domestic and workplace harassment, discrimination against women in different areas of life. Their legal status and acts.

Home Science M.Sc. (Human Development)

Eligibility (Passed one of the following examinations from this University/ any other recognized University)

Candidate who has passed one of the following examinations with any field of specialization, obtaining at least 50% marks in aggregate; B.Sc. (Home Science)/ B.Sc. (Home Science) with Honours.

OR

B.Sc. in Psychology/Clinical Psychology with 50% marks in aggregate.

Note: A candidate who has passed B.Sc. (Agriculture) or B.A. with Home Science as one of the main subjects or B.A. with any subject combination is not eligible for admission to M.Sc. (Home Science) course for any field of specialization.

Kurukshetra University Kurukshetra
Department of Home Science
Scheme of Examinations for M.Sc. Home Science (Human Development)
under CBCS-LOCF
w.e.f. 2020-21 in Phased Manner for UTD only

Semester-1

| Paper Code | Title of Paper | Type of Paper | Hours/ Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|------------|---|---------------|-------------|---------|-----------------|-------|------------------|
| HD-101 | Theories of Human Development, Psychology and Behaviour | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-102 | Methods and Techniques of Assessment in Human Development | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-103 | Early Childhood Development: Care and Education | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-104 | Cross-Cultural Perspectives in Family Studies | Core | | 4 | 80+20 | 100 | 3 |
| HD-105 | Practical- Methods and Techniques of Assessment in | Core | 8 | 4 | 80+20 | 100 | 3 |

| | | | | | | | |
|---------------|--|------|---|----|-----------|-----|---|
| | Human Development | | | | | | |
| HD-106 | Practical- Early Childhood Development: Care and Education | Core | 8 | 4 | 70+10*+20 | 100 | 3 |
| Total | | | | 24 | | 600 | |

*Viva-voice of the training of 15 days in different Early Childhood Education/Day Care Centre.

Semester-II

| Paper Code | Title of Paper | Type of Paper | Hours/Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|---------------|---|---------------|------------|---------|-----------------|-------|------------------|
| HD-201 | Fundamentals of Human Development | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-202 | Adolescence and Adulthood: Development, Psychology and Challenges | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-203 | Management, Policies and Programmes for Women and Children | core | 4 | 4 | 80+20 | 100 | 3 |
| HD-204 | Population and Family: Dynamics, Psychology and Welfare | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-205 | Seminar | Core | 1 | 1 | 25 | 25 | 1 |

| | | | | | | | |
|--------------|--|----------------|---|----|-----------------|-----|---|
| HD-206 | Marriage and Family Dynamics | Open* elective | 2 | 2 | 40+10 | 50 | 3 |
| HD-207 | Practical- Adolescent and Adulthood: Development Psychology and Challenges | Core | 8 | 4 | 80+20 | 100 | 3 |
| HD-208 | Practical- Management, Policies and Programmes for Women and Children | Core | 8 | 4 | 60+20* +20** | 100 | 3 |
| Total | | | | 27 | | 675 | |

*will be offered to the students within faculty.

** Viva-voice of the training of one month in an NGO/Hospital/Social Welfare Department and its report.

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Semester-3

| Paper Code | Title of Paper | Type of Paper | Hours/Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|------------|---|---------------|------------|---------|-----------------|-------|------------------|
| HD-301 | Child and Family : Guidance , Counselling | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-302 | Advances in life Span | Core | 4 | 4 | 80+20 | 100 | 3 |

| | | | | | | | |
|--------------|--|----------------|---|----|-------|-----|---|
| | Development and Gerontology | | | | | | |
| HD-303 | Research Methods, Statistics and Computer Applications | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-304 | *Women Studies | Elective | 4 | 4 | 80+20 | 100 | 3 |
| HD-305 | Guiding young Childs :Growth Behaviour and Development | | | | | | |
| HD-306 | Communication Technologies | | | | | | |
| HD-307 | HIV/AIDS counselling | | | | | | |
| HD-308 | Seminar | Core | 1 | 1 | 25 | 25 | 1 |
| HD-309 | Family Support Therapy | Open* Elective | 2 | 2 | 40+10 | 50 | 3 |
| HD-310 | Practical- Child and Family : Guidance , Counselling | Core | 8 | 4 | 80+20 | 100 | 3 |
| HD-311 | Practical- Advances in Life Span Development and Gerontology | Core | 8 | 4 | 80+20 | 100 | 3 |
| Total | | | | 27 | | 675 | |

*will be offered to the students within faculty.

Semester-4

| Paper Code | Title of Paper | Type of Paper | Hours/ Week | Credits | Marks (Ext+Int) | Total | Duration of exam |
|------------|----------------|---------------|-------------|---------|-----------------|-------|------------------|
|------------|----------------|---------------|-------------|---------|-----------------|-------|------------------|

| | | | | | | | |
|--------------|--|----------|---|----|------------|-----|---|
| HD-401 | Developmental Disabilities and Mental Health | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-402 | Parent and Community Education | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-403 | Social Psychology and Development of Self | Core | 4 | 4 | 80+20 | 100 | 3 |
| HD-404 | *Dissertation | Elective | 4 | 4 | 100 | 100 | 3 |
| HD-405 | Child and Human Rights | | | | 80+20 | | |
| HD-406 | Current Concerns in Women Study | | | | | | |
| HD-407 | Human Resource Development | | | | | | |
| HD-408 | Practical-Developmental Disabilities and Mental Health | Core | 8 | 4 | 60+20**+20 | 100 | 3 |
| HD-409 | Practical-Parent and Community Education | Core | 8 | 4 | 80+20 | 100 | 3 |
| Total | | | | 24 | | 600 | |

*Dissertation subject to the condition that the student has obtained 70% or more marks after IInd Semester (M.Sc. Ist year).

**Viva-voice of the training of one month in an NGO/Hospital/Social Welfare Department and its report.

Total Credits=102

Total Marks=2550

M. Sc. (Human Development) CBCS
Semester -I
Core
Paper -HD-101
Theories of Human Development Psychology and Behaviour

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

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

Learning Outcomes: This course will acquaint the students with the various theories of Human Development & their cross-cultural relevance and applicability.

Course Outcomes for HD 101

COs# After the completion of this course the students will be able to:

HD101.1 Understand the historical and philosophical, biological basis, traditions and theories of human development.

- HD101.2 Comprehend the task of knowledge, construction of theories with reference to human development and childhood studies.
- HD101.3 Appreciate and analyze the different theories of development.
- HD101.4 Develop skills for critical appraisal and construction of theories of human development.

Unit –I

Meaning & Significance of Theories of Human Development.

1. Experimental Psychology:

-Nature, Historical background- Contributions of Weber, Fechner, Wundt, Galton.

2. Freud's Psychoanalytic Theory:

- Freudian Theory- Cross Cultural relevance, Current Status.

Unit-II

3. **Neo-Freudians**-Alfred Adler, Carl Gustav Jung, Eric Erickson- Cross Cultural relevance,
Current status.

4. **Learning Theory:** Pavlov, Watson, Skinner- Cross-Cultural relevance and Current Status.

5. **Cognitive Development Theory:** Piaget's Theory- Cross- Cultural relevance and Current Status.

Unit-III

6. **Moral Development Theory:** Kohlberg's Theory- Cross- Cultural relevance and Current Status.

7. **Social Learning and Social Cognition Theories:** Bandura's Theory, Cross-Cultural relevance and Current Status.

8. **Field Theory:** Levin's Life Space-basic concepts and contributions, Tolman's Purposive Behaviourism –basic concepts and contributions.

Unit-IV

9. **Theories of the Self:** Vygotsky's Socio Cultural Perspective, Roger's Self Theory, Myers

Briggs Type Indicator, Mead's and Maslow's Theory of Self Actualisation.

10. **Ecological Theory-** Urie Bronfenbrenner.

11. Humanistic Psychology and Developmental Theory.

12. **Language Theory-** Chomsky's Theory of language development.

References

1. Aylward, G. (1994). Practitioner's guide to developmental and psychological testing. New York: Plenum Press.
2. Blaxter, L., Hughes, C. and Tight, M. (1999). How to Research. New Delhi: Viva Books.
3. Hayes, N. (ed). (1997). Doing Qualitative Analysis in Psychology. Hove: Psychology Press.
4. Smith, J.A., Harre, R., and Van Langenhove, L. (1995). Rethinking Psychology. London: Sage.

5. Yin, R. (1994). Case study research: Design and methods (2nd ed.) Beverly Hills, CA: Sage Publication.
6. Nagpal, R. and Sell, H. (1985). Subjective well-being inventory. New Delhi: World Health Organization

CO-PO matrix for the course HD-101 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|------|------|------|------|-----|
| HD101.1 | 3 | 2 | 2 | 3 | 1 | 2 |
| HD101.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| HD101.3 | 3 | 3 | 3 | 3 | 3 | 2 |
| HD101.4 | 2 | 3 | 3 | 3 | 2 | 3 |
| Average | 2.75 | 2.75 | 2.75 | 2.75 | 2.25 | 2.5 |

CO-PSO matrix for the course HD-101 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD101.1 | 3 | 3 | 2 | 2 | 2 | 1 |
| HD101.2 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD101.3 | 3 | 3 | 3 | 1 | 3 | 2 |
| HD101.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.5 | 2.25 | 2.75 | 2 |

M. Sc. (Human Development) CBCS
Semester –I Core
Paper -HD-102
Methods and Techniques of Assessment in Human Development

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To study different methods and techniques of understanding Human Development.
- To apply various methods studied in a practical context.

Learning Outcomes: It will enable the students to learn about the various techniques for studying Human beings and also assessment of their various personality characteristics.

Course Outcomes for HD102

- COs# After the completion of this course the students will be able to do:
- HD102.1 Understand the historical and philosophical, biological basis, traditions and theories of human development.
- HD102.2 Comprehend the task of knowledge, construction of theories with reference to human development and childhood studies.
- HD102.3 Appreciate and analyze the different theories of development.
- HD102.4 Develop skills for critical appraisal and construction of theories of human development.

Unit- I

History & Uses of Psychological tests.

1. **Understanding the Self:** Administration, Scoring and Evaluation of any test about the Self, e.g. TAT, WISC.
2. **Concept of Measurement and Evaluation:** Scales, Norms and Transformation-Types, Usage & Relevance.

Unit-II

3. **Observation Method:** Concept, types, advantages and limitations, application, Considerations for conducting observations.
Theoretical perspectives; Use of checklists, Establishing reliability in observation record, Report writing and Evaluation.
4. **Interview Method:** Types, advantages and limitations, applications, preparation of Interview Schedule/guide, general considerations for conducting Interviews.
Theoretical perspectives; Development of different types of interview protocols.
Analysis and coding of interview data.
5. **Questionnaire Method:** Characteristics, types, advantages and limitations, uses, considerations for construction and administration of questionnaire.
Theoretical perspectives; Development of different types of questionnaire Protocols. Analysis and coding of questionnaire data.

Unit-III

6. **Case Study Method:** Characteristic features, advantages and disadvantages.
Theoretical perspectives; Development of different types of case study protocols.
Analysis and coding of case study data.
7. **Anthropometry:** Body landmark, Instruments, Height, Weight and other Measurements of a child's nutritional status.
8. **Reliability and Validity:** Definition, Types & Usage.

Unit-IV

9. **Sociometry Techniques:** Definition, Types, Usage and their relevance in Studying Human relationships.
10. **Some Psychometric Methods:**
 - Techniques of evaluation with special reference to (Intelligence, Personality, Interests and Aptitude.
 - Scales for children's assessment- Seguin Form Board, Pandey's Cognitive development test, -Coloured Progressive Matrices.
 - The Wechsler's battery of tests,
 - Children's Apperception Test,
 - Draw- A- Man Test
 - Bhatia's Battery
 - Raven's Progressive Matrices,
 - Adjustment Inventories,
 - Rotter's Incomplete Sentence Completion Test,
 - Sex Role Inventory,
 - Death Anxiety Inventory.

References

1. Aylward, G. (1994). Practitioner's guide to developmental and psychological testing. New York: Plenum Press.

2. Blaxter, L., Hughes, C. and Tight, M. (1999). How to Research. New Delhi: Viva Books.
3. Hayes, N. (ed). (1997). Doing Qualitative Analysis in Psychology. Hove: Psychology Press.
4. Smith, J.A., Harre, R., and van Langenhove, L. (1995). Rethinking Psychology. London: Sage.
5. Yin, R. (1994). Case study research: Design and methods (2nd ed.) Beverly Hills, CA: Sage Publication.
6. Nagpal, R. and Sell, H. (1985). Subjective well-being inventory. New Delhi: World Health Organization

CO-PO matrix for the course HD-102 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|------|------|------|------|-----|
| HD102.1 | 3 | 3 | 2 | 3 | 1 | 2 |
| HD102.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| HD102.3 | 3 | 3 | 3 | 3 | 3 | 2 |
| HD102.4 | 2 | 3 | 3 | 3 | 2 | 3 |
| Average | 2.75 | 2.75 | 2.75 | 2.75 | 2.25 | 2.5 |

CO-PSO matrix for the course HD-102 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 1 | PSO4 | PSO5 | PSO6 |
|---------|------|------|-----------|------|------|------|
| HD102.1 | 3 | 3 | 2 | 2 | 2 | 1 |
| HD102.2 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD102.3 | 3 | 3 | 3 | 1 | 3 | 2 |
| HD102.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.5 | 2.25 | 2.75 | 2 |

M. Sc. (Human Development) CBCS
Semester –I Core
Paper -HD-103
Early Childhood Development: Care and Education

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting

Objectives:

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

Learning Outcomes: This course will provide an insight to the students about the various ECCE centres and their activities. It will enable them to plan activities for the preschoolers in an effective manner.

Course Outcomes for HD-103

COs# After the completion of this course the students will be able to:

HD103.1 Explain the contemporary emergence and positioning of Early Childhood Care and education along a theoretically guided curricular framework.

HD103.2 Plan ECCE programs keeping in mind socio-cultural diversity and knowledge of local, global methods and practices.

HD103.3 Design strategies for effective capacity building and implementation of early childhood development programs.

HD103.4 Learn about the use of play way methods to teach concepts like science, maths, Sst., art and craft etc.

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, Balwadi, Anganwadi etc.

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.

Unit- II

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 Crèches

Unit- III

5. Organisation of Pre-School Centres

- Concept of organisation of early childhood centres.
- Administrative set up and functions of personnel working at different levels.
- Building and equipment: location, Site, Arrangement of rooms, Different types and sizes 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

- Principles and steps in Programme Planning
- Planning- Setting goals and objectives of plans- Long term, Short term, Weekly and Daily, Annual and Monthly,
- Theme Planning
- Routine and Schedules.

Unit- IV

7. Learning and Play:

- Definition, Principles and Methods of learning.
- Effective methods of learning.
- Creating an effective learning environment in the class and Role of techniques in promoting learning in young children.

- Play- Types, Characteristics.
- Role of play in overall development of children, Teacher's role.
- Use of play way approach in the curriculum for young children.

8. Activities for ECCE:

- Language Arts- Types of activities to promote listening (songs, object talk, picture talk, free conversation, books, games, stories).
- Art and Craft- creative activities of expression: Use of chalks, crayons , paints, paperwork & best out of waste.
- Music: songs, listening & singing.
- Mathematics: concepts like: classification, seriation, counting, addition & subtraction.
- Science and Social Studies: observing classifying, concept formation.

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1. Bhatia & Bhatia (1995). Theory and Principles of Education, Doaba. House, Delhi.
2. Brewer, JA (1998). Introduction to early childhood Education. (3rd Ed.). Boston: Allyn & Bacon.
3. Carol, E.C. and Jan Allen (1993). Early childhood curriculum, University of Tennessee, New York: Macmillan.
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21. Saraswathi, T.S. (1988). Issues in Child Development, Curriculum & Other

- Training & Employment, Mumbai : Somaiya.
22. Swaminathan Mina. A source book on early childhood care and education, UNESCO, Clinical co-operative programme, Paris
 23. Swaminathan, M. (Ed.) (1998). The first Five Years: a critical perspective on Early Childhood Care and Education in India. New Delhi:

CO-PO matrix for the course HD-103 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|------|------|-----|------|------|
| HD103.1 | 2 | 3 | 2 | 3 | 1 | 3 |
| HD103.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD103.3 | 3 | 3 | 3 | 3 | 3 | 2 |
| HD103.4 | 3 | 2 | 2 | 3 | 2 | 3 |
| Average | 2.75 | 2.75 | 2.25 | 3 | 2.25 | 2.75 |

CO-PSO matrix for the course HD-103 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD103.1 | 2 | 3 | 3 | 3 | 3 | 1 |
| HD103.2 | 3 | 3 | 3 | 3 | 3 | 1 |

| | | | | | | |
|---------|------|---|---|------|---|------|
| HD103.3 | 2 | 3 | 3 | 2 | 3 | 1 |
| HD103.4 | 2 | 3 | 3 | 3 | 3 | 2 |
| Average | 2.25 | 3 | 3 | 2.75 | 3 | 1.25 |

**M. Sc. (Human Development) CBCS
Semester -I
Core
Paper -HD-104
Cross-Cultural Perspectives in Family Studies**

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand family as a component of socio-cultural milieu and context.
- To familiarize students with developmental perspective in family life cycle.
- To realise 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.

Learning Outcomes: The students will get familiarized with the structure, needs and methodological concerns of the family.

Course Outcomes for HD-104

| | |
|---------|---|
| COs# | After the completion of this course the students will be able to: |
| HD104.1 | Understand about the various forms of families and their significance in the society. |
| HD104.2 | Gain knowledge about various roles and relationships existing in different types of family patterns and structures. |
| HD104.3 | Gain knowledge about various theoretical perspectives of family, their crisis and coping strategies. |
| HD104.4 | Learn about the various cultural practices, societal exchanges and influences. |

Unit-I

1. The Family in Social Context:

- Family as a component of social system, Structure and Context
- Family as an evolving and dynamic institution.
- Functions of family
- Family life cycle

2. Socio-Cultural Studies of Family Pattern's in India.

- Family structure: Traditional, Extended, Joint families.
- Alternate families-Single parents families, Childless families, Cohabitation marriage families without children, Female headed families.
- Unitary Families
- Family patterns in India-Tribal, Rural, Urban.
- Role relationships in the family.
- Sex roles and division of labour
- Cause and effect of family structure on changing roles of family.
- Sociological significance of family.

Unit-II

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. Types of Family Crises and Coping Strategies

- Meaning, Types, Intervention & Services.
- Financial, Behavioural,
- Interpersonal Relationships and Health.

Unit-III

5. Contemporary Issues and Concerns

- Family violence, Battered women, Child maltreatment, Sexual abuse (child abuse)
- Dowry and Family Violence
- Child rearing and Socialization
- Gender roles
- Divorce and Remarriage
- Family planning
- Effect of Industrialization on family
- Major world trends in family patterns.

6. Disadvantaged Family

- Various Needs
- Various Problems
- Societal Support Mechanism.
- Therapy and Rehabilitation.

Unit-IV

7. Family and Societal Exchanges/Influences.

- Health and family
- Education and family
- Work and family
- Religion and family
- Beliefs, values and family
- Ecology and family
- Government and family

8. Cultural Practises of Families

- Traditional Cultural Practises
- Modern Cultural Practises

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1. Adams, B.N. (1975). The Family: A sociological interpretation. Chicago: Rand Mc Nully.
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CO-PO matrix for the course HD-104 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|------|------|-----|-----|------|
| HD104.1 | 3 | 3 | 2 | 2 | 3 | 3 |
| HD104.2 | 2 | 3 | 1 | 2 | 3 | 2 |
| HD104.3 | 3 | 2 | 2 | 3 | 3 | 3 |
| HD104.4 | 3 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 2.75 | 1.75 | 2.5 | 3 | 2.75 |

CO-PSO matrix for the course HD-104 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD104.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| HD104.2 | 2 | 3 | 2 | 3 | 3 | 3 |
| HD104.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD104.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.5 | 3 | 2.5 | 3 | 3 | 3 |

M. Sc. (Human Development) CBCS
Semester -I
Core
Paper -HD-105 (Practical)
Methods and Techniques of Assessment in Human Development

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Course Outcomes for HD-105

COs# After the completion of this course the students will be able to:

- HD105.1 Develop skills to use techniques and methods suited for different persons, situations and contexts.
- HD105.2 Be familiar with standardized tests/protocols for the study and assessment of individuals, families/settings.
- HD105.3 Develop skills in recording fieldwork.
- HD105.4 Gain knowledge about the various types of developments and tests used for measuring them.

Overview of Methods of Child Study.

- 1. Observation:** Preparation of Observational Check List to assess any of Physical, Motor, Social, Language, Emotional and Cognitive Developmental Tasks.
- 2. Case Study:** In-depth Case Study of a selected child.
- 3. Assessment of Various Developments of Children:** Using available Measurement tools and techniques and Writing Interpretative Reports e.g. study of anxiety, aspirations, interests, motivation, self-concept etc.
- 4. Tests scales and other methods of assessment of**
 - Intelligence
 - Social and personality development
 - Emotional development.
 - Cognitive development
 - Language Development
 - Physical and motor development
 - Home Environment
- 5. Field Report and Project**
 - Report Writing and Evaluation of Children and ECCE Programmes.

CO-PO matrix for the course HD-105 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|------|-----|------|-----|
| HD105.1 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD105.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD105.3 | 3 | 2 | 2 | 3 | 2 | 3 |
| HD105.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 2.75 | 3 | 2.75 | 3 |

CO-PSO matrix for the course HD-105 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD105.1 | 3 | 3 | 3 | 2 | 3 | 2 |
| HD105.2 | 3 | 3 | 3 | 2 | 3 | 2 |
| HD105.3 | 3 | 3 | 3 | 3 | 2 | 2 |
| HD105.4 | 3 | 3 | 3 | 2 | 3 | 2 |
| Average | 3 | 3 | 3 | 2.25 | 2.75 | 2 |

M. Sc. (Human Development) CBCS
Semester -I
Core
Paper -HD-106 (Practical)
Early Childhood Development: Care and Education

Total Marks: 100
External: 70+10*
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Course Outcomes for HD-106

COs# After the completion of this course the students will be able to:

HD106. 1 Develop skills to use principles of pedagogy and curricular framework for optimal development through ECCE programs.

HD106. 2 Develop ways to address socio-cultural diversity through local and global methods and practices.

HD106. 3 Devise and develop strategies for effective capacity building, implementation and assessment of early childhood care and education programs.

HD106. 4 Acquire necessary skills to work effectively with families and form collaborative relationships with them.

1. Visits to various centers, of ECCE : Day Care Centre, Balwadi, Anganwadi, Mobile Crèche etc.
2. Planning and executing activities for children's all round development in ECCE centers.
3. Preparing teaching material kits:
 - Mobiles
 - Masks
 - Puppets- Making and manipulation
 - Making book for Children
 - Picture Puzzles
4. Music
 - Orientation to music
 - Low Cost Musical Instrument

- Song Booklet
- 5. Skills for Promoting Language, Science and Creativity
 - Object/Picture Talk
 - Story Book
 - Poem Book
 - Science and Math Concepts
 - Creativity File
 - Readiness Games and Material
- 6. Preparing a Resource unit file
- 7. Role play of home visits and conducting a home visit to a known family.
- 8. Planning of parent teacher meeting: Stimulation of Meetings/events/function-
Planning and programme evaluation
- 9. Placement and observation in different Early Childhood Education and Day Care
Centres for two weeks.

CO-PO matrix for the course HD-106 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD106.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD106.2 | 3 | 3 | 3 | 3 | 2 | 3 |
| HD106.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD106.4 | 3 | 2 | 3 | 3 | 2 | 3 |
| Average | 3 | 2.75 | 2.75 | 3 | 2.5 | 3 |

CO-PSO matrix for the course HD-106 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD106.1 | 3 | 3 | 3 | 2 | 3 | 2 |
| HD106.2 | 3 | 3 | 3 | 3 | 3 | 2 |
| HD106.3 | 3 | 3 | 3 | 3 | 3 | 2 |

| | | | | | | |
|---------|---|---|---|------|---|------|
| HD106.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 3 | 2.75 | 3 | 2.25 |

M. Sc. (Human Development) CBCS
Semester-II
Core
Paper-HD-201
Fundamentals of Human Development

Total Marks: 100
 External: 80
 Internal: 20
 Duration of

Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

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.
- To understand the importance of biological bases in human development.

Learning Outcomes: This will enable the students to learn about the various developments and their outcomes at various stages namely from birth to adolescence.

Course Outcomes for HD201

COs# After the completion of this course the students will be able to:

HD201.1 Demonstrate knowledge of developmental processes and principles.

HD201.2 Engage with the critical areas in the study of development in childhood .

HD201.3 Demonstrate knowledge of domains of development during childhood.

HD201.4 Gain knowledge about various special issues in the course of development.

Unit-I

1. Principles and Concepts of Development:

- Principles of Growth and Development.
- Developmental Tasks.
- Basic concepts of Development-Maturation and Learning, Sensitive periods, Individual differences, Nature-nurture-issues, Critical periods & Sex differences.
- Secular trends in growth

2. Biological Bases of Development:

- Physiological processes.
- The Human Genome & its significance for Human Development.
- Genetic influences in different stages

Unit-II

3. Prenatal Development:

- Recapitulation of stages in Prenatal development.
- Genetic and Environmental factors, Maternal Conditions and Teratogens.
- Importance of Indian practices during pregnancy.

4. Infancy :(Birth-2 years)

- The newborn: Birth process and the Neonate.
- Physical description, Sensory capacities and Reflexes.
- Becoming co-ordinated- Feeding, Sleeping, Crying.
- Imitation, Object permanence and other Cognitive accomplishments.
- Early Language development.
- Social relationships during infancy.
- Early Emotional development, Temperament & Attachment.
- The Cultural experience of being an infant.

Unit-III

5. Early Childhood (2-6 years)

- Transition from infancy to childhood.
- Physical and Motor development.
- Language, Cognition and Emotions in early years.
- Play and Social relationships, The emerging Self.
- Early Socialization, Parenting and Cultural processes.
- Early Childhood Education.

6. 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 & Parents.
- The experience of schooling- Academic achievement.

Unit-IV

7. Adolescence (11-18 years)

- Transition from Childhood to Sexual maturity.
- Puberty and its Consequences.
- Early v/s late matures and Emotional changes.
- Development of Formal Operations.
- Adolescent thought integration of the self.
- Issues of Identity.
- Role of family, Peers.
- Role of Community and Ethnic group.
- Moral reasoning and Judgement.

8. Special issues:

- Health, Sexuality, Mental health and Conformity.

References:

1. Rice, F.P. (1995). Human Development. New Jersey: Prentice Hall.
2. Berk, LE. (1995). Child Development. London: Allyn & Bacon.
3. Cole, M. & Cole, S. (1993). The development of children. (2nd ed.) New York: Scientific American Books Freeman & Co.
4. Dutt, S. (1998). Moral Values in child Development. New Delhi: Anmol.
5. Santrock, J.W. & Mussen, S.R. (1988). Child development: An introduction. 10th ed.: Wm. C. Brown Publishers.
6. Bee, H. (1997). The developing child (VIII ed.). New York: Longman.
7. Clarke-Stewart, A. & Friedman, S. (1987). Child development: Infant through adolescence. New York: John Wiley.
8. Mussen, P.H.; Conger, J.J.; Kagan, J. & Huston, A.C. (1996). Child development and personality. New York: Harper & Row.

CO-PO matrix for the course HD-201 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|-----|------|-----|-----|------|
| HD201.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD201.2 | 3 | 3 | 2 | 2 | 3 | 3 |
| HD201.3 | 3 | 3 | 2 | 2 | 2 | 2 |
| HD201.4 | 2 | 3 | 1 | 3 | 2 | 1 |
| Average | 2.75 | 3 | 1.75 | 2.5 | 2.5 | 2.25 |

CO-PSO matrix for the course HD-201 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD201.1 | 3 | 2 | 2 | 2 | 3 | 2 |
| HD201.2 | 3 | 3 | 2 | 2 | 3 | 2 |
| HD201.3 | 3 | 2 | 2 | 2 | 2 | 1 |
| HD201.4 | 2 | 2 | 1 | 3 | 3 | 3 |
| Average | 2.75 | 2.25 | 1.75 | 2.25 | 2.75 | 2 |

M. Sc. (Human Development) CBCS
Semester-II
Core
Paper-HD-202
Adolescence and Adulthood: Development, Psychology and Challenges

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits:

4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the stages of adolescence and adulthood in human development.
- To study the major development characteristics of these stages.
- To study the issues of identity, development tasks and problems associated with these stages.
- To create an awareness about social processes during adolescence & adulthood.

Learning Outcomes: This course will help the students to get an insight of the adolescent development, psychology, challenges & issues concerning them.

Course Outcomes for HD202

COs# After the completion of this course the students will be able to:

HD202.1 Gain knowledge about the various principles of developmental processes during adolescence and youth.

HD202.2 Engage themselves in the critical areas of development of adolescence and youth.

HD202.3 Gain knowledge about all the domains of development in adolescence and youth.

HD202.4 Know about the influence of family, culture, community, etc. on adolescence and youth.

Unit: I

1. The Adolescent Stage:

- Period of Storm and Stress.
- Its link with Middle childhood and Youth.
- The concept of Adolescence.
- Developmental tasks of Adolescence.

2. Theoretical Perspectives:

- Anna Freud, Erik Erikson, James Marcia, and Margaret Mead.
- Indian perspectives.

3. Physical and Sexual Development:

- Puberty, development of primary & secondary sex characteristics.
- Psychological response to puberty, Gender differences.
- Sexuality, Sexual needs and Sex education
- Causes of HIV/AIDS and prevention.

Unit –II

4. Cognitive Development and Moral Development

- Formal operations- Piaget's Theory, Intellectual development at adolescence and adults.
- The Information –Processing view.
- Reasoning, thinking critically, reflective judgement.
- Moral reasoning and judgement (Kohlberg's stages)

5. Identity Formations

- Different perspectives: Construct of Self and development of Self-Concept.
- Indian views on adolescent's identity.

Unit-III

6. Social and Emotional Development:

- Family & the Adolescent.
- Peers and Friendships. Interpersonal relation (parents, siblings etc.)
- Emotional Competence.
- Rebellion and conflict with home and school authorities.

7. Schools, College, Work and Career

- Adolescence and adult in the context of differential opportunities for education and Formal training.
- Importance of academic achievement and failure, related issues.
- Training for career and work.

Unit-IV

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.

References:

1. Balk, D.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. Kakkar, S. (1992). Identity and adulthood. Delhi: Oxford University Press.
5. NIPCCD. (2000). Adolescent Girls' Scheme - An evaluation. New Delhi: NIPCCD.
6. Sharma, N. (1996). Identity of the adolescent girl. New Delhi: Discovery Publishing House.
7. Saraswathi, T.S. & Dutta, R. (1988). Invisible boundaries: Grooming for adult role.

CO-PO matrix for the course HD-202 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|------|-----|------|-----|
| HD202.1 | 2 | 3 | 2 | 2 | 3 | 3 |
| HD202.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD202.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD202.4 | 2 | 3 | 1 | 2 | 3 | 1 |
| Average | 2.5 | 3 | 2.25 | 2.5 | 2.75 | 2.5 |

CO-PSO matrix for the course HD-202 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD202.1 | 3 | 2 | 1 | 2 | 3 | 1 |
| HD202.2 | 2 | 3 | 1 | 3 | 3 | 1 |
| HD202.3 | 3 | 2 | 1 | 2 | 3 | 1 |

| | | | | | | |
|---------|-----|------|---|-----|---|---|
| HD202.4 | 2 | 2 | 1 | 3 | 3 | 1 |
| Average | 2.5 | 2.25 | 1 | 2.5 | 3 | 1 |

M. Sc. (Human Development) CBCS
Semester-II
Core
Paper-HD-203
Management, Policies and Programmes for Women and Children

Total Marks: 100
 External: 80
 Internal: 20
 Duration of Exam: 3 hrs
 Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To develop an understanding of constitutional provisions and legislations with reference to children and women in India.
- To understand the purpose, scope and challenges in the management of programs for children and families.
- To understand the various approaches to programme management.
- To organize, implement & evaluate programs for children & family.

Learning Outcomes: The students will come to know about planning, implementing and evaluating various programmes. They will also get knowledge about the legal rights and policies for the children and women.

Course Outcomes for HD203

COs# After the completion of this course the students will be able to

HD203.1 Obtain knowledge of prevalent social policies as they relate to lives of children and women.

HD203.2 Be familiar with constitutional provisions and legislations for women and children

HD203.3 Be able to engage with the linkages between social policy, legislations and Implementation of schemes and programs.

HD203.4 Gain knowledge about the supervision, evaluation of various programs, policies.

Unit –I

1. Programme Planning:

- Definition, Objectives, Principles, Steps in planning.
- Defining project goals, Steps in goal formation.

2. Management :

- Meaning and importance of management
- Objectives, Characteristics, Steps of management.
- Importance of management skills.

Unit –II

3. Overview of Provisions:

- Policies and Action plans.
- Rights and Social policies.
- Five years plans.

4. Constitutional Provisions Laws and Conventions:

- Constitutional Provisions.
- Legislations for women and children.
- Conventions for protection of women & children.

Unit –III

5. Programmes for Children:

- Identification of specific programmes for children.
- Types of programmes & their management.
- Child welfare programme in India –Recent approaches.

6. Programmes for Family:

- Identification of specific programmes for family.
- Types of programmes & their management.
- Family welfare programmes in India–Recent approaches.
- Family Counselling.

Unit –IV

7. Linkages:

- Govt. role-Centre, State and Local level.
- NGO and Corporate, Social responsibility in implementation of programmes.
- Effective initiatives in various domains.

8. Monitoring and Evaluation:

- Supervision, meetings to plan, feedback.
- Project Report.
- Programme evaluation and Review techniques.
- Critical appraisals.

References:

1. Chaudhary, P. (1985). Child Welfare Services. New Delhi: Atmaram & Sons.
2. Dorothy, A.S. and Ricks, B.A. (1989). Contemporary Supervision: Managing people and technology. New York: Mac Graw Hill.
3. Grewal, J.S (1984). Ear1y Childhood Education Foundations & Practice, Agra : National 'Psychological Corporation.
4. Hillbrand V (1984). Management of Child Development Centers, New York: Collier Macmillan Publishing, 1984.
5. Leeper, S.H. Wither Spoon, R. L & Day, B. (1984); Good Schools Young" Children (5th edition), New York: Macmillan.
6. Maluccio, A.N, Fein, E and Olmstead, K. A. (1986). Permanency Planning for Children: Concepts & Methods. New York: Tavistock Publication.
7. Mohanty, J. Mohanty B. (1984). Ear1y 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.

CO-PO matrix for the course HD-203 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|-----|-----|-----|-----|
| HD203.1 | 3 | 2 | 1 | 2 | 2 | 3 |
| HD203.2 | 1 | 2 | 2 | 3 | 2 | 3 |

| | | | | | | |
|---------|------|---|------|-----|------|---|
| HD203.3 | 2 | 3 | 2 | 3 | 3 | 3 |
| HD203.4 | 1 | 1 | 2 | 2 | 2 | 3 |
| Average | 1.75 | 2 | 1.75 | 2.5 | 2.25 | 3 |

CO-PSO matrix for the course HD-203 (MSc. Human Development)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD203.1 | 1 | 2 | 3 | 3 | 3 | 3 |
| HD203.2 | 2 | 1 | 1 | 3 | 3 | 3 |
| HD203.3 | 2 | 1 | 3 | 3 | 3 | 3 |
| HD203.4 | 2 | 2 | 3 | 3 | 3 | 3 |
| Average | 1.75 | 1.5 | 2.5 | 3 | 3 | 3 |

M. Sc. (Human Development) CBCS
Semester-II
Core
Paper-HD-204
Population and Family: Dynamics, Psychology and Welfare

Total Marks: 100
 External: 80
 Internal: 20
 Duration of Exam: 3 hrs
 Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks

- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the dynamics of population.
- To know about the role of various agencies at international and national level.
- To discuss population statistics with special references to children and women.
- To know about various family welfare services.

Learning Outcomes: This course will enable the students to understand the population dynamics & come to know about the role of various agencies at international and national level.

Course Outcomes for HD204

- COs# After the completion of this course the students will be able to
- HD204.1 Obtain knowledge of population and its dynamics in developing countries.
- HD204.2 Be familiar with various agencies working for mental health in India.
- HD204.3 Be able to engage with various programs for reproductive health and family welfare services.
- HD204.4 Gain knowledge about population growth, statistics and its consequences.

Unit –I

1. Population Dynamics:

-Study of population and Population dynamics in developed and developing Countries.

-Study of population dynamics in India.

2. Population Education:

- Meaning, Objectives, Problems of population education in India.

-Role of National, International and Non-governmental agencies.

3. Models of Mental Health Services:

- Mental, Social
- Population Mental Health in India: Issues and Challenges

Unit –II

4. Population Statistics:

- Children and Women Morbidity, Mortality- Causes & Consequences.
- Infant Morbidity and Mortality- Causes & Consequences.

5. Population Growths:

- Factors, Causes, Consequences, Statistics with special references to India.

6. Birth Control Measures:

- Types of birth control measures
- Benefits and Drawbacks.
- Role of Govt., NGO's etc. in family planning.

Unit-III

7. Reproductive and Child Health Programmes:

- Measuring of RCH programmes, content, target groups.
- Various Programmes issues by govt. & various agencies.
- Reproductive rights of women.

8. Family Welfare Services:

- Community based assistance to family.
- Day care services.
- Services for family in poverty.
- Services for family with problem children.

Unit-IV

9. Family Laws and Family Courts:

- Legal acts for family, children & women.
- Various Family Courts run in India.

10. Roles of Agencies and Organisation:

- Various agencies involved in the welfare of Children.
- Various agencies involved in the welfare of Family.

11. National Commissions for Women:

References:

1. Diwan, Paras, Diwan Peeyushi (2000). Women and Legal Protection. Deep and Deep Publication, New Delhi.
2. Agosin, M. (2003). Women Gender and Human Rights. Rawat Publications, New Delhi.
3. Bajpai, A. (2003). Child Rights in India: Law, Policies and Practises. Oxford University Press, New Delhi.
4. Kumar, R. (2000). Women and Marriage. Anmol Publications Pvt. Limited: New Delhi.

CO-PO matrix for the course HD-204 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|-----|------|-----|-----|
| HD204.1 | 2 | 2 | 3 | 2 | 3 | 3 |
| HD204.2 | 2 | 2 | 2 | 2 | 3 | 3 |
| HD204.3 | 3 | 3 | 2 | 2 | 3 | 3 |
| HD204.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.5 | 2.5 | 2.5 | 2.25 | 3 | 3 |

CO-PSO matrix for the course HD-204 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD204.1 | 2 | 2 | 2 | 3 | 3 | 3 |
| HD204.2 | 2 | 3 | 2 | 3 | 3 | 2 |
| HD204.3 | 3 | 2 | 1 | 3 | 2 | 3 |
| HD204.4 | 2 | 3 | 1 | 3 | 3 | 3 |
| Average | 2.25 | 2.5 | 1.5 | 3 | 2.75 | 2.75 |

**Open Elective
Paper-HD-206
Marriage and Family Dynamics**

Total Marks: 50
External: 40
Internal: 10
Duration of Exam: 3 hrs
Credits: 2

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To sensitize the students towards marriage & family life.
- To understand the traditional and changing norms of the institution of family with reference to its social environment.
- Get acquainted with the concept of marriage and the areas of adjustments within the family.
- Become aware about the dynamics of family interaction an developmental tasks through family life span
- Become aware of problems in families and ways of coping up.

Learning Outcomes: This course will enable the students to know about the importance of marriage and its adjustments in their lives. This will also become aware about the various family patterns, crisis and counselling.

Course Outcomes for HD206

- COs# After the completion of this course the students will be able to
- HD206.1 Gain knowledge about marriage and its types in different Indian societies.
- HD206.2 Be familiar with meaning, structure and forms of families and kinship.
- HD206.3 Know about family patterns, adjustments, crises and laws in India .
- HD206.4 Learn about demographic profile of women and children in India.

Unit-I

1. Significance of the term 'Family Dynamics'

- "Marriage and family" as an institution and its importance.

2. Marriage:

- Marriage- Purpose, Motives, Functions & types.
- Marriage in different Indian Societies.
- Traditional marriage and modern marriage.
- Readiness for marriage.

3. Compatibility in Marriage:

- Premarital Counselling.
- Marital harmony & personal compatibility in marriage.
- Post marital counselling.

Unit –II

3. Kinship:

- Terminology, Principles, Patterns & Types of Kin groups.
- Degrees, Decent, Usage & its influence.
- Kinship trees for Families of Origin.

4. Family:

- Origin, Evolution, Meaning, Structure and Forms of families.
- Family and its changing functions.
- Approaches of family- Biological, Historical, Sociological, Developmental
- Family life cycle & development tasks (seven stages of family life cycle)
- Changing trends in family system.

Unit-III

5. Family Patterns:

- Alternate Family Patterns-causes, Characteristics and Implications.
- Family dyadic relationships-filial, Fraternal, Conjugal, in-laws, Grandparent-children.
- Multiple roles of women.
- Role change & conflicts.

6. Family Adjustments and Disorganization:

- Areas of adjustment.
- Patterns of adjustment.
- Causes and consequences of disorganization.

7. Crises and Counselling:

- Crises in family life: Meaning, Types.
- Current family problems.
- Marriage and family counselling.

Unit-IV

8. Laws:

-Laws related to marriage and families in various religions and cultural settings of India.

9. Technological Advancement and family:

-Various impacts of technology on the family life.

10. Demographic profiles:

-Of women and children (with special reference to India).

11. Survey of families: -With different backgrounds for understanding the changing scenario of families in the present context.

References:

1. Blood, Robert and Wolfe (1960) "Husband and Wife Dynamics of Married Life" , free Press, New York.
2. Duvall, E.M.(1977) "Marriage and Family Development" ,Lippincott Co. Philadelphia.
3. Dyer E.D. (1969) " Courtship, Marriage and Family", American Style the Dorsey Press, Illinois.
4. Gore, (1969) " Urbanisation and Family Change" ,Popular Prakashan, Bombay.
5. Henslin, J.M. (ed.) (1989) "Marriage and Family in a Changing Society" , The Free Press, U.S.A.
6. Kapur, P.(1974) "Marriage and the Working Women in India" ,Vikas Publications, New Delhi

CO-PO matrix for the course HD-206 (M.Sc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|------|-----|------|------|-----|
| HD206.1 | 1 | 1 | 2 | 1 | 1 | 1 |
| HD206.2 | 1 | 2 | 2 | 2 | 2 | 3 |
| HD206.3 | 2 | 3 | 3 | 3 | 3 | 3 |
| HD206.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 1.75 | 2.25 | 2.5 | 2.25 | 2.25 | 2.5 |

CO-PSO matrix for the course HD-206 (M.Sc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD206.1 | 1 | 1 | 1 | 2 | 3 | 3 |
| HD206.2 | 2 | 1 | 2 | 2 | 3 | 3 |

| | | | | | | |
|---------|---|---|---|-----|---|---|
| HD206.3 | 2 | 3 | 2 | 3 | 3 | 3 |
| HD206.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2 | 2 | 2 | 2.5 | 3 | 3 |

M. Sc. (Human Development) CBCS
Semester-II
Core
Paper-HD-207 (Practical)
Adolescence and Adulthood: Development, Psychology and Challenges

Total Marks: 100
 External: 80
 Internal: 20
 Duration of

Exam: 3 hrs

Credits: 4

Course Outcomes for HD-207

COs# After the completion of this course the students will be able to

- HD207.1 Undertake studies of Adolescence and Youth across domains.
 HD207.2 Identify and use appropriate tools and techniques of studying Adolescence
 and Youth.
 HD207.3 Engage and work with Adolescence and Youth across contexts.
 HD207.4 Plan and execute activities for youth keeping in mind their needs.

1. Visit to various centers catering to Adult.
2. Preparing Adult Education Programmes.
3. Plan and organize debates and discussions for adolescents for healthy and responsible sexual behaviour to prevent HIV/AIDS.
4. Organizing a play for Adult Education.
5. Organizing a quiz on any relevant topic for today's Adults.
6. Case study of an Adolescent and Reporting.
7. Administering: Achievement, Vocational, Interest Personality Scales on Adolescent/ Adults an interpretation of the information.
8. Developing a schedule for identifying problems of adolescents in a chosen topic of

Conflict, Collecting information and reporting the result.

CO-PO matrix for the course HD-207 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|------|-----|
| HD207.1 | 3 | 2 | 2 | 3 | 2 | 3 |
| HD207.2 | 3 | 3 | 2 | 3 | 2 | 3 |
| HD207.3 | 3 | 3 | 2 | 3 | 2 | 3 |
| HD207.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.25 | 3 | 2.25 | 3 |

CO-PSO matrix for the course HD-207 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|--|------|------|------|------|------|------|
| | | | | | | |

| | | | | | | |
|---------|------|---|---|---|---|---|
| HD207.1 | 3 | 3 | 1 | 3 | 3 | 3 |
| HD207.2 | 3 | 3 | 1 | 3 | 3 | 3 |
| HD207.3 | 2 | 3 | 1 | 3 | 3 | 3 |
| HD207.4 | 3 | 3 | 1 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 1 | 3 | 3 | 3 |

M. Sc. (Human Development) CBCS
Semester-II
Core
Paper-HD-208 (Practical)
Management, Policies and Programmes for Women and Children

Total Marks: 100
 External: 60+20**
 Internal: 20
 Duration of Exam: 3 hrs
 Credits: 4

Course Outcomes for HD208

COs# After the completion of this course the students will be able to

HD208.1 Obtain knowledge of prevalent social policies as they relate to lives of children and

Women.

HD208.2 Be familiar with planning and implementation of projects for women and children.

HD208.3 Be able to engage with the linkages between social policy, legislations and

implementation of schemes and programs.

HD208.4 Work for the rehabilitation of women and children.

1. Observational Visits and developing detailed reports of the various institutions and organizations working for Women and child welfare.
2. Developing Welfare Projects for areas such as: Health, Nutrition, Education, Rehabilitation of Children based on the information secure from an existing program in the locality.
3. Planning, Implementation strategies of projects in selected Women and Child Welfare institutions for testing their suitability.
4. Monitoring and Evaluation of services of Women and children welfare: Criteria and Impact.
5. Identification of specific programmes for children and families.
6. One month training in preschools/ NGOs /Orphanage /Old Age home/any other welfare organizations and report submission.

CO-PO matrix for the course HD-208 (MSc. Human Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|-----|-----|------|-----|
| HD208.1 | 2 | 1 | 2 | 3 | 3 | 3 |
| HD208.2 | 3 | 2 | 2 | 3 | 2 | 3 |
| HD208.3 | 2 | 3 | 3 | 3 | 3 | 3 |
| HD208.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.5 | 2.25 | 2.5 | 3 | 2.75 | 3 |

CO-PSO matrix for the course HD-208 (MSc. Human Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|--|------|------|------|------|------|------|
| | | | | | | |

| | | | | | | |
|---------|------|---|------|---|---|---|
| HD208.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD208.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD208.3 | 2 | 3 | 2 | 3 | 3 | 3 |
| HD208.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.75 | 3 | 3 | 3 |

Paper-HD-301
Child and Family: Guidance, Counselling

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.

- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

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

Learning Outcomes: This will enable the students to learn about the nature of various psychological disorders at various stages that require counselling. The various types of guidance and counselling and their steps involved.

Course Outcomes for HD-301

COs# After the completion of this course the students will be able to:

- HD301.1 Understand the concept, principles, scope and practice of guidance.
 HD301.2 Comprehend the task of identifying and assessing at risk children and providing services to them.
 HD301.3 Appreciate the concept and practice of counseling.
 HD301.4 Develop skills for providing counseling and therapeutic services.

Unit –I

1. Nature and Scope of Guidance

- Concept, Definition and Scope
- Nature, Principles and Need of Guidance
- Areas of Guidance:
- Educational – Concept, Definition, Characteristics, Principles etc.
- Vocational – Concept, Definition, Characteristics, Principles etc.,
- Personal – Concept, Definition, Characteristics, Principles etc.,
- Group Guidance-Different Techniques used

2. Nature and Scope Of counselling

- Meaning, Areas, Scope of Counselling
- Needs, Aims and Principles of Counselling
- Various Approaches to Counselling.

Unit-II

3. Stages of Human Development and Areas of Guidance, Counseling and therapy.

- Problems of Childhood: remedial measures, techniques, therapies used
- Problems of Adolescence: remedial measures, techniques, therapies used
- Problems of Adulthood: remedial measures, techniques, therapies used
- Problems of Aged: remedial measures, techniques, therapies used

4. Types of Therapy

- Psychotherapy: Concept, Definition, Types, Application etc.,
- Play therapy etc.: Concept, Definition, Types, Application

-Any other therapy: Music, Art etc.,

Unit-III

5. Counselling Special Groups

- Characteristics, Needs, Support network and referred processes for:
- Children suffering from Child Abuse their meaning and concept
- Children in Divorce Families their meaning and concept
- Children in Step Families their meaning and concept
- Children in Single Parent Families their meaning and concept
- Children of Streets their meaning and concept
- Children in Alcoholic Families their meaning and concept

6. Counselling with Exceptional Children

- Characteristics, Needs, Support Network and Referred Processes for:
- Gifted Children their meaning and concept
- Children with Emotional and Behaviour Disorders their meaning and concept
- Learning Disabled Child their meaning and concept
- Attention Deficit Hyperactivity Disorder their meaning and concept
- Intellectually Challenged Children their meaning and concept
- Physically challenged Children their meaning and concept

Unit-IV

7. Fundamental Counselling-Skills

- The Client Counsellor Relationship: Meaning, Types, Impact, Importance
- Qualities and skills of a counsellor: Required for success
- Counsellors objectivity/subjectivity: Meaning, Importance eg.
- Emotional involvement and limits: Permissible limits and importance

8.The Counselling Process

- First contact, Assessment, Intervention, Closure, Follow up
- Ethics in counselling involved
- Need for Ethical standards
- Ethical, Codes and Guidelines- Rights of Clients, Dimensions of Confidentially
- Dual relationships in Counselling Practices: Meaning, Impact, Importance

References:

1. Bumard, 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.

CO-PO matrix for the course HD-301 (Child and Family: Guidance, Counselling)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|------|-----|-----|-----|-----|-----|-----|
|------|-----|-----|-----|-----|-----|-----|

| | | | | | | |
|---------|---|------|------|---|------|---|
| HD301.1 | 3 | 2 | 2 | 3 | 2 | 3 |
| HD301.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD301.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD301.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.25 | 3 | 2.75 | 3 |

CO-PSO matrix for the course HD-301 (Child and Family: Guidance, Counselling)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD301.1 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD301.2 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD301.3 | 2 | 3 | 2 | 3 | 3 | 2 |
| HD301.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.5 | 3 | 2.25 | 3 | 3 | 2.25 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22
Semester-III
Core
Paper-HD-302
Advances in Life Span Development and Gerontology

Total Marks: 100
External: 80
Internal: 20
Duration of Exam: 3 hrs
Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To undertake an advanced study of the stages in Human Development with specific focus on Adulthood and old age.
- To understand the Principles and factors influencing Human Development in these stages
- To enable students to understand the theoretical perspectives of aging process

Learning Outcomes: This course will impart knowledge to students regarding issues of Development and their implications at these stages of life.

Course Outcomes for HD-302

COs# After the completion of this course the students will be able to:

- HD302.1 Demonstrate knowledge of developmental processes and principles during adulthood.
- HD302.2 Engage in different areas of developments during the entire adulthood period.
- HD302.3 Appreciate the concept, knowledge and adjustments in various domains of elderly.
- HD302.4 Gain insight into the various services and programs for the elderly in the society.

Unit –I

1. Young Adulthood (20-35 years)

- Biological, Physical and Cultural Developmental Perspectives on young Adults
- Developmental Tasks
- Psycho-Motor Development
- Vocational Development
- Moral and Personality Development
- Importance of Social Organisations and their impact

- Identity Formation and personality development
- Life Cycle Approaches- Sexuality, Marriage, Marital Adjustment and Parenthood

2. Middle Adulthood (35-50 years)

- Physical Continuity and Changes
- Adult Intelligence
- Psycho-Motor Development
- Personality Development- Development of Self
- Social and Emotional Development
- Role in Family- Maintaining Family Relationships, Friendships
- Parenting Adult offspring's and their marriage
- Menopause in Women and their Health
- Vocational Development- Work and Career Development, Gender Differences

Unit-II

3. Late Adulthood (50-65 years)

- Health, Fitness, Disease and Disability
- Personality and Moral Development
- Cognitive Changes- Transformation in Memory and Forgetfulness
- Family Life Cycle
- Social Relationships and their impact
- Intergenerational Relations- Grand Parenthood
- Retirement from Formal Work

4. Old Age (65+years)

- Physical Continuity and Changes
- Personality and Moral Development
- Changes in Cognitive Abilities and Creativity
- Psychosocial Development
- Changes in Family Life cycle Patterns
- Roles and relationships in the Aging Family

Unit-III

5. Emergence and Scope of Gerontology and Elderly Care

- Concept of Aging and its Problems: Social, Medical, Psychological, Occupational

6. Theoretical Perspectives

- Theories: Disengagement Theory, Activity Theory, Human Development Theory, Continuity Theory, Age Stratification Theory, Labelling Theory

7. Aging Process

- Biological and Physiological aspects
- Psychological aspects
- Social aspects: Social Status, Retired Status, Single Status, Social Adjustment and Recognition
- Spiritual aspects: Karma Theory and Religion

Unit-IV

8. Adjustment Patterns

- Retirement years and Marital Adjustment
- Family Relationships: Widowhood/Singlehood, Alternative Life Style, Second

- marriage in Old Age
- Leisure: Meaning, Motivation, Importance, Activities etc.,
- Retirement: Meaning, Benefits/Freedom of Retirees, Women retirees
- Fears of Change in Personal, Social Life
- Attitude towards Retirement: Poverty, Poor Health, Retirement and Suicide,
- Abandonment and Diachronic solidarity

9. Death, Dying and Bereavement

- Death: Definition, Types, Impact on Society, Attitude towards Death, Denial in thoughts of Death
- Dying and Bereavement: Definition, Stages etc.,
- Grief: Definition etc.,

10. Services and Programmes for Aged

- Categories of Services- Housing, Health, Leisure Time, Institutions for Aged
- Economic Programmes: Reengagement after Retirement, Retirement Pension, Provident Fund, Insurance Schemes
- Investment, Taxation and Property

References:

1. Rice, F.P. (1992). Human development: A life span approach. New Jersey: Prentice Hall.
2. Schiamberg, L.B. & Smith, K.U. (1982). Human Development. New York: Macmillan.
3. Santrock, J.W. (1997). Life span development. Brown and Benchmark.
4. Lefrancois, G.R. (1996). The life span. New York: Wadsworth publishing.
5. Deals, S.M. & Lenker, L.T. (Eds.) (1999). Aging and identity. London: Praeger.
6. Blau, Zana Smith (1983). Old age in a changing society, New York, New View Prints.
7. Bose, A.B. and K.D. Gangrade (1988). Aging in India: Problems and Potentialities. New Delhi : Abhinav Pub.
8. Chowdhry Paul D. (1992). Aging and the aged. New Delhi : Inter India Pub.
9. Cook Alicia Skinner (1983). Contemporary Perspectives on Adult Development & Aging. New York : Macmillan.
10. Cox Harold (1984). Later life: The reality of aging. New Jersey : Prentice Hall Inc.
11. Desai, K.G. (1985). Problems of the retired people in greater Bombay, Bombay: TISS, Series No. 27.
12. Ghosh, B. (1988). Contemporary Social Problem in India, Bombay: Himalaya Pub.
13. Mishra Saraswati (1987). Social Adjustment of Old Age. Delhi: B.R. Pub. Corp.
14. Pinkston, P.H. and N.K. Linsk (1984) . Care of the Elderly: A family approach . New York : Pergamon Perss.

CO-PO matrix for the course HD-302 (Advances in Life Span Development and Gerontology)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|------|-----|
| HD302.1 | 3 | 2 | 2 | 3 | 2 | 3 |
| HD302.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD302.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD302.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.25 | 3 | 2.75 | 3 |

CO-PSO matrix for the course HD-302 (Advances in Life Span Development and Gerontology)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD302.1 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD302.2 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD302.3 | 2 | 3 | 2 | 3 | 3 | 2 |
| HD302.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.5 | 3 | 2.25 | 3 | 3 | 2.25 |

M.Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester –III

Core

Paper -HD-303

Research Methods, Statistics and Computer Applications

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all.
- All the questions will carry equal marks.
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus.
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

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 apply statistical techniques to research data for analyzing and interpreting data meaningfully

Course Outcomes:

- This course will enable the students to understand the different research methods and their implication to different kind of research.
- Provide a deeper knowledge about the statistical skills to interpret the data and get the research outcomes.
- Equip the students about the role of computer software in research and statistical analysis of data.

Note: Students should be given hands on experiences to use appropriate software package for selected statistical analyses

UNIT-I

4. Role of Statistics and research in Home Science discipline:

Objective of research: Explanation, Control and Prediction

5. Nature, types, advantages and limitations of Research: Historical, Descriptive, Social Research, Experimental, Field studies, Case study.

6. Definition and Identification of a Research Problem:

- Selection of research problems
- Justification
- Hypothesis

4. Concept and types of variable and its advantages: Dependent, independent, random, discrete, continuous, qualitative and quantitative.

UNIT-II

20. Sampling, characteristics and advantages: Meaning, importance and types:
Random (simple, systemic, stratified, cluster, two stages and multi stage)
Non-random (incidental, purposive, quota, snowball).

21. Data gathering Instruments: Meaning and importance, Interview, Observation, Questionnaire, Rating scale, Reliability and validity of measuring instruments.

22. Analysis of data and research report

UNIT-III

23. Statistics: Meaning, scope, function and importance,

24. Collection of data

25. Frequency, frequency distribution, graphical representation of frequency distribution and its type.

26. Measure of central tendency: Mean, medium, mode, quartiles

27. Measure of dispersion: Range, mean deviation, standard deviation, skewness and kurtosis.

28. Characteristics of normal distribution

29. Parametric and Non parametric test.

UNIT-IV

30. Chi – square test

31. T-test: Single mean, independent mean, paired mean.

32. Correlation and coefficient of correlation

33. Analysis of variance :One way and two way classification

34. Software related to Home Science; application and importance

References:

1. S.C. Gupta & V.K. Kapoor: Fundamentals of Mathematical Statistics
2. S.C. Gupta: Fundamentals of statistics
3. G. Udny Yule, N.M.G. Kendall: An Introduction to the theory of Statistics
4. Croxton, F.C. and Cowden, D. J. Applied General Statistics, Prentice hall Inc. 1955
5. Garrett. H. Statistical in Psychology and Education. Oxford book Co.1960.
6. R.P. Hooda: Introduction to statistics. The MacMillon Co.
7. Scotharman, W. A. Textbook of Statistics, (Revised edition) 1973.
8. Kerlinge, Foundations of Behavioral Research
9. Sneedecer G. W. Statistical Methods. Applied Pacific Private Ltd., 1961.

Attainment of Course Outcomes (COs):

| Sr. No. | Course Outcomes | Methods for attainment of Cos |
|---------|---|---|
| 1. | This course will enable the students to understand the different research | Classroom lecture and Power Point Presentations |

| | | |
|----|---|---|
| | methods and their implication to different kind of research | |
| 2. | Provide a deeper knowledge about the statistical skills to interpret the data and get the research outcomes | Classroom lecture and Power Point Presentations |
| 3. | Equip the students about the role of computer softwares in research and statistical analysis of data | Classroom lecture and Power Point Presentations |

CO-PO matrix for the course HD303 (Research Methods, Statistics and Computer Applications)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|-----|-----|-----|-----|
| HD303.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD303.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD303.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.6 | 3 | 3 | 3 | 3 |

CO-PSO matrix for the course HD303 (Research Methods, Statistics and Computer Applications)

| COs# | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD303.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD303.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD303.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.6 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22
Semester-III
(Elective)
Paper-HD-304
Women Studies

Marks: 100

Total

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To develop awareness regarding status of women in India and sensitivity to women's issues and concerns
- To understand theoretical and methodological concerns related to women's studies
- To be aware of issues and concerns related to the Indian context.

Learning Outcomes: This course will enable the students to know about the status of women in the society, their issues and concerns.

Course Outcomes for HD-304

COs# After the completion of this course the students will be able to:

HD304.1 Understand the concept of contemporary emergence and positioning of gender

studies.

HD304.2 Comprehend the theoretical perspectives of Women Studies.

HD304.3 Gain knowledge about the roles and status of women in India from social and development perspectives.

HD304.4 Develop skills for critical appraisal of gender issues and design programs for women empowerment.

Unit –I

1. Rationale for Women Studies

- Meaning, Significance, Importance of Women studies
- Scope of Women studies
- Growth of Women's studies movement in India
- Growth of Women studies movement in other Countries
- Women's movements: In the Pre independent era in India
- Women's movements: In the Post independent era in India
- Women's movements: In the Current times in India
- Empowerment of Women: Need, significance and its effects on them

2. Theoretical Perspectives in Women's Studies

- Gender differences: Its effects and consequences
- Sexual division of labour: Its implications, discrimination at workplace,
- Invisibility and devaluation

Unit-II

3. Status of Women in India

- Demographic Profile of Women with reference to:
 - Health and its related issues and concerns
 - Education and its related issues and concerns
 - Employment and its related issues and concerns
 - Social issues and concerns
 - Political aspects, issues and concerns
- Gender biasness in Indian context: Issues and concerns
- The Indian Girl Child and its status
- Changing role of Women in the current scenario

4. Concepts related to Gender differences from Social and development perspectives

- Caste and its effect on gender discrimination
- Class and its effect on gender discrimination
- Culture and its effect on gender discrimination
- Gender interface and its effects
- Gender and Education
- Gender and Economic Empowerment
- Development processes and programmes from Women's perspective

Unit-III

5. Special Issues and Problems

- Infanticide: Meaning, Occurrence, Causes, Effects, Remedial measures
- Foeticide: Meaning, Occurrence, Causes, Effects, Remedial measures

- Dowry: Meaning, Causes, Types, Effects, Remedial measures and laws
- Child marriage: Meaning, Causes, Effects, Prevention and laws

6. Violence

- Sexual Harassment and abuse: Of women and children
- Socialization of the girl child
- Discrimination: In nutrition and health care of women and children

Unit-IV

7. Women Welfare Programmes

- Women Welfare Programmes: In Urban & Rural areas for women
- Various Policies & Programmes: Floated for women's advancement
- Women Welfare Organizations in India and their work

8. Women Empowerment

- Development of Women Entrepreneurship
- Legal Status of Women in India

References:

1. Astana. P. (1974) Women's movement in India. Vikas, Delhi.
2. Antony, M.L. (1985). Women's Rights: Dialogue, New Delhi.
3. Baker. H.A. Bertheide. G.W. and Others (Eds)(1980). Women Today: A multidisciplinary approach to Women's Studies. Brooks/ Cole Publication.
4. Baral. J.K. and Patnaik. K. (1990). Gender Politics. New Delhi: Discovery.
5. Dak. T.M. (1988) Women and Work in Indian Society: Discovery, New Delhi.
6. Desai. N. (1988). A decade of Women's Movement in India: Himalaya, Bombay.
7. Desai. N & Patel. V. Indian Women: Change and Challenges in the International Decade: Popular Prakashan Bombay.
8. Gunew. A.R.(1990) Feminist Knowledge Critic and Constituent: Routledge, London.
9. Gupta, N.K. & Sudan I.K.(1990) Women at work in developing economy: Amol, New Delhi.
10. Joseph. A & Sharma K.(Eds)(1994). Whose News? The media and Women's issues: Sage. New Delhi.
11. Kalia. N.N. (1979). Sexism in Indian Education Vikas. New Delhi.
12. Jain, D & Banerjee. N.(1985). The Tyranny of House Hold: Investigative essays on women and work: Vikas, New Delhi.
13. Okin, S.M. (1989), Justice, gender and family: Basic Books. N.Y.
14. Pant, N (1995) Status of girl child and women in India. Delhi: APH
15. Parashar, A. (1992). Women and Family law reforms in India: Uniform civil Code and gender equity: Sage. New Delhi

CO-PO matrix for the course HD-304 (Women Studies)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|------|-----|-----|-----|
| HD304.1 | 3 | 2 | 2 | 3 | 3 | 3 |
| HD304.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD304.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD304.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-304 (Women Studies)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD304.1 | 3 | 3 | 2 | 3 | 3 | 3 |

| | | | | | | |
|---------|------|---|---|---|---|---|
| HD304.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD304.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD304.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester-III

(Elective)

Paper-HD-305

Guiding Young Childs: Growth Behaviour and Development

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To develop understanding regarding the vital aspects of communication and various Audio and visual media and their use.
- To develop understanding regarding the new communication technologies and their use.
- To develop skills in developing and using different communication technologies for various presentations.

Learning Outcomes: This course will enable the students to know more clearly about infancy as an important stage in life sperm development, with special reference to the sperm development, with special reference to the Indian context.

Course Outcomes for HD-305

COs# After the completion of this course the students will be able to:

HD305.1 Explain the development and behavior of newborns.

HD305.2 Gain knowledge about optimal and non optimal growth in newborns.

HD305.3 Identify reasons for formation of Interaction and Attachment.

HD305.4 Gain knowledge about the role of environment and cultural perspectives in the process of development.

Unit –I

1. Newborn and infant development and behaviour

- New born: Behaviour and capacities
- Developments: Physical, Motor, Social, Emotional etc.,
- Abilities during infancy
- Adaption strategies: To cultural settings and practices

2. Early experiences and development consequences

- Optimal and non- optimal growth in Infancy and its consequences
- Influence on: Physical, psychomotor and cognitive growth and development
- At risk conditions

Unit –II

3. Early Interactions:

- A beginning in attachment formation
- Course of attachment
- Dyadic versus multi-caring
- Role of father in formation of attachment
- Interaction as a cultural process

Unit –III

4. Language development in infancy

- Effect of Environment, interactions and cultural perspective
- Brain correlates and development changes and their impact
- Variations in development of language
- Multilingualism: Meaning, Impact etc.,

5. Development assessment

- Understanding the process of development in infancy
- Need and reasons for infant assessment
- Issues and concerns related to infant assessment

Unit –IV

6. Intervention and stimulation programmes/activities

- The need and rationale for intervention and stimulation programmes/ activities
- The process involved in planning and implementing intervention programmes with specific reference to the Indian setting
- Traditional methods, games, songs of infant care and stimulation
- Issues and concerns related to intervention programs

References:

1. Bornstein, M.M. (Eds.) (1991). Cultural approaches to parenting. New Jersey: Lawrence Erlbaum Associates.
2. Evas, J.L. Myers, R.G. and IHeld, E.H. (2000). Early Childhood counts: A Programming guide on early childhood care for development. Washington: The World Bank. (WBI Learning Resource Series).
3. Hellbruegge, T (Ed.) (1980). The first 365 days in the Life of a Child: The Development of infant. Bombay: Max Mueller Bhavan.
4. Lewis, H Rosenblum, L.A. (Eds. The child in its Family. New York: Plenum Press

CO-PO matrix for the course HD-305 (Guiding Young Childs: Growth Behaviour and Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD305.1 | 3 | 3 | 2 | 2 | 3 | 3 |
| HD305.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| HD305.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD305.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 2.5 | 3 | 3 |

CO-PSO matrix for the course HD-305 (Guiding Young Childs: Growth Behaviour and Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD305.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD305.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD305.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD305.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.25 | 3 | 3 | 3 |

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Semester-III

(Elective)

Paper –HD-306

Communication Technologies

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To develop understanding regarding the vital aspects of communication and various Audio and Visual media and their use.
- To develop understanding regarding the new communication technologies and their use.
- To develop skills in developing and using different communication technologies for various presentations.

Learning Outcomes: This course will help the students to develop skills in using different media for presentations and projects.

Course Outcomes for HD-306

COs# After the completion of this course the students will be able to:

- HD306.1 Understand the process of communication and its dissemination.
- HD306.2 Gain insight into various approaches used for communication.
- HD306.3 Gain knowledge about the various extension techniques used for good communication.
- HD306.4 Know about the latest communication technologies used for research purpose and all.

Unit –I

1.Communication

- Concept of communication
- Process of communication
- Scope of communication
- Usage of communication

2. Dissemination of information

- Meaning, nature, types
- Factors affecting
- Appropriate training, motivating extension workers, approach to extension agents etc.,

3. Approaches to communication

- Individual approach: Meaning, Methods, Usage, Impact etc.
- Group approach: Meaning, Methods, Usage, Impact etc.
- Mass approach: Meaning, Methods, Usage, Impact etc.
- Motivating approach: Meaning, Methods, Usage, Impact etc.

Unit –II

4. Communication and extension methods

- Different media: Their characteristics, Types, Usage etc.
- Selection of teaching tools: Characteristics, Types, etc.

5. Visual aids – Non Projected

- Teaching aids: Types, Usage, and Construction etc.
- Display visuals: Types, Usage, and Construction etc.
- Diagrams: Types, Usage, Construction etc.
- Flip charts: Types, Usage, Construction etc.

6. Visual aids – Projected

- Video projector: Types, Usage, Construction etc.
- Slide/ filmstrips: Types, Usage, Construction etc.
- Computers: Types, Usage, Construction etc.

7. Audio – Aids Recording

- Public address equipment: Types, Usage, Construction etc.
- Radio: Types, Usage, Construction etc.

8. Non – Projected – Audio Visual

- Talks, meetings, camps, campaigns etc.: Types, Usage, Construction etc.

Unit –III

9. Introduction to new communication technologies

- Satellite distribution and broadcast networking
- Developing close circuit television package on (cc TV) topics.
- Incorporating the use of video films in presentation i.e. the selected clippings
- Slides: Making use of slides with audio commentaries for presentations
- Development and use of transparencies
- Digital method of communication
- Computer Graphic Designing

Unit –IV

10. Preparation of graphics for research reports/ seminars/ other presentation

11. Designing – leaflets/ pamphlets/booklets/ cover pages/posters

12. Presentations using power points

References:

1. Curran, J.et al (1977): Mass Communication and Society, London.
2. Banerjee (eds) (1985): Culture and Communication, Paroit Publishers, Delhi.
3. Ruloof, M.E. and Miller, G.R. (eds) (1987): Interpersonal Process: New Directions in Communication Research, Sage, USA.
4. Chatterjee, P.C. (1988): Broadcasting in India, New Delhi, Sage Publications.
5. Berger, C.R. and Chaffee, S. (eds) (1987): Handbook of Communication Science, Sage Publications, New Delhi.
6. Brown J., Lewis, R and Harclerod, F. (1985): All instruction: Technology Media and Methods, McGraw Hill, New Delhi.
7. Ellington, H. (1985): A Handbook of Educational Technology, Kogan Page, London.

CO-PO matrix for the course HD-306 (Communication Technologies)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|------|-----|-----|-----|
| HD306.1 | 3 | 2 | 2 | 3 | 3 | 3 |
| HD306.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD306.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD306.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-306 (Communication Technologies)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD306.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD306.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD306.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD306.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2 | 3 | 3 | 3 |

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Semester-III

Elective

Paper-HD-307

HIV/AIDS Counselling

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To develop understanding regarding the basic concepts of HIV/AIDS infection and diagnosis.
- To develop understanding regarding the reproductive health and its psychosocial aspects.
- To gain knowledge about the coping strategies for HIV/AIDS.

Learning Outcomes: This course will help the students to develop skills in using different media for presentations and projects.

Course Outcomes for HD-307

COs# After the completion of this course the students will be able to:

- HD307.1 Explain about the diagnosis and transmission of HIV/AIDS.
- HD307.2 Gain insight about reproductive health and gender perspectives.
- HD307.3 Identify reasons for dilemmas and issues related to HIV.
- HD307.4 Know about the role of counseling in coping with HIV and management of infected persons.

Unit –I

1. Basic concepts and facts about HIV/AIDS

- Transmission of HIV infection
- Signs and symptoms of AIDS
- Diagnosis of HIV infection
- Management and care of HIV infected persons
- Prevention of HIV infection
- Ethical issues and dilemmas

Unit –II

2. Understanding sexuality, reproductive health and the gender perspective

- The human reproductive organs and sexual characteristics
- Meeting the needs of childhood sexuality
- Forms of sexual practise, the harmful side of sex: Sexual abuse

3. Psychosocial aspects of HIV/AIDS. What it means to be a HIV positive?

Unit –III

4. HIV/AIDS counselling

- The principles of counselling, goals of HIV/AIDS counselling
- The prerequisites of counselling, stages of counselling, specific counselling skills
- Assessment of risk behaviour
- Characteristics & attitudes of a counsellor, the do's and don't in counselling
- Content of communication about HIV/AIDS

Unit –IV

5. Some specific counselling situations

- The activities of pre-test counselling the concept of informed consent
- The types of post- test counselling, the activities of the various types of post- test Counselling
- The psycho- social issues linked with positive diagnosis

6. Coping strategies of HIV/AIDS persons

7. Legal issues, rights and ethics

References:

1. Panthaki, Dhun (1997). Education in Human sexuality, Delhi: Family Planning Association of India
2. Bharat, S (1996). Facing the challenge-household and community response to HIV/AIDS in Mumbai, Bombay: TISS.
3. Ahmed, P.I (1992). Living and dying with AIDS. New York: Plenum.
4. Sonawat R and Mathur S (1999). HIV/AIDS persons coping strategies, Mumbai: Multi Tech Publishing Co.
5. Banerji, D. (1996). Aids threat of India. Health for Millions.
6. Hackney, H & Cormier, L.S. (1998). Counselling strategies and interventions. N.J.: Prentice Hall, Englewood Cliffs.

CO-PO matrix for the course HD-307 (HIV/AIDS Counselling)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|------|-----|-----|------|
| HD307.1 | 3 | 3 | 2 | 2 | 3 | 2 |
| HD307.2 | 3 | 3 | 3 | 2 | 3 | 3 |
| HD307.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD307.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 3 | 2.75 | 2.5 | 3 | 2.75 |

CO-PSO matrix for the course HD-307 (HIV/AIDS Counselling)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD307.1 | 3 | 2 | 3 | 3 | 3 | 2 |
| HD307.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD307.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD307.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 2.75 | 2.75 | 3 | 3 | 2.75 |

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Semester –III

Open Elective

Paper –HD - 309

Family Support Therapy

Total Marks: 50

External: 40

Internal: 10

Duration of Exam: 3 hrs

Credits: 2

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To orient the students about family life
- To orient the students about various methods and techniques of therapy.

Learning Outcomes:

- This course will enable the students to know about family therapy and their various techniques.
- The qualities of family therapies.

Course Outcomes for HD-309

COs# After the completion of this course the students will be able to:

- HD309.1 Gain insight into theoretical development in family therapy.
HD309.2 Know about the areas and social learning approaches of marriage therapy.
HD309.3 Gain knowledge about the different areas of family therapy.
HD309.4 Know about the future directions of marriage and family therapy.

Unit –I

1. Theoretical development in family therapy.
2. Types of family therapy
 - Structured: Meaning, Types, Usage etc.
 - Strategic: Meaning, Types, Usage etc.
 - Experimental: Meaning, Types, Usage etc.
 - Integrated: Meaning, Types, Usage etc.

Unit –II

3. Social Learning Approach

- Contemporise Marital Therapies
- Psychoanalytic: Meaning, Types, Usage etc.
- Behavioural: Meaning, Types, Usage etc.
- System Therapy: Meaning, Types, Usage etc.

3. Areas and scope of marriage and family therapy.

Unit –III

4. Different areas of family therapy

- Psychosomatic symptoms and remedial therapies
- Psychiatric disorders and remedial therapies
- Marital distress and remedial therapies
- Alcoholism and remedial therapies
- Drug dependence and remedial therapies
- Juvenile offences and remedial therapies
- Conduct Problems and remedial therapies
- Work and school Phobias and remedial therapies

Unit –IV

5. Qualities of marriage and family therapists

6. Advanced techniques of marriage and family therapy

7. Future direction for marriage and family therapy

- Bridging research, theory and practices.
- Advances in clinical assessment
- Preventive and Enrichment Programmes

References:

1. Mark R. 2003. Family Therapy on focus. Sage Publications.
2. Roger L. 2004. Family therapy- A Constructive Framework. Sage Publications.

CO-PO matrix for the course HD-309 (Family Support Therapy)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|------|------|------|-----|-----|-----|
| HD309.1 | 2 | 2 | 2 | 3 | 3 | 3 |
| HD309.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD309.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD309.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 2.75 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-309 (Family Support Therapy)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD309.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| HD309.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD309.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD309.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.5 | 3 | 3 | 3 | 3 | 3 |

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Semester-III

Practical

Paper-HD-310

Child and Family: Guidance and Counselling

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Course Outcomes for HD-310

COs# After the completion of this course the students will be able to:

- HD310.1 Develop skills to identify the problems/difficulties through the counseling process.
- HD310.2 Gain insight into assessment of behavior problems of children.
- HD310.3 Know about the use of various aids for parents needs.
- HD310.4 Gain knowledge about conducting interviews of parents and children for various purposes.

1. Interaction with practicing counselors and therapists
 - Through visit to Hospitals
 - Schools
 - Women Centers
 - Clinics
2. Assessment of behavior problems among children
3. Organizing parent education programs based on parents needs:
 - Behavior problems
 - Emotional problems among children.
4. Preparation of Skit/Nukkad Natak and various aids on parent needs.
5. Analysis of case study of an adolescent
6. Resource file
7. Interview Parents of Children with behavior/conduct disorders/ academic difficulties
8. Interview adults with marital problems/divorced persons and report them
9. Use of various inventories for this purpose

CO-PO matrix for the course HD-310 (Child and Family: Guidance and Counselling)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|-----|-----|-----|-----|
| HD310.1 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD310.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD310.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD310.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 3 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-310 (Child and Family: Guidance and Counselling)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD310.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD310.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD310.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD310.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.75 | 3 | 3 | 3 |

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Semester-III

Practical

Paper-HD-311

Advances in Life Span Development and Gerontology

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Course Outcomes for HD-311

COs# After the completion of this course the students will be able to:

HD311.1 Undertake studies of adults and elderly across domains.

HD311.2 Gain insight into various tools used for studying adults and elderly.

HD311.3 Gain knowledge about the various techniques used for the elderly.

HD311.4 To engage and work with adult and elderly across contexts. .

1. Visit to and preparation of report of old age centers/homes.
2. Organize recreational activities in homes for the aged.
3. Case study on a male and a female elderly using mixed methods.
4. Use of various inventories on the elderly.
5. Arranging special service/counseling for the elderly.
6. Planning activities for the aged with the help of resource person if necessary for ex. Yoga, Lectures etc.
7. Preparation of a recreational aid/game etc. For the elderly.
8. Preparation of chart/posters to impart knowledge/information/share advice with the elderly regarding various issues/problems concerning them.
9. Maintaining resource files.

CO-PO matrix for the course HD-311 (Advances in Life Span Development and Gerontology)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD311.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD311.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD311.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-311 (Advances in Life Span Development and Gerontology)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD311.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2 | 3 | 3 | 3 |

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Semester-IV

Core

Paper-HD-401

Developmental Disabilities and Mental Health

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To become aware of various impairment 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 plan services for persons with disabilities
- To identify mental health issues in the community

Learning Outcomes:

This course will enable the students to understand the importance of mental health at different stages in life and also plan and organise mental health programmes.

Course Outcomes for HD-401

COs# After the completion of this course the students will be able to:

HD401.1 Acquire knowledge about etiology, diagnosis and assessment of developmental disabilities.

HD401.2 Gain insight into conceptual approaches to developmental disabilities.

HD401.3 Get acquainted with the educational modifications and interventions for various disabilities.

HD401.4 Gain knowledge about management of stress and various problems during lifespan.

Unit –I.

1. Various approaches to defining and understanding differently abled

-Philanthropic: Meaning, Examples etc.

- Medical: Meaning, Examples etc.
- Legal: Meaning, Examples etc.
- Social: Meaning, Examples etc.

2. Different types of impairments, causes and effects on individuals.

- Physical: Cerebral palsy, Epilepsy, Spina bifida and Spinal injuries their Characteristics, Types etc.
- Intellectually Challenged: Characteristics, Types etc.,
- Intellectual: Gifted and Learning Disabilities their characteristics, types etc.,
- Emotional Retardation: Characteristics, Types etc.,
- Sensory: Visual and Auditory their characteristics, types etc.

3. Educational modifications and intervention programs for different types of Differently able people

Unit –II

- 4.** Attitude of people, family and community towards differently able people and their impact on their developments
- 5.** Physical and social barriers in the development of persons with disabilities and their impact
 - Modification of physical and social environments for differently able persons
 - Enabling participation of differently able as a contributing member of society
- 6.** Needs of exceptional children.
- 7.** Programs and policies for differently able persons
- 8.** Use of assistive devices for differently able persons

Unit –III

9. Mental Health

- Definition, concept and importance of holistic health
- Definition, concept and importance of well being
- Definition, concept and importance of happiness
- National Mental Health Program of India (1982)
- Community mental health: Needs, Programmes, etc.,

10. Infancy

- Implication of attachment and bonding for mental health
- Maternal deprivation Syndrome.
- Intervention with families and professionals from allied fields

11. Early Childhood Years

- Mental Health Needs: Safety, Security, Relationships, Autonomy and Self Concept
- Behaviour Difficulties: Feeding problems, Aggression, Withdrawal, and Problems related to schooling.

Unit –IV

12. Middle Childhood

- Mental Health Needs: Recognition, Appreciation, Friendships and Industry
- School Related Problems: Truancy, School phobia, Conduct disorder, Childhood depression
- Child abuse (including child sexual abuse)

13. Adolescence

-Mental Health Needs: Sense of Identity, Autonomy, and Problems related to sexuality, Academic Problems, Aggression, Substance Abuse, Depression and Suicide

14. Adulthood

-Mental health problems in the community: Life events that cause stress e.g. separation due to death, migration etc.

-Substance abuse and addiction

-Violence

-Sexual abuse.

-Management of stress: counselling, training in relaxation, yoga, meditation etc..

References:

1. Baquer.A (1994). Disabled, Disablement, Disability, 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. Kanga.F.(1990). Heaven on wheels. New Delhi: Penguin Books.
4. Narasimhan.M.C. & Mukherjee. A.K. (1986). Disability a continuing challenge. New Delhi. Wiley Eastern Limited.
5. Oliver.M. (1996). Understanding Disability: From theory to practice. London: Macmillan Press.
6. P. Immanuel. C. Koenig & S. Tesri (ds). Listening to sounds and signs: Trends in deaf Education and communication (pp.1-4) Bangalore, India: Chridtoffel-Blindenmission &Books for Change.
7. Pandey, R.S.&Advani.L. (1996). Perspectives in disability and rehabilitation, New Delhi.Vikas Publishing House Private Limited.
8. Barry, P.D. (1990), Mental Health and Mental Illness (4th ed) Philadelphia: J.B. Lippincott Co.
9. Bono, E.de(1991) handbook for the Positive Revolution, London: Penguin Publications
10. Carler, F. &Cheesman, P(1988). Anxiety in childhood & adolescence encouraging self-help through relaxation training London: Croom Helm.
11. Goleman, D (1996) Emotional Intelligence. N.Y. : Bantam Books
12. Gopalkrishanan. N. (1994) Mental health and ou, Mumbai: Popular Prakashan.
13. Govt. of India. Ministry of Health & Family Welfare (1982). National Mental health program for India.

CO-PO matrix for the course HD-401 (Developmental Disabilities and Mental Health)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD401.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD401.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD401.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD401.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-401 (Developmental Disabilities and Mental Health)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD401.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD401.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD401.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD401.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2 | 3 | 3 | 3 |

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Semester-IV

Core

Paper-HD-402

Parent and Community Education

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To learn to conduct parent education programs.
- To Develop skills of parenting
- To enable parents to master techniques of parent and community education

Learning Outcomes:

This course will enable the students to know about various tasks of parenting and how to become competent parents.

Course Outcomes for HD-402

COs# After the completion of this course the students will be able to:

- HD402.1 Get to know about the different theoretical perspectives of parenting.
- HD402.2 Gain knowledge about the various techniques used to impart community education.
- HD402.3 To gain ability to support their families and strengthen the parents for different roles.
- HD402.4 Gain insight into developing intervention strategies based on individual needs.

Unit –I

1. Parenthood:

- Meaning, Definition, etc.,
- Different theoretical views
- Tasks of Parenting: Various tasks, etc.,
- How to become competent parents
- Changing concept of parenthood and childhood in modern society

2. Parent and community Education:

- Concept, Definition, Principles, Objectives and Needs, Usage etc.,

Unit –II

3. Parents involvement:

- In decision making activities
- Policy development and other activities

4. Involvement of fathers: Need, Role, Importance of father's in child development

5. Techniques of Parent and community Education:

- Home learning
- Informal meeting, group and individual meetings.
- Parent and toy library
- Parent's corner and workshop
- Demonstration centres
- Open house
- Written and printed materials

Unit –III

6. Content of Parent and Community Education

- Developments, Problems, Needs and Rights of children: Meaning, Types, Importance etc.
- Child rearing and Disciplinary techniques: Meaning, Concept, Impact etc.
- Socialization and Parental beliefs in various socio-cultural settings.
- Importance of Nutrition, Hygiene, Health and Play for children: Meaning, Impact etc.
- Family planning: Methods, Types, Importance, Need, etc.

7. Formulating curricula for parent and community education.

- Parent initiated curricula - Need and Assessment techniques.
- Expert oriented curricula- Guidance and Action oriented.

Unit –IV

8. Contribution of different agencies and community centres in parent and community education.

- Family planning centres: Concept, Role, Support etc.,
- Hospitals: Concept, Role, Support etc.
- Maternity and child welfare centres: Concept, Role, Support etc.
- Schools: Concept, Role, Support etc.
- PTA: Concept, Role, Support etc.
- ICDS project: Concept, Role, Support etc.

9. Contribution of various professionals in parent and community education.

10. Training programmes for young parents: Content, Types, Needs etc.,

11. Evaluation of various parent and community education programmes.

References:

1. Bigner.J(1979); Parent child relations: An introduction to parenting. N.Y.:McMillan Pub.
2. Brim, Haman (1980): Learning to be parents, principles, programmes and methods. Saga Pub.
3. Fine Marwin (1980): Handbooks on parent education, New York: Academic Press Inc.
4. Goldolein, J.C. (Ed)(1994), toys, Child Development, Cambridge: Cambridge University Press.
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CO-PO matrix for the course HD-402 (Parent and Community Education)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|-----|-----|-----|------|
| HD402.1 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD402.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD402.3 | 3 | 2 | 2 | 3 | 3 | 3 |
| HD402.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.5 | 3 | 3 | 2.75 |

CO-PSO matrix for the course HD-402 (Parent and Community Education)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD402.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD402.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD402.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD402.4 | 2 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.75 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester-IV

Core

Paper-HD-403

Social Psychology and Development of Self

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits:4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To understand the nature of Social Psychology.
- To come to know about the process of socialization.
- To come to know about the nature and attitude of people.
- To initiate self- enquiry and introspection.
- To discuss different aspect of the self and its development.

Learning Outcomes:

This course will enable the students to know more about self, self- concept, self – esteem. Also it would help to contextualise self in culture.

Course Outcomes for HD-403

COs# After the completion of this course the students will be able to:

- HD403.1 Demonstrate knowledge of social psychology and delineate its fundamental concepts.
- HD403.2 Explain the concept of group dynamics and individual behavior in varied contexts.
- HD403.3 Describe and analyze the various components of social behavior.
- HD403.4 Gain insight into the various skills required for practical application and design of social experiments.

Unit –I

1. **Social Psychology:** Concept, Meaning, Nature, Scope, New Perspectives etc.,
2. **Methods of study of Social psychology:**

- Experimental: Concept, Meaning, Content, Usage etc.
- Observation: Concept, Meaning, Content, Usage etc.
- Content analysis: Concept, Meaning, Content, Usage etc.

3. Socialization: Concept, Meaning, Nature, Process

- Theories: Psychoanalytic, Cognitive their concept, nature and process

Unit –II

4. Social perception

- Verbal communication: Concept, Meaning, Content, Usage etc.,
- Nonverbal communication: Concept, Meaning, Content, Usage etc.,
- Impression formation: Concept, Meaning, Content, Usage etc.,

5. Attitude

- Nature, Formation, Change, Consistency and Measurement

6. Prejudice and discrimination

- Nature, Sources, Impact, Combating Prejudice

Unit –III

7. Definitions of Development and Self

- Linking the individual and the group: Self-concept, Self esteem their meaning, concept, nature, impact etc.,

8. Approaches to self

- Enquiry and introspection: Meaning, Concept, Impact etc.,
- Memories of childhood and their influence during adulthood

9. The self in the life span

- Significance of birth and its impact
- Role of childhood experiences and their influence
- Changing roles and responsibilities with age
- The emergence of sense of self during adolescence

Unit –IV

10. The individual and the context

- Influence of family, peers and school on the development of self esteem
- Influence of Community and culture in relation to the development of self.

11. Gender Identity and the self

- Biological, Psychological and Cultural aspects of being male and female
- Gender stereotypes
- Gender discrimination and beliefs
- Cultural and sub cultural differences in gender

12. Role of spirituality and religion in the development of the self:

- Experiences, values, beliefs and attitudes in society.

13. Self: Self improvement techniques their types, impact, usage etc.,

REFERENCES:

1. Kakar, S. (1978). The inner world. New Delhi: Oxford University Press
2. Gandhi, M.K. (1927). An autobiography or the story of my experiments with truth. Ahmedabad: Navajivan Trust.
3. Liewellyn-Jones, D. (1971). Every girl. London. Faber & Faber

4. Liewellyn-Jones. D. (1971). Every women. London. Faber and Faber
5. Mead. M.(1976). Male and Female UK. Penguin.
6. Bee.H.(1989). The developing child. New York:Harper& Row.

CO-PO matrix for the course HD-403 (Social Psychology and Development of Self)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|-----|-----|------|------|
| HD403.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD403.2 | 3 | 3 | 2 | 3 | 2 | 2 |
| HD403.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD403.4 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 2.5 | 3 | 2.75 | 2.75 |

CO-PSO matrix for the course HD-403 (Social Psychology and Development of Self)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD403.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| HD403.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD403.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD403.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.5 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.ef 2021-22

Semester-IV

Elective

Paper-HD-405

Child and Human Rights

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits:4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To develop sensitivity to Human Rights with specific reference to children's right.
- To gain knowledge about Charter on Human and Children's rights.
- To work with women and children to create awareness about their rights and to guide them to access their rights.

Learning Outcomes:

This course will enable the students to know more about their rights as a women and child in the society.

Course Outcomes for HD-405

COs# After the completion of this course the students will be able to:

- HD405.1 Demonstrate knowledge of human rights and delineate its fundamental concepts.
- HD405.2 Gain knowledge about the status of women and their rights in varied contexts.
- HD405.3 Describe the different components of gender disparities.
- HD405.4 Develop skills for understanding various forms of violence of human rights.

Unit –I

1. Definition and Evolution of Rights.

- Human rights: Meaning, Concept, Types, etc.
- Child rights: Meaning, Concept, Types, etc.
- Women's rights :Meaning, Concept, Types, etc.
- Conventions: Meaning, Concept etc.

2. Status of Indian Children and their rights

Demographic distribution and Gender disparities:

- Infanticide: Meaning, Concept, Prevalence, Prevention, Laws etc.
- Foeticide: Meaning, Concept, Prevalence, Prevention, Laws etc.
- Girl child: Meaning, Concept, Prevalence, Prevention, Laws etc.

Children in difficult circumstances:

- Children of prostitutes: Meaning, Causes, Prevalence, Prevention, Laws etc.
- Child prostitutes: Meaning, Causes, Prevalence, Prevention, Laws etc.
- Child labour: Meaning, Causes, Prevalence, Prevention, Needs, Laws etc.
- Street children: Meaning, Causes, Prevalence, Prevention, Needs, Laws etc.
- Refugee children: Meaning, Causes, Prevalence, Prevention, Needs, Laws etc.
- Child victims of war: Meaning, Causes, Prevalence, Prevention, Needs, Laws etc.
- Children with special needs: Meaning, Causes, Prevalence, Prevention Needs, Laws etc.

Unit –II

3. Status of Women and their Rights

- Status of women in India: Past and Present
- Women and human rights
- Forms of violation of women's rights
- Violence against women at home, workplace and society
- Crimes against women
- Health and nutrition based deprivations
- Political discrimination
- Economic discrimination

Unit –III

4. Classification of Human Rights

- Civil rights: Meaning, Types, etc.
- Political rights: Meaning, Types, etc.
- Economic rights: Meaning, Types, etc.

5. Educational rights

- Legal rights: Definition, Types, etc.
- Social rights: Definition, Types, etc.
- Cultural rights: Definition, Types, etc.
- International rights: Definition, Types, etc.
- Environmental rights: Definition, Types, etc.
- Developmental rights: Definition, Types, etc.

Unit –IV

6. Child Adoption and its Laws:

- Meaning, Types, etc.
- International convention of human rights

7. Advocacy for Human right

REFERENCES:

1. Butteworth, D. and Fulmer, A. (1993). Conflict, Control Power, Perth: Child and Family Consultants.
2. Bruner, T. (1986). Actual minds-possible words. London: Havard University Press.
3. Digumarti, B.R., Digurmarti, P.L. (1998). International Encyclopedia of Women (Vol.1).

New Delhi: Discovery.

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8. Government of India (1993d), Ministry of Finance, Economic Survey 1992-93, New Delhi.

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12. National Institute of Nutrition (1993): Nutrition Trends in India, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

13. National Institute of Public Corporation and Child Development (1993). A Statistics on Children in India Packet Book 1993, New Delhi.

14. National Institute of Urban Affairs (1993). Urban Child: Issues and Strategies, in collaboration with Planning Commission, Ministry of Urban Development and UNICEF, New Delhi.

15. National Law School of India University and United National Children's Fund (1991). Report of a Seminar on the Rights of the Child, National Law School of India University, Bangalore.

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National Commission for Women.

17. Sachar, R.K., Verma, J., Dahawan, S., Prakash, Ved, Chopra, A and Adlaka, R. (1990). Sex

bias in health and medical care allocation, Indian Journal of Material and Child Health, 1(2) 63-65.'

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19. UNICEF (1990). Children and Women in India: A Situation Analysis; 1990, New Delhi.

20. UNICEF India (1993). Annual Report on Country Situation: 1990, New Delhi.

21. UNICEF (1993). Annex to the Annual Report on Goals and Indicators, New Delhi.

22. UNICEF (1993). Policy on Child Labour, New Delhi

CO-PO matrix for the course HD-405 (Child and Human Rights)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|------|-----|------|
| HD405.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD405.2 | 3 | 2 | 3 | 3 | 3 | 2 |
| HD405.3 | 3 | 3 | 3 | 2 | 3 | 3 |
| HD405.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 2.75 | 3 | 2.75 |

CO-PSO matrix for the course HD-405 (Child and Human Rights)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD405.1 | 2 | 3 | 3 | 3 | 3 | 3 |
| HD405.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD405.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD405.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.5 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester-IV

Elective

Paper-HD-406

Current Concerns in Women Studies

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits:4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To introduce the students to the basic concepts and terms and issues related to women's studies.
- To trace the growth of women's studies as a discipline in India.

Learning Outcomes:

This course will enable the students to become aware about the position and status of women in the society.

Course Outcomes for HD-406

COs# After the completion of this course the students will be able to:

HD406.1 Gain knowledge about difference between Women studies and Gender studies.

HD406.2 Gain insight into gender issues, sensitization and sensitivity.

HD406.3 Know about the various approaches adopted for framing policies and programs.

HD406.4 Gain knowledge about the various commissions and committees working for women.

Unit –I

1. Gender Issues- An Introduction

- Women and Education: Concept, Relation, Impact etc.
- Women and Work: Concept, Relation, Impact etc.
- Women and Health: Concept, Relation, Impact etc.
- Women and Media: Concept, Relation, Impact etc.
- Women and Violence: Concept, Relation, Impact etc.
- Women and Law: Concept, Relation, Impact etc.

Unit –II

2. **Difference between Women's studies and Gender studies**
3. **Importance of Gender analysis in framing Policies and Programs**
4. **Social relation Approach**
5. **Gender Sensitization and Gender Sensitivity**

Unit –III

6. **Gender Equality and Millennium Development Goal.**
7. **National Committees and Commissions for women**
 - Committee on the status of women in India- 1974
 - Human Rights Commission
 - National Commission for Women
 - SEWA
 - Govt. Organizations for women- objectives and limitations

Unit –IV

8. **Women's Studies in India and Abroad**
 - Origin
 - Growth
 - Contributions and Impact

References:

1. Agarwal, Bina. Patriarchy and the modernizing state: an Introduction is Aggarwal Bina (ed).
Structures of Patriarchy, Kali for women, New Delhi 1988
2. Mies, Maria. Indian Women and Patriarchy, concept publishing company, New Delhi, 1980.
3. Ruth, Sheila. Issues in Feminism: An introduction to women's studies, Mayfield Publishing
Company, California, 1990.
4. Yadav, Sushama, Mishra, Amit Dutt. Gender issues in India.

CO-PO matrix for the course HD-406 (Current Concerns in Women Studies)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD406.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD406.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD406.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD406.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-406 (Current Concerns in Women Studies)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD311.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD311.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester-IV

Elective

Paper-HD-407

Human Resource Development

Total Marks: 100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits:4

Note:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No.-1 will be compulsory consisting of 5-10 short type questions (having no internal choice) and spread over the entire syllabus
- Eight questions, two questions from each unit (I, II, III & IV) will be set.
- The candidates are required to attempt five questions in all. Question No -1 will be compulsory, remaining four questions will be attempted by selecting one question from each unit.

Objectives:

- To acquire knowledge and skill on various aspects of trainings.
- To acquire knowledge and skill on Human resource development.
- To develop expertise as training professionals.

Learning Outcomes:

This course will enable the students to become aware about various aspects of Human Resource Development.

Course Outcomes for HD-407

COs# After the completion of this course the students will be able to:

- HD407.1 Gain knowledge about the concept and importance of HRD.
HD407.2 Acquire knowledge about HRD for Rural development.
HD407.3 Come to know about the concept and management of experimental learning.
HD407.4 Gain insight into the participatory training methods.

Unit –I

1. Training:

- Human Resource Development (HRD): Meaning, Concept, Importance etc.
- Types of Training: Conceptual Models of Training Process

Unit –II

2. Participatory Training Methods

- Lectures: Definition, Concept, Types, Uses, etc.
- Interactive Demonstrations: Definition, Concept, Types, Uses, etc.
- Brain Storming: Definition, Concept, Types, Uses, etc.
- Case Studies: Definition, Concept, Types, Uses, etc.
- Syndicate Method: Definition, Concept, Types, Uses, etc.
- Stimulation Exercises: Definition, Concept, Types, Uses, etc.
- Role Play: Definition, Concept, Types, Uses, etc.

Unit –III

3. Experimental Learning Cycle (ELC)

- Concept, Types and Usage
- Designing, Management and Delivery of Training Programmes
- Monitoring, Evaluation and Impact Assessment

Unit –IV

4. HRD

- Concept, Dimensions and importance in rural development
- Strategic interventions of ICAR and SAU's
- Techniques of HRD

References:

1. Lynton R. And Pareek U (1991). Training Development. Vistat
2. Singh RP. 2000 Management of Training Programmes. Anmol Publishers.

CO-PO matrix for the course HD-407(Human Resource Development)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|-----|------|-----|-----|------|
| HD407.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD407.2 | 3 | 3 | 2 | 3 | 3 | 2 |
| HD407.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD407.4 | 3 | 2 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.5 | 2.75 | 3 | 3 | 2.75 |

CO-PSO matrix for the course HD-407 (Human Resource Development)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD407.1 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD407.2 | 2 | 3 | 2 | 3 | 2 | 3 |
| HD407.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD407.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.5 | 3 | 2.25 | 3 | 2.75 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Core

Practical

Paper-HD-408

Developmental Disabilities and Mental Health

Total Marks: 100

External: 80 (60+20)

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Course Outcomes for HD-408

COs# After the completion of this course the students will be able to:

- HD408.1 Demonstrate knowledge of screening children and adolescents with disability.
- HD408.2 Gain insight into methods used for working with differently able children and adolescents.
- HD408.3 Learn skills of providing guidance and counseling to children and their families.
- HD408.4 Gain insight into the various services and programs for the elderly in the society.

1. Study of Etymology, characteristics, diagnosis of children with different abilities
2. Planning and working with children and parents of differently able
3. Case study of differently able persons: a child and an adult
4. Visits to institutions/rehabilitation centres catering to children with special needs
5. Case study of an organization with particular reference to its physical and social Environment.
6. Plan and coordinate Art and Craft activities (any two) for children with special needs.
7. Reports and resource files to be maintained by students.
8. Viva-voice of the training of one month in an NGO/Hospitals/ Social Welfare Department/Special Institutions and its report.

CO-PO matrix for the course HD-408 (Developmental Disabilities and Mental Health)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD408.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD408.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD408.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD408.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-408 (Developmental Disabilities and Mental Health)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD408.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD408.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD408.3 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD408.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2.5 | 3 | 3 | 3 |

M. Sc. (Human Development) Under CBCS-LOCF w.e.f 2021-22

Semester –IV

Core

Practical

Paper-HD-409

Parent and Community Education

Total Marks:

100

External: 80

Internal: 20

Duration of Exam: 3 hrs

Credits: 4

Course Outcomes for HD-409

COs# After the completion of this course the students will be able to:

- HD409.1 Asses plan and implement parent education programs based on parent's needs.
- HD409.2 Arrange workshops for parents on related issues.
- HD409.3 Gain knowledge about various techniques used for imparting knowledge to parents.
- HD409.4 Gain insight into the selection of effective techniques for imparting knowledge to parents based on their needs.

1. Conducting:

-Home visits

-Interviewing/talking to parents.

2. Arranging workshops for parents.

3. Organizing parent education programs based on parents needs.

4. Conducting parent- teacher meetings.

5. Reports and resource files to be maintained by students.

6. Select any one technique to impart education to parents on effective parenting skills about their children/adolescents related to their personality development

-Drama/street play

-Puppet Show

-Handouts

-Panel Discussions

-Film Shows

-Group Discussions

CO-PO matrix for the course HD-409 (Parent and Community Education)

| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|---------|-----|------|------|-----|-----|-----|
| HD409.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD409.2 | 3 | 3 | 3 | 3 | 3 | 3 |
| HD409.3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HD409.4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Average | 3 | 2.75 | 2.75 | 3 | 3 | 3 |

CO-PSO matrix for the course HD-409 (Parent and Community Education)

| | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---------|------|------|------|------|------|------|
| HD409.1 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD409.2 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD409.3 | 3 | 3 | 2 | 3 | 3 | 3 |
| HD409.4 | 2 | 3 | 2 | 3 | 3 | 3 |
| Average | 2.75 | 3 | 2 | 3 | 3 | 3 |

Table 4: CO-PO-PSO mapping matrix for all the courses of:(M.Sc. Human Development)

| Course Code | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| HD101 | 2.75 | 2.75 | 2.75 | 2.75 | 2.25 | 2.5 | 2.75 | 3 | 2.5 | 2.25 | 2.75 | 2 |
| HD102 | 2.75 | 2.75 | 2.75 | 2.75 | 2.25 | 2.5 | 2.75 | 3 | 2.5 | 2.25 | 2.75 | 2 |
| HD103 | 2.75 | 2.75 | 2.25 | 3 | 2.25 | 2.75 | 2.25 | 3 | 3 | 2.75 | 3 | 1.25 |
| HD104 | 2.75 | 2.75 | 1.75 | 2.5 | 3 | 2.75 | 2.5 | 3 | 2.5 | 3 | 3 | 3 |
| HD105 | 3 | 2.5 | 2.75 | 3 | 2.75 | 3 | 3 | 3 | 3 | 2.25 | 2.75 | 2 |
| HD106 | 3 | 2.75 | 2.75 | 3 | 2.5 | 3 | 3 | 3 | 3 | 2.75 | 3 | 2.25 |
| HD201 | 2.75 | 3 | 1.75 | 2.5 | 2.5 | 2.25 | 2.75 | 2.25 | 1.75 | 2.25 | 2.75 | 2 |
| HD202 | 2.5 | 3 | 2.25 | 2.5 | 2.75 | 2.5 | 2.5 | 2.25 | 1 | 2.5 | 3 | 1 |
| HD203 | 1.75 | 2 | 1.75 | 2.5 | 2.25 | 3 | 1.75 | 1.5 | 2.5 | 3 | 3 | 3 |
| HD204 | 2.5 | 2.5 | 2.5 | 2.25 | 3 | 3 | 2.25 | 2.5 | 1.5 | 3 | 2.75 | 2.75 |
| HD206 | 1.75 | 2.25 | 2.5 | 2.25 | 2.25 | 2.5 | 2 | 2 | 2 | 2.5 | 3 | 3 |
| HD207 | 3 | 2.75 | 2.25 | 3 | 2.25 | 3 | 2.75 | 3 | 1 | 3 | 3 | 3 |
| HD208 | 2.5 | 2.25 | 2.5 | 3 | 2.75 | 3 | 2.75 | 3 | 2.75 | 3 | 3 | 3 |
| HD301 | 3 | 2.75 | 2.25 | 3 | 2.75 | 3 | 2.5 | 3 | 2.25 | 3 | 3 | 2.25 |
| HD302 | 3 | 2.75 | 2.25 | 3 | 2.75 | 3 | 2.5 | 3 | 2.25 | 3 | 3 | 2.25 |
| HD303 | 3 | 2.6 | 3 | 3 | 3 | 3 | 3 | 3 | 2.25 | 3 | 3 | 3 |
| HD304 | 3 | 2.5 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2 | 3 | 3 | 3 |
| HD305 | 3 | 2.75 | 2.75 | 2.5 | 3 | 3 | 3 | 3 | 2.25 | 3 | 3 | 3 |
| HD306 | 3 | 2.5 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2 | 3 | 3 | 3 |
| HD307 | 3 | 3 | 2.75 | 2.5 | 3 | 2.75 | 2.75 | 2.75 | 2.75 | 3 | 3 | 2.75 |
| HD309 | 2.75 | 2.75 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2.75 | 3 | 3 | 3 |
| HD310 | 3 | 2.5 | 3 | 3 | 3 | 3 | 2.75 | 3 | 2.75 | 3 | 3 | 3 |
| HD311 | 3 | 2.75 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2 | 3 | 3 | 3 |
| HD401 | 3 | 2.75 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2 | 3 | 3 | 3 |
| HD402 | 3 | 2.75 | 2.5 | 3 | 3 | 2.75 | 2.75 | 3 | 2.75 | 3 | 3 | 3 |
| HD403 | 3 | 2.5 | 2.5 | 3 | 2.75 | 2.75 | 2.75 | 3 | 2.5 | 3 | 3 | 3 |
| HD405 | 3 | 2.75 | 2.75 | 2.75 | 3 | 2.75 | 2.75 | 3 | 2.5 | 3 | 3 | 3 |
| HD406 | 3 | 2.75 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2 | 3 | 3 | 3 |
| HD407 | 3 | 2.5 | 2.75 | 3 | 3 | 2.75 | 2.5 | 3 | 2.25 | 3 | 2.75 | 3 |
| HD408 | 3 | 2.75 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2.5 | 3 | 3 | 3 |
| HD409 | 3 | 2.75 | 2.75 | 3 | 3 | 3 | 2.75 | 3 | 2 | 3 | 3 | 3 |

