

Bundelkhand University, Jhansi (U.P.)
Ordinance and Course Curriculum

M Sc. (Foods & Nutrition, Human Development and Family Studies) Home Science

1 Eligibility for M Sc. Home Science

B.Sc. (Home Science) with minimum 50% marks in aggregate.

Note-5% marks relaxation for SC/ST candidates for eligibility

2. Intake

Intake shall be as provided in the academic bulletin of each academic year.

Note: Statutory Reservations; as per rules.

3. Duration:

The course shall be of 2 year duration and shall be based on semester system (4 semesters).

4. Procedure for Admission:

Admission to eligible candidate will be strictly on the basis of merit.

5. Medium of Instruction and examination:

Both English and Hindi

6. Fee:

1) Tuition and other fees

As prescribed by the University from time to time and as given in the academic bulletin of each year.

2) Refund of fees.

Shall be as given in the academic bulletin of each year.

7. Attendance:

Students should require a minimum attendance of 75% in each theory paper and practical in a semester.

In case a student is short of attendance due to illness, participation in sports, extra curricular activities etc. the following rules shall apply.

A shortage of up to 25% can be considered by the Vice-Chancellor on the specific recommendations of the HOD.

Those who fail to put up the minimum attendance as said above will not be permitted for the year end examination. However, under extraordinary circumstances (with due evidence) the Vice Chancellor may use his discretionary power.

8. Examination:

All the theory papers and practical shall carry 100 marks. There shall be 100 marks for dissertation. The theory papers shall include a semester examination for 70 marks and sessional examination for 30 marks except one paper in Ist Semster of M.Sc (HDFS).i.e.-FH-125 in which semester examination is of 35 marks and sessional examination is of 15 marks.

A. Theory Papers:

(I) Semester Examinations

Semester Examination shall be conducted by the University as mentioned in the academic calendar of Institute of Home Science. The question papers will be set by examiners appointed by the Vice-Chancellor based on the recommendation of the Course Committee/Board of Studies

of Institute of Home Science. The pattern of the question paper will be decided by the University.

The weightage of semester examination will be of 70% for each paper in M.Sc. Foods & Nutrition and Human Development and Family Studies.

(2) Sessional Examinations:

The subject teacher shall conduct sessional examination to each theory paper. The questions will be objectives/short answer/essay type. The weightage of this examination will be 30%. Sessional examinations will be conducted by the subject teachers round the session before the commencement of semester examination. Only one sessional examination for each paper will be conducted.

If a student does not appear in a sessional examination, a re-examination may be conducted by the subject teacher only after the payment of penalty fees as decided by the University for each sessional in which the students was absent. Penalty fees should be paid for being absent in a sessional examination due to any reason including illness. On payment of fees, the subject teacher may reconduct a sessional examination with the consent of Dean.

If a student is unable to pass a sessional examination, he/she will be considered as back in that paper.

B. Practical Examinations:

Practical examination will be conducted by the examiners appointed by the V.C. on the recommendation of the course committee/Board of studies.

Each student has to maintain a practical record during the course of the practical and has to produce it at the time of practical examination.

Mode of practical examinations

The examiners may ask the students to conduct experiments in their presence and evaluate, or conduct a viva-voce based on practical experiments prescribed in the syllabus.

Note. Failure or remaining absent in a practical examination shall be equivalent to that of a Back paper.

C. Project work/Dissertation:

Each M.Sc. student of IVth semester will have to undertake a project work, which shall be of 100 marks under the guidance of his/her supervisor for a period of 4-6 months. The supervisors will be allotted to students by the HOD. The supervisors will be the faculty members of the Institute of Home Science.

The student will have the option of undertaking the project work in the department laboratory itself or in other institute based on the permission. If a student undertakes the project in an outside institution, the HOD/Director of the concerned institute will be allotting one of its faculty members/scientist as the supervisor of the student.

1) Submission of Dissertation/Thesis:

Each student will be allowed to submit his/her thesis once the supervisor is satisfied with the progress and completion of the research work. The thesis should be written in the standard format prescribed by the department. The project work should be an original research work. The student will have to submit two hard bound copies of his/her dissertation for evaluation.

The thesis should include a certificate of original work carried out by the student duly signed by the candidate and supervisor.

The thesis should also carry a certificate by the Head of the Institute of Home Science of this University.

2) Evaluation of the Dissertation/Thesis:

The student will have to defend his/her research work in front of an audience and one or two external examiners appointed by the V.C. on recommendation of the course committee/BOS. The examiners should study the scientific utility and quality of the research work undertaken by the student. If the examiners decide that the performance of the students in the project as well as in an oral presentation is unsatisfactory, the students will have to conduct additional experiments suggested by the examiners, rewrite the dissertation/thesis and resubmit. The examiners will consider the quality of the research work, thesis and oral presentation of the student while giving marks out of the total 100 marks.

In case a student fails to submit his/her dissertation and give the presentation on the scheduled date on any ground including illness, he/she shall be allowed to submit the dissertation and give the oral presentation in next year with junior batch.

9. Qualifying marks and award of divisions:

The minimum passing marks will be 40% in the aggregate. The minimum pass marks, 40% have to be obtained in theory, sessional, practical and dissertation individually. On the basis of percentage of total marks secured in the aggregate of all semesters by a student, he/she will be awarded divisions, as details given below.

- A) Third division: 40% or more but less than 50%.
- B) Second division: 50% or more but less than 60%.
- C) First division: 60 or more but less than 75%
- D) First division with distinction: 75% or more.

10. Declaration of results and award of degree:

After completion of the evaluation process, result will be declared by the University. Candidate declared successful may get the provisional degree certificate. Degree will be conferred at the time of convocation or as decided by the V.C.

11. Promotion to the next year:

A student shall be promoted to the next year only if he/she passes 50% of the total number of theory papers in the year (2 semesters). Those who are unable to pass 50% of the theory papers shall get year back.

12. Year Back

In case a student gets a year back (unable to clear 50% of theory papers at the end of second semester), he/she will have to clear all theory papers, including those which the student has already passed with junior batch (regular examination). The marks of the sessional obtained will be carried over as such. If a student again gets a year back, after

giving the first year back examination, he/she will have to reappear in another year back examination.

If a student fails to clear at least 50% of the theory papers including dissertation at the end of fourth semester (Third + Fourth) he/she will also be given year back. In this case the student will have to reappear and clear all the theory papers of the third semester. The entire fourth semester will be considered as a single entity. If the student has obtained minimum passing marks in the fourth semester (that is dissertation), he/she will not have to re-undertake the project work of fourth semester in the case of year back including third & fourth semester. The year back examination after the fourth semester will be conducted with the junior (regular batch) only and after the payment of fees as per the university norms.

If a student gets a year back again after giving the first year back examination after fourth semester, he/she will have to reappear in another year back examination.

Note: a) If the total number of theory papers in a year (two semesters) is in odd numbers the student will have to pass a simple majority (for example if there are 9 theory papers in a year, the student will have to pass at least 5 of them) of theory papers to be promoted to the next year and to avoid year back.

b) The student who has got year back will not be allowed to attend classes or perform practical in any semester.

c) The fees for the next year will normally be allowed to deposit only after promotion to the next year.

d) If a student fails a majority of the theory papers in the **first semester itself** and the number failed papers is equivalent to more than 50% of theory papers of the total of the two semesters, the student shall be declared **year back after the first semester itself** and shall not be allowed to attend classes or appear in the examination of the next semester.

13. Back paper examination:

In case a candidate is able to clear at least 50% theory papers at the end of second semester examination, he/she will be promoted to next semester (third) on the condition that he/she have to clear remaining 50% or less theory papers as back paper which shall be conducted together with the scheduled regular examinations of next year (junior batch). If student fails in sessional examination and did not submit the fees of sessional examination will be considered failed. A student will have clear his/her back paper with in three chances including special back paper. The fees for the back paper examinations shall be as per university norms.

Note. The case of a student remaining absent in an examination due to any reason shall be equivalent to that of getting a back paper.

14. Special back examination:

The University may also hold a special back paper examination after the declaration of fourth semester results and only for those students who will clear at least 50% of the theory papers of second year (Third + Fourth semester). Special back paper may be allowed only after the fourth semester results are declared. Those second year students who still have to clear theory papers (back papers) in third, second or in first semester may be allowed to appear in a special back examination. If a student fails to clear a special back paper he/she may be given another chance only with the regular (junior)

students, where the student has to appear in an ordinary back paper examination. The fees of the above examination shall be decided as per the university norms decided time to time.

15. Improvement examination:

A candidate may be allowed 01 chance to improve his/her division, maximum up to 03 papers in next subsequent examinations of that theory paper.

The improvement of division will be allowed for first, second and third semester theory papers. If a student want to improve any of his/her first, second or third semester theory papers, the students has to appear with his/her junior batch (regular examination) conducted by the department. The fee for the improvement examination shall be same as that of a back paper.

Note: a) If a candidate has availed the chance of appearing in the back paper, he/she will not be allowed to appear in an improvement examination in that semester.

b) For improvement of divisions in a semester examination, a candidate can take only one theory paper in any semester.

c) Improvement will not be allowed for practical examination.

d) Improvement examination in a theory paper of any semester shall be allowed only within one academic year after appearing in the fourth semester examination

16. Discontinuation: Discontinuation may be permitted on medical grounds. Discontinuation may be permitted in the first or the second year, and only for a maximum period of one year. If a student discontinues in any semester without appearing in the semester examination, the rules of year back shall follow.

17. Grace marks: If a student is short of 05 marks for passing a theory paper, the student can be passed by giving a grace mark of 05 marks by the HOD. The grace marks will be given in only one theory paper.

18. Course Committee/Board of Studies: Course committee will include the HOD and faculty members selected by the HOD. The members of the BOS will be appointed by the V.C. on the recommendation of the HOD for a period of three years. The H.O.D. may select and propose the names and number of the members at his discretion. The BOS shall include HOD, external experts and faculty members.

Note:

1. The course committee/BOS shall be same for all the courses run by the Institute.

2. Presence of at least 50% of the members (applicable to external members as well) of BOS/Course committee shall constitute the quorum.

19. Restructuring of course structure.

The design, course structure and contents of the syllabi of M.Sc Home Science will be decided by the Board of Studies from time to time. The BOS may add a new theory paper or practical, or delete an already existing theory paper or practical from the course if necessary based on the need of the time and trends in science.

20. Amendment: The rules described in the ordinance will be applicable for a minimum period of three years. After this period the rules may be reconsidered by the appropriate

bodies of the University if necessary. The BOS shall be the primary body which frames the ordinance.

21. The course structure and scheme of examination shall be as follows

M.Sc. Home Science (Food & Nutrition)

M.Sc. (Foods & Nutrition) Previous		w.e.f. 2008-2009		
Ist Semester				
Course code	Course	Final	Sessional	Practical
FH-109	Nutritional Biochemistry	70	30	50
FH-110	Human Physiology	70	30	
FH-103	Social Research & Statistics	70	30	
FH-111	Human Nutritional Requirements	70	30	50
				Total marks: 500
IIInd Semester				
FH-112	Experimental Cookery	70	30	50
FH-113	Processed Supplementary Food	70	30	
FH-114	Food Microbiology	70	30	50
FH-115	Food Preservation, Hygiene and Sanitation	70	30	
				Total marks: 500
TOTAL MARKS OF Ist SEMESTER= 1000				

M.Sc. (Foods & Nutrition) Final		w.e.f. 2009-2010		
IIIrd Semester				
FH-116	Bakery Science and Cereal Technology	70	30	50
FH-117	Methods of Investigation in Nutrition	70	30	
FH-118	Therapeutic Nutrition & Dietetics	70	30	50
FH-119	Food Standards and Quality Control	70	30	
				Total marks: 500
IVth Semester				
FH-120	Institutional Management	70	30	50
FH-121	Community and Public Health Nutrition	70	30	50
FH-122	Project	100		
FH-123	Dissertation	100		
				Total marks: 500
TOTAL MARKS OF IIInd SEMESTER= 1000				
Grand Total = 2000				

M Sc. (Home Science) Human Development and Family Studies

M.Sc. (HDFS) Previous

w.e.f.- 2008-2009

Course Code	Course	Final	Sessional	Practical
Ist semester				
FH-124	History of Early Childhood Education	70	30	
FH-125	Early Childhood Education	35	15	100
FH-103	Social Research & Statistics	70	30	
FH-126	Prenatal care and infant development	70	30	50
			Total marks: 500	
IIInd semester				
FH-127	Theories of Human Behaviour	70	30	
FH-128	Early and late childhood development	70	30	
FH -129	Development and implementation of early childhood programme	70	30	50
FH-130	Guidance and Counseling	70	30	50
			Total marks: 500	

TOTAL MARKS OF Ist SEMESTER= 1000

M.Sc. (HDFS) Final

w.e.f.- 2009-2010

IIIrd semester

FH-131	The Children with special Need-The Exceptional Children	70	30	50
FH-132	Dynamics of Family	70	30	50
FH-133	Human development (Puberty onwards)	70	30	
FH-134	Dynamics of marriage	70	30	Total marks: 500

IVth semester

FH-135	Population education and family welfare	70	30	50
FH-136	Parent and Community Education	70	30	50
FH-137	Project	100		
FH-138	Dissertation	100		
			Total marks: 500	

TOTAL MARKS OF IIInd SEMESTER= 1000

Grand Total =2000

SYLLABUS
M Sc. Food & Nutrition
Bundelkhand University, Jhansi

M.Sc. Home Science (Food & Nutrition)

M.Sc. (Foods & Nutrition) Previous		w.e.f. 2008-2009			
Ist Semester					
Course code	Course	Final	Sessional	Practical	
FH-109	Nutritional Biochemistry	70		30	50
FH-110	Human Physiology	70		30	
FH-103	Social Research & Statistics	70		30	
FH-111	Human Nutritional Requirements	70		30	50
					Total marks: 500
IIInd Semester					
FH-112	Experimental Cookery	70		30	50
FH-113	Processed Supplementary Food	70		30	
FH-114	Food Microbiology	70		30	50
FH-115	Food Preservation, Hygiene and Sanitation	70		30	
					Total marks: 500
					TOTAL MARKS OF Ist SEMESTER= 1000

M.Sc. (Foods & Nutrition) Final		w.e.f. 2009-2010			
IIIrd Semester					
FH-116	Bakery Science and Cereal Technology	70		30	50
FH-117	Methods of Investigation in Nutrition	70		30	
FH-118	Therapeutic Nutrition & Dietetics	70		30	50
FH-119	Food Standards and Quality Control	70		30	
					Total marks: 500
IVth Semester					
FH-120	Institutional Management	70		30	50
FH-121	Community and Public Health Nutrition	70		30	50
FH-122	Project	100			
FH-123	Dissertation	100			
					Total marks: 500
					TOTAL MARKS OF IIInd SEMESTER= 1000
					Grand Total = 2000

**M Sc. (Previous)
Foods & Nutrition**

1st SEMESTER

FH –109 NUTRITIONAL BIOCHEMISTRY

Final Exams- 70
Sessional-30
Practical-50

UNIT-I Enzymes: Intracellular distribution, Kinetics inhibition specificity mechanisms of action enzymes in clinical diagnosis

UNIT-II Vitamins and minerals - Biochemical role

UNIT-III Biological oxidation: Redox potential, free energy changes, respiratory chain , oxidative phosphorylation , TCA cycle

UNIT-IV Intermediary metabolism and its regulation ---

Carbohydrates: Glycolysis, metabolism of glycogen glucoconosis, hexose monophosphate shunt

Lipids:- Triglycerides, cholesterol, and phospholipids.

Nucleotides and nucleic acids.

Proteins : General reactions of amino acids, protein biosynthesis.

UNIT-V Hormones : Mode of action and biochemical role of hormones-Thyroid, adrenal cortex and adrenal medulla, insulin, glucagons etc.

Practical

Titrimetric:

Preparation of buffers and determination of their pH by the use of indicators and pH meters.

Estimation of calcium in food.

Estimation of protein by micro-kjeldhal method.

Colorimetric and Fluorometric:

Phosphorus (organic and inorganic), glucose, iron, total and free cholesterol, hemoglobin, vitamin A, Vitamin C, riboflavin.

Enzymes Assay :

Alkaline phosphatase, transaminase.

Chromatography :

Paper separation of amino acids.

Column separation of Beta- Carotene.

Thin layer separation of lipids (demonstration only).

Blood Analysis: Hemoglobin (Hemoglobinometric).

References-

Devlin,T.M.(1997) 4th Ed.Text book of Biochemistry with Clinical Correlations.Wilsey Liss Inc.

Stryer,L.(1998) 4th Ed. Biochemistry , WH Freeman and Co.

FH –110 HUMAN PHYSIOLOGY

Final Exams- 70
Sessional-30

UNIT-I Digestive system-digestive juices: mechanism of formation and functions, digestion of various foodstuffs and their absorption; liver structure and functions.

UNIT-II Respiratory system – respiration, oxygen and carbon-dioxide carriage by blood, role of respiration in blood, pH and acid-base equilibrium; regulation of body temperature and energy metabolism.

UNIT-III Circulatory system; structure of heart, general circulation of blood; blood composition and functions; structure of excretory system-excretion, role of kidney in acid-base equilibrium, stone formation and water exchange.

UNIT-IV Reproductive system-sex hormones, menstruation ovulation, physiological changes during pregnancy; general study of nervous system.

FH-103 Social Research & Statistics

Final Exams- 70
Sessional-30

UNIT-I

Meaning and definition of statistics.

Basic elements of scientific Research, Research concepts-Scientific Method, and Major steps in scientific research. Social Survey & Social research.

Action oriented research statistical and experimental procedures, sources of authoritative information.

Progress report of current research purpose of review of literature. Research design concept and types.

UNIT-II

Relationship between theory and empirical research.

Preparation of research plan.

Techniques of data collection, observation, interview, schedule, questionnaire requirements of a good questionnaire.

UNIT-III

(1) Sampling Techniques-Basic idea, Types of samples.

(2) Statistical analysis.

(3) Measures of central tendencies, Arithmetic Mean, Median, Mode.

(4) Measures of variability. Range quartile deviation, Mean deviation.

UNIT-IV

Measures of relationship between facts-simple, co relation and association of attributes.

Processing of data editing, coding, classification, tabulation, Application of Chi-square test.

UNIT-V

Diagrammatic representation of data bar diagrams, Histogram frequency curves analysis and interpretation of data and reporting the results.

FH-111 HUMAN NUTRITIONAL REQUIREMENTS

Final Exams- 70

Sessional-30

Practical-50

UNIT-I Food intake and its regulation

UNIT-II Body composition, distinction between requirements and recommendation, factor

affecting requirement, of estimation and formulation of requirement and recommended allowances of energy, protein, vitamin and mineral for different age and activities group.

UNIT-III Interrelationship between energy and protein and vitamin and mineral and hormones.

UNIT-IV Nutrition adaptation to low intake of energy, protein, vitamin and mineral.

UNIT-V Acid base balance in human body.

Practical

1. Estimation of proximate principles of foods
2. Techniques used in nutrition research involving laboratory animals and humans.
3. Evaluation of energy requirements of humans.
4. Evaluation of protein quality:
 - (i) Biological Methods.
 - (ii) Clinical Methods
 - (iii) Biochemical Methods.

References:

Annual Reviews of Nutrition. Annual Review Inc, California, USA.

Shils, M.E.; Olson, J.; Shike, M. and Roos, C. (1998): Modern Nutrition in Health and Disease. 9th edition Williams and Williams. A Beverly Co. London.

Bodwell, C. E. and Erdman, J.W. (1988) Nutrient interactions. Marcel Dekker Inc. New York.

IInd SEMESTER

FH-112 EXPERIMENTAL COOKERY

Final Exams- 70
Sessional-30
Practical-50

UNIT-I Experimental method in food preparation of food & cookery method.

UNIT-II Leavening agent types and their chemistry used in food preparation. Properties of food(sols, gels, emulsion and foam)

UNIT-III Carbohydrate Cookery:

- a) Sugar Cookery - Solution, sugar crystallization factors that effect the size of crystal that are formed sugar products.
- b) Starch cookery- Composition, properties, and processing of grain, Uses of flour and flour mixture in Indian cookery. Gelatin, butter & dough products.

UNIT-IV Protein cookery:

- a) Meat- Composition, structures, cooking of meats, tenderness of meats. Processing of meat.
- b) Egg- Composition, structure & quality & preservation function or egg in preparation, working of egg.
- c) Fish- Classification, standard s of fishes, method of cooking preservation of fish.
- d) Milk & Milk products-Composition, Kind & processing of milk, milk uses in food preparation, Butter milk, curd, cheese, cream, method of preparation & uses in cookery.
- e) Pulses & dhal- classification, Bangle gram dhal, green gram dhal, black dhal, soybean, cowpea.

Practical

- 1 Sugar cookery- crystallization, stages of sugar cookery in candy making temperature and test for syrup and candy mixtures cooking sweets
- 2-Uses of flour mixture in Indian cookery bread making (demonstration) batter and dough preparation i.e. Idli ,
- 3-Method of cooking meat-frying braising and stewing
- 4-Use of egg in cookery soft and hard cooked poached egg and different types custard cakes
- 5-Milk- Cream soups and curds cheese Milk beverages cream soups and use of rennin in desserts
- 6-Pulses cooking of dry sprouted and fresh pulses

References:

- Charley, H. (1982): Food Science (2nd edition), John Wiley & Sons, New York.
Potter, N. and Hotchkiss, J.H. (1996): Food Science, Fifth edition, CBS Publishers and Distributors, New York.
Belitz, H.D. and Grosch, W. (1999): Food Chemistry, (2th edition), Springer, New York.

FH-113 PROCESSED SUPPLEMENTARY FOOD

Final Exams- 70
Sessional-30

UNIT-I Product development (Experimental preparation of food)
Enrichment and fortification food.

UNIT-II Fruits and vegetables cookery:

- a) Fruits- structures, fresh & dried preparation of raw & cooked fruits.
- b) Vegetables- Classification, composition Nutritive value & preservation, cooking and changes during cooking of vegetables.

UNIT-III Fats & Oils- Composition, manufacture and properties of available fats, and their use in food preparation.

UNIT-IV Miscellaneous:

- a) Tea-types, composition & structure & preparation.
- b) Cocoa- Composition & structure & preparation.
- c) Spices-Types, composition & function in cookery
- d) Nuts & Oil seeds- type, composition structure, cooking method

FH-114 FOOD MICROBIOLOGY

Final Exams- 70
Sessional-30
Practical-50

UNIT-I Micro-organism important in foods (bacteria, fungi and viruses): Their classification, morphology, growth and reproduction.

UNIT-II (a) Cultivation of micro-organisms.
(b) Control of micro-organism -physical means and chemicals means.

UNIT-III Food spoilage: sources of contamination, factors responsible for spoilage and chemical changes due to spoilage.

UNIT-IV Contamination and micro-organisms in spoilage of different kinds of foods : cereal and cereal products, sugar and its products, vegetables and fruits, fish and other sea foods, eggs and poultry, milk and milk products, canned foods and meat and meat products.

Practical

1. Cleaning and sterilization procedures of glassware.
2. Preparation of nutrient media.
3. Techniques of culturing on liquid, semi solid and solid media, routine & special.
4. Techniques of staining-monochrome and differential staining negative -spore staining, capsular staining, acid fast staining.
5. Isolation of bacteria in pure cultures.

References :

- Pelezar, M.L. and Reid, LR.D. (1993) Microbiology McGraw Hill Book Company, New York, 5th Edition.
- Atlas, M. Ronald (1995) Principles of Microbiology, 1st Edition, Mosby-Year Book, Inc, Missouri, U.S.A.
- Topley and Wislson's (1983) Principles of Bacteriology, Virology and Immunity, Edited by S.G. Wilson, A. Mites and M. T. Parkar, Vol. I: General Microbiology and Immunity, II: Systematic Bacteriology. 7th Edition. Edward Arnold Publisher.

FH-115 Food Preservation, Hygiene and Sanitation

Final Exams- 70
Sessional-30

UNIT-I Prevention of spoilage of different kinds of foods : cereal and cereal products, sugar and its products, vegetables and fruits, fish and other sea foods, eggs and poultry, milk and milk products, canned foods and meat and meat products.

UNIT-II Food Hazards: Food borne infection,(Food Poisoning by micro Organism in General)

UNIT-III Microbes in foods and fermented foods.

UNIT-IV Food sanitation-Microbiology of food plant sanitation, personal testing, water and milk testing, microbiological criteria for food testing.

M Sc. (Final Year)
(Foods & Nutrition)

IIIrd SEMESTER

FH-116 BAKERY SCIENCE AND CEREAL TECHNOLOGY

Final Exams- 70
Sessional-30
Practical-50

UNIT-I Composition, structure and quality and cereal grains; processing of wheat and other cereals for bakery products

UNIT-II Characterization and functional properties of cereal and their relationship with special reference to bakery product; grades of flour and evaluation of gluten content

UNIT-III Physico-chemical properties of various bakery and confectionery ingredients, like flours, leavening agent, sugar, fat, moistening agent etc.

UNIT-IV Faults observed during preparation of bakery products and their remedies; prospects and problems of bakery industries.

Practical:

Study of various types of baking equipment; type of baking ingredients, flour, yeast, salt etc. and their uses; balancing the formulae for bakery products; preparation of different types of bakery products including straight dough, 70% sponge dough, fermented doughnuts, various breads: French bread, raisin bread, milk bread, whole meal breads, brown bread, buns: basic bun dough, hot cross buns, fruit buns, breakfast roll, meringues, Danish pastry, bread sticks; packaging and sale of products; visit to a bakery unit for two weeks.

FH-117 METHODS OF INVESTIGATION IN NUTRITION

Final Exams- 70
Sessional-30

UNIT-I

Surveys:

1. Dietary surveys, techniques and interpretation
2. Nutrition surveys, techniques and interpretation.

UNIT-II

Theoretical bases of laboratory techniques used in nutrition research:

Electrolytic dissociation - acids bases, salts, buffers, indicators, Henderson Hasselbach equation. PH and its measurement using indicators.

Physico -chemical principles, involved in colorimetric photometry Fluometry atomic absorptiometry, flame photometry their application in the laboratory.

UNIT-III

Isotopes: radioactive and heavy -their characteristics detection, identification measurement use in research.

Chromatography- principal in absorption partition and ion-exchange chromatography, their application in column paper, TCL and GL chromatography.

Unit-IV Electrophoresis- Principles, its application in separation and purification of amino acids and proteins.

References-

Boyer,R..(2000).3rd Ed. Modern Experimental Biochemistry .Person Education, Asia.

Dawes,E.A. (1980) 6th Ed. Quantitative Problems in Biochemistry. Lawman Group Ltd. Khosla, B. D., Garg, V.C. and Khosla, A. (1987). 5th ed. Senior Practical Physical Chemistry. R. Chand & Co.

FH-118 THERAPEUTIC NUTRITION & DIETETICS

Final Exams- 70

Sessional-30

Practical-50

UNIT-I Therapeutics modifications of normal diets

Pre and post operative conditions, Cancer management and AIDS.

UNIT II Nutrition in Gastrointestinal Diseases, Liver and Gallbladder

Diarrhoea, Constipation, Peptic ulcer, Hepatitis and metabolic disorders

Cirrhosis of Liver, Hepatic coma, Cholecystitis (acute and chronic) and gall stones, Malabsorption syndrome

UNIT III Nutrition in diseases related to Cardiovascular Diseases

Atherosclerosis, Hyperlipidemia, Hypertension, Myocardial Infarction, Congestive Cardiac-failure

UNIT IV Nutrition in renal diseases , Febrile disorders and metabolic disease

Glomerulonephritis (Type I and II), Renal failure (Acute and Chronic), nephritic syndrome

Nutrition and Diet in Typhoid, Tuberculosis, obesity , underweight

Diabetes Mellitus

Practical

Planning, Calculation, Preparation, evaluation & Diet counseling, for the diseases, covered in theory.

Reference:

Mahan, L.K. and Escott-Stump, S. (2000): Krause's food Nutrition Diet Therapy, 10th Edition W.B. Saunders Ltd.

FH-119 FOOD STANDARDS AND QUALITY CONTROL

Final Exams- 70
Sessional-30

UNIT-I Specifications for raw materials; application of food standards and their specifications for foods

UNIT-II Food products, additives, preservatives, colouring matter, emulsifying and stabilizing agents and antioxidants

UNIT-III Various methods/techniques for the assessment of quality of different foods; selection of sensory panel and sensory evaluation of food products;

UNIT-IV Grading and marking of finished products; food adulteration.

IVth SEMESTER

FH-120 INSTITUTIONAL MANAGEMENT

Final Exams- 70
Sessional-30
Practical-50

UNIT I

- 1) Food service system and their development.
- 2) Organization and Execution and different types of food service system- College and Universities, commercial food services, Hospital food services, Industrial food services, School food service.

UNIT II

- 1) Management-Definition, principles and functions of catering management, tools of management- organization chart and its type.
- 2) Personnel management, personnel polices recruitment, selection, training and development.

UNIT III

- 1) Financial management-Definition, cost concept, component of cost, food cost control, pricing, book keeping and accounting.
- 2) Equipment- classification, selection, design, installation and operation, purchasing care and maintenance of equipment.

UNIT IV

Food management

- 1) Food purchasing and receiving and storage of food
- 2) Menu planning- basic consideration to good planning, advantage writing menu, types of menu, construction of menu.
- 3) Food service- different styles of food service, waiter service- banquet, restaurant, room service, self service- buffet and cafeteria service.

Practical:

1. Principles and techniques in quantity food Production.
2. Planning and organization of Meals for various occasions.

References:

West, B Bessie & Wood, levelle (1988) Food Service in Institutions 6th Edition. Revised by Harger FV, Shuggart SG & Pallgne-Palacio June Macmillan Publication company New York.

Sethi Mohini (1993) Catering Management An integrated Approach 2th Edition Wiley Publication

Kotas Richard & Jayawareardene, C (1994): Profitable Food and Beverage Management,

FH-121 COMMUNITY AND PUBLIC HEALTH NUTRITION

Final Exams- 70
Sessional-30
Practical-50

UNIT-I Community characteristics; poverty and malnutrition and health problems prevalent in

the community- Causes, magnitude, preventive measures and management, Nutrition surveillance and planning, National food and Nutrition policy – objectives and methods of nutrition education.

Overview of Govt. and non govt.nutrition programmes, nutrition during emergency and disasters

UNIT-II Community food supply and health food safety including briefly-

- a- Food additives
- b- Toxicant naturally occurring in food.

UNIT-IV Nutrition Programme in community.

- a- Applied nutrition programme.
- b- School meal programme.
- c- International organization and nutrition programme.
- d- Food standard and food laws

Practical

A project for nutrition survey in the community: collection of data to understand the problems and interpretation of data on nutrition and health status of community.

Reference:

Owen, A.Y. and Frankle, R.T. (1986): Nutrition in the Community, The Art of Delivering Services, 2nd Edition Times Mirror/Mosby.

Park, K. (2000): Park's Textbook of Preventive and Social Medicine, 18th Edition, M/s. Banarasidas Bhanot Jabalpur.

SCN News, UN ACC/SCN Sub committee on Nutrition

M.Sc. (Home Science) Human Development and Family Studies

M.Sc. (HDFS) Previous

w.e.f.- 2008-2009

Course Code	Course	Final	Sessional	Practical
Ist semester				
FH-124	History of Early Childhood Education	70	30	
FH-125	Early Childhood Education	35	15	100
FH-103	Social Research & Statistics	70	30	
FH-126	Prenatal care and infant development	70	30	50
			Total marks: 500	

IInd semester

FH-127	Theories of Human Behaviour	70	30	
FH-128	Early and late childhood development	70	30	
FH -129	Development and Implementation of early childhood programme	70	30	50
FH-130	Guidance and Counseling	70	30	50
			Total marks: 500	

TOTAL MARKS OF Ist SEMESTER= 1000

M.Sc. (HDFS) Final

w.e.f.- 2009-2010

IIIrd semester

FH-131	The Children with special Need-The Exceptional Children	70	30	50
FH-132	Dynamics of Family	70	30	50
FH-133	Human development (Puberty onwards)	70	30	
FH-134	Dynamics of marriage	70	30	Total marks: 500

IVth semester

FH-135	Population education and family welfare	70	30	50
FH-136	Parent and Community Education	70	30	50
FH-137	Project	100		
FH-138	Dissertation	100		
			Total marks: 500	

TOTAL MARKS OF IInd SEMESTER= 1000

Grand Total =2000

M Sc (Previous)
Human Development and Family Studies

1st SEMESTER

FH-124 History of Early Childhood Education

Final Exams- 70

Sessional-30

UNIT - I

History of Childhood Education up to modern period with special reference to the influence of thinkers like- Montessori, Rousseau,. Pestalozzi, Froebel, Rabindra Nath Tagore, Mahatama Gandhi, Gijubhai and Tarabai Modak.

UNIT-II

The condition of young children in ancient times - Ancient Egypt, Ancient Rome, Ancient Greece. Medieval Age- A hard cruel system of discipline. Gurukul.

UNIT-III

Development of early childhood education in west. Thinkers of children's education in west. Domes schools, charity schools, Sunday school. Industrial Revolution and Factory acts. Infant school.

UNIT-IV

Modals or types of pre-school in India.

Reference:

Mohanty .J & Mohanty .B (2007). Early childhood care and education (ECCE).Deep &deep Publishing Pvt.Ltd.

George S. Morrison (2000). Early childhood education Today. Charles e .Merril Publishing Company

Crain, W. (1992).Theories of Development, Concepts and applications. New Jersey: Prentice Hall.

FH-125 EARLY CHILDHOOD EDUCATION

Final Exams- 35
Sessional -15
Practical-100

UNIT-1

Nursery School and its Contribution, Parents role in nursery school
Nursery school education organization and administration
Planning the Nursery school.
Organization of Budget, Building and Equipment, Staff and Personal, Planning the Daily programme, Routine Activities.

UNIT-II

Curriculum in the Nursery school, promotion of physical and mental health in the Nursery school. Observations in the Nursery school. Understanding and guiding- Child first day in school and laying foundation of Security.

UNIT-III

Literature of children.-Role of literature in Nursery school and Story telling books and pictures.
Music Experience-Role of music in Nursery school, programme criteria for selecting music and Rhyme action song finger play creative rhythmic movements.
Creative play Activities.

UNIT-IV

Kindergarten child- Equipment and materials for kindergarten. How to they differ from Nursery school equipment.

Practical

Conducting Science Activity, Observation of nursery school
Preparation of literature for 3-6 yrs children
To plan a creative programme for children of various literature creative drama, games and hobbies, painting drawing, clay modeling, up to 1 year's old children with creative activities with natural things.

References:

Mohanty .J & Mohanty .B (2007). Early childhood care and education (ECCE).Deep &deep Publishing Pvt.Ltd.
George S. Morrison (2000). Early childhood education Today. Charles e .Merril Publishing Company

FH-103 Social Research & Statistics

Final Exams- 70
Sessional-30

UNIT-I

Meaning and definition of statistics.

Basic elements of scientific Research, Research concepts-Scientific Method, and Major steps in scientific research. Social Survey & Social research.

Action oriented research statistical and experimental procedures, sources of authoritative information.

Progress report of current research purpose of review of literature. Research design concept and types.

UNIT-II

Relationship between theory and empirical research.

Preparation of research plan.

Techniques of data collection, observation, interview, schedule, questionnaire requirements of a good questionnaire.

UNIT-III

(1) Sampling Techniques-Basic idea, Types of samples.

(2) Statistical analysis.

(3) Measures of central tendencies, Arithmetic Mean, Median, Mode.

(4) Measures of variability. Range quartile deviation, Mean deviation.

UNIT-IV

Measures of relationship between facts-simple, co relation and association of attributes.

Processing of data editing, coding, classification, tabulation, Application of Chi-square test.

UNIT-V

Diagrammatic representation of data bar diagrams, Histogram frequency curves analysis and interpretation of data and reporting the results.

FH-126 PRENATAL CARE AND INFANT DEVELOPMENT

Final Exams- 70

Sessional-30

Practical-50

UNIT-1 Basic of Child Development

Genes and chromosomes, heredity and environment-meaning and interaction of heredity and environment, the role of nature and nurture in determining intelligence, personality and behavior.

UNIT-11 Prenatal Development

Stages, genetic and environmental factors. Birth process and complications.

UNIT-111 Care of baby during infancy –normal new born and premature- low birth weight; social- emotional development and behavior; acquisition of language ability; methods of child's study; importance of early stimulation.

UNIT-IV Infancy

- (a) The neonate up to 4 weeks-physical, physiological, cognitive and social capabilities.
- (b) Four weeks up to 2 years - physical and motor, social and emotional, cognitive and language development.

Practical:

Visit to well-baby clinics to observe new born babies, visit to maternity wards; observation of new born babies and premature babies; demonstration of baby's feed, bathing, dressing and bed making; infant assessment, anthropometry, use of Nancy Bailey's scale for physical, motor, mental and behavior assessment; using Vineland social maturity scale, preparation of infant stimulation kit; visit to crèche; video shows on child birth.

IIInd SEMESTER

FH-127 THEORIES OF HUMAN BEHAVIOUR

Final Exams- 70
Sessional-30

UNIT-I Piaget's theory of cognitive development

UNIT-II Psychoanalytical theories of

Freud

Neo-Freudians (Karen Horney, Sullivan, Erich Fromm)

Jung

Adler

UNIT-III Personality theory (Kurt Lewin, Allport, Murray)

Moral development (Kohlberg)

Psychosocial theory (Erik Erikson)

S-R theory (Watson)

UNIT-IV Language theory (Chomsky)

Learning theory (Pavlov, Skinner, Thorndike)

Recent theories of Human Development

References:

1. Aries, P. (1962). Centuries of Childhood. New York: Knopf.
2. Crain, W. (1992). Theories of Development, Concepts and applications. New Jersey: Prentice Hall.
3. Papalia, D.E (2005). Human Development, Tata McGraw-Hill Edition

FH-128 EARLY AND LATE CHILDHOOD DEVELOPMENT

Final Exams- 70
Sessional-30

UNIT-I Meaning, characteristics and significance of early childhood years; physical and motor development and factors affecting physical and motor development

UNIT-II Cognitive development – stages of cognitive development by Piaget, cognitive units, cognitive processes; language development, factors affecting cognitive and language development

UNIT-III Socio-emotional development – classification of emotions by Bridges, age specific emotions and their characteristics; concept of socialization and disciplinary practices, common behaviour problems, factors affecting socio-emotional development

UNIT-IV Moral development – stages and influencing factors; personality development – concept, pattern, self concept, self esteem, role of family and society in shaping personality

FH-129 DEVELOPMENT AND IMPLEMENTATION OF EARLY CHILDHOOD PROGRAMME

Final Exams- 70
Sessional-30
Practical-50

UNIT-I Principles of planning; factors to be considered in planning.

UNIT-II Stages of curriculum planning: annual, monthly, weekly, daily, theme planning, unit, lesson and activity plan and evaluation

UNIT-III Importance and significance of play; programmes for parents in early childhood education center; home base programs: special qualities and program content.

Practical:

Planning and implementing activities for Physical and motor development, cognitive development, language development, social and emotional developments; parent involvement in early childhood program.

FH-130 GUIDANCE AND COUNSELLING

Final Exams- 70
Sessional-30
Practical-50

Unit-I

Meaning of Guidance, needs and principles of guidance, Aims of guidance.
Techniques of guidance observation Anecdotal records, Rating scales schedules,
Interview, Projective Techniques-Nature of projective Techniques, Types (ink
blot, T.A.T, Work association, free association, pictorial techniques)
Case study, cumulative record.

UNIT-II

Use of psychological test in guidance and counseling tests by Intelligence test:
Individuals tests.(Stanford Binet, Wrester) across the age span, group testing,
Aptitude test, Achieving test, Interest test and personality test.

Unit-III

Counseling Meaning and concept Different view point or the theories of
counseling (Directive or non-directive behavior etc.)Counseling Interview-
Principles procedures
Group guidance- principles and Techniques.

Unit-IV

Guidance of exceptional Children.
Guidance for family life, sex guidance during adolescence.
Guidance for marriage and family, life factors in adjustment and cause of divorce.

PRACTICAL:

Observation and study of one Counseling Center, Administration of Psychological test,
Intelligence test, Aptitude test, Achievement test, Attitude test, Adjustment test.

References:

Bumard. P. (1999). Counselling skills training. New Delhi: Viva Books.
Manthei, R. (1997). Counselling: the skills of finding solutions to problems London:
Routledge.

M Sc. (Final Year)

Human Development and Family Studies

IIIrd SEMESTER

FH-131 The Children with special need- The Exceptional Children

Final Exams- 70

Sessional-30

Practical-50

Unit-I Exceptional Children-Meaning, definition and Classification

Intellectually Gifted children-Definition and characteristics.

The nature of intelligence and how it is measured

Unit-II Mental Deficient children-Definition, characteristic and classification.

Causes-Prenatal, prenatal and postnatal

Unit-III Hearing impaired children-definition, characteristics and classifications.

Visually impaired children- definition, characteristics and classification.

Speech impaired children-definition, characteristics and classification.

Unit-IV Orthopedic and health impaired children-Definition and Classification

Behavior deviation in child – Socially and emotionally maladjusted and Juvenile

Delinquents. Psychological problems-necrosis, Psychoneurosis, Psychoses and

schizophrenia. Rehabilitation of socially and emotionally disadvantaged

Practical:

Case profile-Children with special needs.

Visits to institutions and families for study of children with special needs.

Preparation of aids for teaching the child with special needs-Material for parents and teachers.

References:

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.

Oliver, M. (1996). Understanding Disability: From theory to practice. London; Macmillan Press.

Pandey, R.S., & Advani, L. (1996). Perspectives in disability and rehabilitation. New Delhi; Vikas Publishing House Private Limited.

FH-132 DYNAMICS OF FAMILY

Final Exams- 70
Sessional-30
Practical- 50

UNIT-I Family

Definition of family, Variation in family patterns, agrarian family, modern urban family, types of family. Nuclear family, Joint family, extended family. Society- rural and urban structure, modern society and its influences on the family. Effects of industrialization urbanization, impact of education and employment of women outside the family on status of women

UNIT-II Marriage

The reasons underlying marriage, various forms of marriage, polyandry, polygony. Roles and relationships within marriage family disorganization and crisis-marital conflict, divorce, death.

UNIT-III Kinship

Types of kinship, consanguineous and official, degree of kinship, descent, kinship usages, kinship and their influences on the child.

UNIT-IV Acts

Women and the law legislation pertaining to marriage, property, Hindu Marriage Act, Hindu succession Act, Anti Dowry Act.

Practical:

Interviewing families of different background for understanding changing functions of families; cultural diversification and marital traditions in India; talk on marriage and family laws; preparing a survey proforma and studying atleast ten families (cross section of the family life cycle stages), family members at different stages.

References:

1. Adams, B.N. (1975). The Family: A sociological interpretation. Chicago: Rand Mc Nully.
2. Ahuja, R. (1997). Indian Social. System (2nd Ed.). Jaipur: Rawat.
3. Colemar, J.C.(1988). Intimate relationships: Marriage and family Patterns. N.Y.: Macmillan.

FH-133 HUMAN DEVELOPMENT (Puberty onwards)

Final Exams- 70

Sessional-30

UNIT-I Puberty

Physical changes and health needs, change in social and emotional behavior.

UNIT- II Adolescence

Physical changes and health needs, change in social behavior. Development of emotional maturity, heterosexual relationships. Relationships with peers, teachers, society.

UNIT-III Adulthood

Significance & sub stages of adulthood, Special Needs, emotional relations with self, spouse, children, close friends, colleagues, Role fulfillment

UNIT-IV Old Age

Physical changes , Health stress and disease, menopause and climacteric; change in personality, adjustment to dependency , loss of spouse, single hood and with family member , community facility for old people, Intergenerational Problems

References:

1. Rice, F.P. (1995). Human Development. New Jersey: Prentice Hall.
2. Berk, L.E. (1995). Child Development. London: Allyn & Bacon.
3. Paplia.D.E (2005). Human Development, Tata McGraw-Hill Edition

FH-130 DYNAMICS OF MARRIAGE

Final Exams- 70
Sessional-30

UNIT-I Marriage: understanding the institution of marriage; readiness for marriage– physiological, social, psychological, economical and other factors; meaning, definition, purpose, motives and functions

UNIT-II Types of marriage; preparation for marriage in different cultures, changes in modes of selecting suitable partner

UNIT-III Premarital association and premarital guidance and counseling

UNIT-IV Marriage in different Indian societies and role of customs; marital harmony and personal compatibility in marriage; different life styles – alternative to marriage, single hood, consensual unions and their socio-emotional implications

IVth SEMESTER

FH- 135 POPULATION EDUCATION AND FAMILY WELFARE

Final Exams- 70

Sessional-30

Practical-50

UNIT-I Population education – Meaning, definition and need of population education; theories of population education, the population problem. Recent trends in relation to other countries, reasons and consequences of population dynamics, methods of population control

UNIT-II Family welfare: concept and scope of family welfare (child, women and aged): rights and responsibilities of child, parent and society: historical orientation to family and child welfare services in India

UNIT-III Classification of family and child welfare agencies; organizational classification: government, private and international; classification according to nature of services: supportive and substitutive; principles, policies, organizational structure and function of different welfare programs at local, state, national and international level.

UNIT-IV Population explosion

Practical:

Visit to the various local agencies working for the welfare of children (both normal and exceptional), welfare of youth/old age, supportive services for family (family counseling and family courts and recording observations); survey to identify the causes for mortality and morbidity in mothers and children; film show on methods of family planning; visit to family planning center; developing a demographic profile of a village/urban slum.

FH-136 Parent and Community Education

Final Exams- 70

Sessional-30

Practical-50

UNIT-I Meaning of the terms 'Parent', 'Community' and Education. Parent and Community

Education-Meaning & Need. Principles and objectives of Parent Education.

Methods & techniques of parent and community education

Methods of parent Education-Direct, Indirect, Individual, group and mass Approaches.

Parent Teacher contacts-Home visits, School visits, Meetings, sending printed material and participation of parents in school.

UNIT-II Parenting

Parental belief, familiarizing parents about socialization process and their different disciplinary techniques in socialization. Child rearing practices with reference to child rearing strategies for educating the community. Child exploitation: - Child labour, Street children, Child abuse.

UNIT-III Areas of Knowledge essential for parent and community Education.

Role of various association in Parent Education-

Parents-Teacher Association, Women & Child welfare Centers, Recreational Centers

Use of Audio-Visual aids in parent and community education

Personnel for parent and community education-

Teacher, Doctors, Nutritionists, Social Workers, Psychologists, Extension Workers.

UNIT-IV Role of National and International Agencies in Child and family welfare.

National Agencies:- NIPCCD, NCERT, NIN, ICCW, Balkan ji Bari, Harijan Sevak Sangh, SOS, The Children's Aid Society.

International Agencies:- WHO, UNICEF, UNESCO, WEP, ILO, CARE, UNFPA, FAO's, ISC.

Practical

1. Preparation of suitable aids for community education.
2. Preparing a model on nutrition education for the parents of growing children.
3. Planning and executing programme for parents and children in community and prepare on evaluator report on it.
4. Visit to various women, child & family welfare centers to gain knowledge of different activities of the centers and persona working in the centers

Reference:

Brim, Harman (1980): Learning to be parents, principles, programmes and methods. Saga Pub.

Fine Marwin (1980): Handbook on parent education, New York: Academic Press Inc.

Kulkarni, Sudha (1988): Parent Education, Jaipur: Rawat Pub.