### B.Sc. Home Science – 3rd Year Composite

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Paper/ Subject</th>
<th>Credit Hours</th>
<th>Theory Marks</th>
<th>Practical Marks</th>
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<td>Nutritional Biochemistry</td>
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<td>Traditional Textiles and Design</td>
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<td>Ergonomics and Equipments</td>
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<td>Extension Education</td>
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**NOTE:-**

1. *Seminar – Presentation on recent topics related to the subject.
2. **The marks are totally internal. The seminar will be judged/evaluated by a panel of three staff members of the related department and the average score will be considered as final score.
Objective:

1. To impart computer knowledge to students through practical.

Instructions for paper setters:

- There will be two questions in all from Section –II only.
- One question will be set from Sr. No. 1 carrying 30 marks.
- One question will be set from Sr. No. 02-04 carrying 35 marks.
- Each question can be sub divided into according to the Practical.

Section I

THEORETICAL BACKGROUND TO BE DONE IN PRACTICAL CLASSES


Section II

PRACTICAL

1. Excel: Worksheet overview, Row, Column, Cells, Menus, Creating Worksheet, Opening, Saving, printing worksheet; Calculations, Auto fill, working with Formulae, Dataformatting (number formatting, date formatting), Working with Ranges, Establishing Worksheetlinks; creating, sorting and filtering Database; creating chart, adding Titles to charts, Printing Charts, creating Macros, Record Macros, Running Macros, Assigning Macros toButtons, Functions (Statistical, Logical, Mathematical, date and time)

2. PowerPoint: Creating, saving in different formats and printing presentations; selecting design templates, animations and transitions, Auto content Wizard. Preparing PPTs on various topics.

4. Internet and its uses, Internet Browsers, Websites, URL, Email, Search Engines, File-downloading and saving, Writing CD, DVD in different formats using CD or DVD writing software. Data transfer to or from Solid state devices.

**Recommended Readings:**


NUTRITIONAL MANAGEMENT IN HEALTH AND DISEASE  
(THEORY)  
(Common to Composite and Dietetics) 

Total Marks: 75  
Paper: 65  
Internal assessment: 10  
Credit hours: 3 /week 

Instructions to the paper setter:

1. Each theory paper will be of three hours duration. 
2. Questions paper will have four sections. 
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus will be set. 
4. All questions may carry equal marks unless specified. 
5. Students will be expected to attempt one question from each section and the compulsory question.

OBJECTIVES: 
This course should enable the students to – 
1. Know the principles of diet therapy. 
2. Understand the modifications of normal diet for therapeutic purposes. 
3. Understand the role of the dietician. 

UNIT - I 
1. Team approach to health care: 
   • Role of doctor, dietitians and paramedical staff with regards to assessment of patients needs. 
2. Energy modifications and nutritional care for weight management: 
   • Overweight and obesity: Etiological factors, prevention, low energy diets, behavioral and dietary management. 
   • Underweight: Etiology, high energy diets. 

UNIT - II 
3. Etiology, symptoms and management of upper GI tract diseases 
   • Gastric and duodenal ulcers 
   • Flatulence 
   • Hyperacidity and reflux. 
4. Etiology, symptoms and management of Intestinal diseases: 
   • Steatorrhoea 
   • Diverticular disease 
   • Ulcerative colitis 
   • Irritable bowel syndrome 
   • Hemorrhoids 

UNIT - III 
5. Etiology, symptoms and management of liver diseases: 
   • Infective hepatitis 
   • Cirrhosis
6. Etiology, symptoms and management of diabetes mellitus:
   - Classification and types
   - Glycemic index
   - Glucose tolerance test

UNIT- IV

7. Etiology, symptoms and management of cardiovascular diseases:
   - Atherosclerosis
   - Hypertension
   - Coronary heart disease.

8. Etiology, symptoms and management of:
   - Glomerulonephritis

RECOMMENDED READINGS:

- Modern Nutrition in Health and Disease, Maurice E Shills, 9th edition, Lippincot Williams and Wilkins, USA.
1. Planning and calculation of nutritive content and preparation of diets for the following conditions:

   - Overweight and Obesity
   - Ulcers
   - Liver diseases: Infective Hepatitis
   - Diabetes mellitus- Type II
   - Hypertension and atherosclerosis
   - Glomerulonephritis

2. Visit to a Dietetics Department in a local hospital for observing team approach to nutritional care of patients.
Objectives:

The Course lays the foundation for understanding the functioning of metabolic processes at cellular level, and the role of various nutrients in these processes

Instructions to the Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four sections.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus will be set.
4. All questions may carry equal marks unless specified.
5. Students will be expected to attempt one question from each section and the compulsory question.

UNIT – I

1. Carbohydrates:
   - Definition, classification, structure and properties
   - Monosaccharide – glucose, fructose, galactose
   - Disaccharides – maltose, lactose, sucrose
   - Polysaccharides – Dextrin, starch, glycogen

2. Proteins:
   - Definition, classification, structure and properties
   - Amino acids, essential and non-essential amino acids

3. Lipids:
   - Definition, classification, types and properties
   - Fatty acids
   - Fats – composition, acid Value, iodine value and saponification value
   - Classification and structure of phospholipids, lipoproteins – types, composition, role and significance in disease.

UNIT – II

4. Intermediary metabolism:
   - Carbohydrates – glycolysis, gluconeogenesis, glycogenesis, glycogenolysis, blood sugar regulation
   - Proteins – general reactions of amino acid metabolism, urea cycle
   - Lipids – oxidation and biosynthesis of fatty acids.
   - Ketone bodies, ketosis, fatty liver

5. Biological oxidation:
• Electron transport chain.
• Introduction to genetic control of metabolism – nucleic acids, composition, structure, replication, transcription, genetic code, translation

UNIT – III

6. Enzymes:
   • Definition
   • Types and classification of enzymes
   • Specificity of enzymes
   • Coenzymes
   • Isoenzymes
   • Factors affecting enzyme catalysis and enzyme inhibition

7. Fluid, electrolyte and acid-base balance:
   • Molecular aspects of transport – Passive diffusion, active transport

UNIT – IV

8. Vitamins:
   • Chemistry & biochemical role of fat soluble vitamins A, D, K & E.
   • Water soluble vitamins – B1, B2, B6, niacin and C

9. Minerals:
   • Macro minerals
   • Micro minerals

10. Hormones:
    • Biological role of – pituitary, adrenal cortex and medulla, thyroid, parathyroid, pancreas

RECOMMENDED READINGS:
• West ES, Todd WR, Mason HS and Van Bruggen JT (1990): Text book of biochemistry
• Champe PC and Harvey RA (2008): Lippincott’s illustrated reviews – Biochemistry.
• Varley H, Gowenlock AH and Bell M (1980): Practical and clinical chemistry.
1. Carbohydrates:
   - Reactions of mono, di and polysaccharides and their identification in mixtures
   - Estimation of reducing and total sugars in foods
   - Estimation of lactose in milk

2. Fats:
   - Reactions of fats and oils
   - Determination of acid value, saponification and iodine number of fats and oils

3. Proteins:
   - Reactions of amino acids and their identification in mixtures

4. Vitamins:
   - Estimation of ascorbic acid content of foods by titrimetric / colorimetric method.

5. Minerals:
   - Estimation of calcium in calcium carbonate by EDTA titrimetric method
   - Estimation of phosphorus by colorimetric method

6. Enzymes:
   - Effect of pH and temperature on enzyme activity – amylase on starch/ pepsin on proteins / lipase on fats (Demonstration only)
TRADITIONAL TEXTILES AND DESIGN  
(THEORY)  
(Common with Composite & ATD)

Credit hours: 3/week.        M. Marks       : 75  
Paper: 3hrs                  Paper          : 65  
Int. Ass.                    : 10

Objectives:  
1. To impart knowledge of traditional designs and motifs of textiles  
2. To introduce application of these motifs on different textiles.  
3. To impart knowledge about the elements & principles of design

Instructions for paper setters:  
1. There will be total nine questions carrying equal marks, two questions from each unit and one compulsory question and students will have to attempt five questions in all.  
2. Question No. 1 will be compulsory comprising short answers type questions, fill in the blanks or true/false from all the units.  
3. Each question will carry equal marks.

UNIT-I

1. Elements of Art  
a) Line  
b) Form  
c) Colour & its dimensions (Hues, Values, Intensity), Colour schemes  
d) Texture.

UNIT-II

2. Principles of Design  
a) Harmony  
b) Proportion  
c) Balance  
d) Rhythm  
e) Emphasis

3. Optical Illusions created through Elements of Arts and Principles of Design.

UNIT-III

4. Traditional Woven Textiles – Brocade, Jamdani, Kanjivaram, Baluchari  
Kashimiri Carpets : Namda and Gaba

UNIT-IV

5. Traditional dyed & printed textiles  
a) Resist dyed textiles- Bandhani, Batik, Patola, Ikat and Pochampalli  
b) Block Printed Textiles-Sanganeri.  
c) Painted Textiles-Kalamkari
Recommended Readings:
5. Dress- By Gawne.
9. 100 Contemporary Fashion Designers By (Taschen GMBH) edited by Terry Jones, Honkong.
TRADITIONAL TEXTILES & DESIGN  
(PRACTICAL) 
(Common with Composite & ATD)

Credit hours: 2/week.  
Paper: 3hrs.  
M. Marks      : 50  
Exam         : 45  
Int. Ass.     : 05  

Objectives:

1. To learn basic embroidery stitches  
2. To acquaint the students with the different fabrics, stitches, motifs and colours used in traditional embroideries.  
3. To acquaint students with different types of dyeing and printing techniques.

Instructions for paper setters:

There will be two questions in all covering entire syllabus

1. Motifs and its types- geometrical, realistic, stylized and abstract motifs. Develop designs using these motifs for apparel and furnishings (atleast three designs for each).  
2. Colour- Colour wheel, value scale, colour harmonies and colour ways.  
4. Traditional embroideries of different regions of India-history, motifs, stitches, base cloth threads and colors of the following:
   a) Kantha  
   b) Chamba Rumal  
   c) Phulkari  
   d) Chikankari  
   e) Kasuti  
   f) Kutch  
5. Dyeing and Printing Techniques
   a) Tie & Dye and Batik  
   b) Stencil and Block Printing  

Recommended Readings:


8. Pandit S., “Traditional Embroideries of India” TRADITIONAL TEXTILES.


B.Sc. Home Science 3rd Year
Ergonomics & Equipments (Common to IDM & Composite)
(Theory)

Credit hours: 3 /week                      Max. Marks: 75
Exam Time: 3 hrs.                           Paper: 65
Int. Ass: 10

Instructions to the Examiner
• Each Paper will be of 3hrs duration
• Question paper will have four sections.
• Examiner will set a total of nine questions comprising of two questions from each unit, and one compulsory question of short answer type covering the whole syllabus.
• Student will attempt one question from each unit and the compulsory question.
• All questions may carry equal marks, unless specified.

Objectives
1. To impart the knowledge about importance of equipment in daily life
2. To understand different types of tools and equipments
3. To develop the understanding of importance of ergonomics

ERGONOMICS

UNIT - I
1. Ergonomics
   • Meaning & Scope of Ergonomics
   • Need & Importance of Ergonomics in the home
   • Elements of Ergonomics – work & work place environment,
     Anthropometry & Biomechanics, human factors & human engineering

UNIT – II
2. Workers consideration in work space design
   a) Anthropometric Consideration
   b) Work Habits
   c) Work Postures
   d) Equipment and Clearance space

HOUSEHOLD EQUIPMENT

UNIT – III
3. Household Equipment
   a) Importance of equipment in daily life
b) Factors affecting selection of Household Equipments


**UNIT - IV**

5. Utensils
   - Classification of utensils- surface cookery, oven cookery, serving cookery
   - Cleaning & care of these utensils

6. Kitchen tools – Types, selection factors, cleaning & care of kitchen tools

**References:**

- Essentials of ergonomics by Veena Gandotra, Dominant Publishers & Distributors Pvt. Ltd.
- Household Equipment Principles by Helen J. Van Zante, PRENTICE – HALL, INC., Englewood Cliffs, New jersey
- Household Equipment by Louise Jenison Peet
B.Sc. Home Science 3rd Year
Ergonomics & Equipments
(Common to IDM & Composite)
(Practical)

Credit hours: 2/ week                                       Max. Marks: 50
Exam time: 3 hrs.                                          Paper :45
                                                        Int. Ass : 05

Practical

1. Identify and make a list of Household equipments according to various types
2. Identify different types of kitchen utensils & tools
3. Do market survey & make a portfolio on different types of equipments, utensils & tools available in the market comparing their cost & suitability
4. Operation and care of common household appliances – Vacuum cleaner, microwave, refrigerator, food processor
5. Measurement of Body dimension i.e. structural and functional dimensions

6. Identification and analysis of different postures assumed by women during work.
B.Sc. (H.Sc.) HDFR 3rd year
Life Span Development-II
(Theory)
(Common to HDFR & Composite)

Credit hours: 3/week                                  Paper: 65
Internal Assessment: 10                              Total Marks: 75

Instructions to paper setters:

1. Each theory paper will be of three hours duration.
2. Question paper will have four sections.
3. A total of nine questions comprising of two questions from each unit, and one compulsory question of short answer type covering the whole syllabus will be set.
4. All questions may carry equal marks unless specified.
5. Students will be expected to attempt one question from each unit and the compulsory question.

Objectives:

1. To develop awareness of important aspects of development during late adulthood and old age.
2. To understand the issues faced and adjustments required in late adulthood and old age.
3. To understand the influence and interaction of sociocultural and environmental factors in late adulthood and old age.

Content:

Unit I

1. Physical and cognitive changes in late adulthood.
2. Health and wellness in late adulthood.

Unit II

3. Change in self-concept and personality in late adulthood.
4. Retirement.

Unit III

5. Grand parenting
6. Death, Grief and Bereavement.
Unit IV

7. Factors influencing psycho-social health of Senior citizens.

References:

B.Sc. (H.Sc.) HDFR 3rd year
Life Span Development-II
(Practical)
(Common to HDFR & Composite)

Credit hours: 2/ week                                Paper: 45
Internal Assessment: 05                              Total Marks: 50

Instructions for Paper Setter:

1. Each practical paper will be of 3 hours duration.
2. The question paper should cover the entire syllabus.
3. The file work and viva voice will be of 5 marks each (Total = 10 marks).

Contents:

1. Conduct a survey of ten married couples and record conflicts in marital relationship.
2. Interview 5 couples and record their experiences related to:
   - Preparation for parenthood.
   - Problems faced on arrival of a child.
   - Joys of becoming a parent.
3. Prepare a display on any one of the following:
   - Effect of divorce on children.
   - Role of religion spirituality in life of the elderly.
   - Govt. laws and policies related to children, women or the elderly.
   - Loss of a life partner.
   - Suicide.
4. Prepare a poster related to careers in Human Development.
5. Prepare Resource file on articles related to:
   - Elderly.
   - Midlife stresses.
   - Stress Management.

References:

B.Sc. (H.Sc.) HDFR 3rd year
Economics and Entrepreneurship Development
(Common to all streams)
(Theory)

Paper:45
Credit Hours: 2 / week
Exam: 3hr.
Internal Assessment: 05
Total marks: 50

Objectives:

1. To prepare the platform where the students view entrepreneurship and self-employment as a desirable and feasible career option.

2. Stimulating the potential to develop entrepreneurial orientation through innovation and creativity.

3. To orient the students with basic principles involved in starting and managing a new enterprise.

Instruction for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Questions paper will have four sections.
3. A total of Nine questions comprising of two questions from each unit and one compulsory questions of short answer type covering the whole syllabus will be set.
4. All questions may carry equal marks unless specified.
5. Students will be expected to attempt one question from each unit and the compulsory question

Unit-I

1. Entrepreneurial Economics:
   • Need and importance
   • Entrepreneurship and role in economic development

2. Entrepreneur and Enterprise:
   • entrepreneurial traits and types
   • entrepreneurial competencies.

3. Women Entrepreneurs:
   • Characteristics
   • Role and challenges faced during creation and enterprise management.

Unit-II

4. Business Idea/Plan:
   • Pitching a business idea and its formulation.
5. **Project Formulation:**
   - A brief introduction.
   - Finance proposal and sources.

6. **Intellectual Property rights (Creation-Protection-encashing)**

7. **Small business enterprise management:**
   - Problems of small enterprises in India.
   - Non Profit Institutions in support of small business development.

8. **Business Environment:**
   - Factors affecting business environment and profitability of business

9. **Business Marketing:**
   - Marketing strategies-packaging, advertising & publicity, e-marketing
   - Four Ps of marketing-Product, Price, Place and Promotion.

10. **Conducting a SWOT analysis of enterprise.**

**References:**

6. SIDBI Report on Small Scale Industries Sector (Latest Editions)
B.Sc. (H.Sc.) HDFR 3rd year
Economics and Entrepreneurship Development
(Common to all streams)
(Practical)

Paper: 45
Credit Hours: 2 / week Internal Assessment: 05
Exam: 3hr. Total marks: 50

Instruction for Paper Setter:

1. Each practical paper will be of three hours duration.
2. Questions paper should cover the entire syllabus.
3. The file work and viva will be of 5 marks each (Total = 10 marks)

Objectives:

1. To prepare the platform where the students view entrepreneurship and self-employment as a desirable and feasible career option.
2. Stimulating the potential to develop entrepreneurial orientation through innovation and creativity
3. To orient the students with basic principles involved in starting and managing a new enterprise

Contents:

1. Preparation of project report for small enterprises/cottage industries. (The students will be advised to develop a structured instrument (questionnaire) for conducting first hand survey of the various aspects of respective entrepreneurs/enterprise, conducting the SWOT analysis and suggesting feasible measures for policy implementation)
2. Assignments on opportunity scouting and idea generation: role of creativity & innovation in business research.
3. Developing a Business Plan for Micro enterprises on any one of the following:
   a) Cafeteria/Diet clinic
   b) Nursery school/Day care
   c) Boutiques
   d) Interior Design studios.
B.Sc. (H.Sc.) HDFR 3rd year

Extension Education (Common to all streams)

Theory

Credit hours: 2/ week

Exam: 3hr.       Paper: 45
Internal Assessment: 05
Total Marks: 50

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four sections.
3. A total of nine questions comprising of two questions from each unit, and one compulsory question of short answer type covering the whole syllabus will be set.
4. All questions may carry equal marks unless specified.
5. Students will be expected to attempt one question from each unit and the compulsory question.

Objectives:

1. To understand the concept of extension and its relevance for self & national development.
2. To appreciate the role of Home Science extension in community development.
3. To create awareness about rural development and various programs and agencies involved in it.
4. To sensitize students towards various methods, preparation and selection of suitable materials for effective communication.

Contents:

**Unit-I**

INTRODUCTION TO EXTENSION EDUCATION

- Concept, principles, philosophy of extension
- Extension Education process
- Qualities of extension workers
- Home Science Extension as a discipline and its contribution towards development.

**Unit-II**

RURAL AND COMMUNITY DEVELOPMENT

- Definition of rural and community development
- Origin of community development
• Introduction to Panchayati Raj and Democratic Decentralization
• Rural Development Programmes in India – Integrated Child Development Services (ICDS), etc.

Unit-III

EXTENSION TEACHING METHODS AND AIDS

• Concept and steps in extension teaching
• Classification of extension teaching methods according to form and use
• Classification of Audio visual aids
• Introduction of various audio visual aids

Unit-IV

EXTENSION PROGRAMME

• Concept of Extension Programme Planning
• Factors affecting selection and use of extension teaching methods and aids in extension programme planning.
• Steps in Extension Programme Planning
B.Sc. (H.Sc.) HDFR 3rd year

Extension Education (Common to all streams)

(Practical)

Credit Hours: 2/ week  Paper : 45
Internal Assessment: 05
Total marks: 50

Instructions for Paper Setter:

1. Each practical paper will be of 3 hours duration.
2. The question paper should cover the entire syllabus.
3. The file work and viva voce will be of 5 marks each (Total = 10 marks)

Objectives:

1. To cradles the seed of social awareness in the students and make them understand their own worth in the society.
2. To develop skills in the use of participatory approaches in program planning and evaluation.
3. To fulfills the social responsibility of the students by giving their knowledge and service to the people in need.

Contents:

1. Preparation, presentation and evaluation of any one visual aid (poster, chart, etc.).
2. Preparation, presentation and evaluation of any one A-V aid (puppet show, power point presentation, etc.).
3. Survey of a selected community to identify their felt and unfelt needs.
4. Planning, organization, implementation and evaluation of a need based extension programme for the selected community in relation to anyone of the following:
   • Literacy
   • Income Generation
   • Health
   • Social Evils.
References: