# Scheme of Examination and Courses of Study
## B.Sc. Home Science, Part –II (2025-26)
## Duration of Theory Examinations:- 3 hrs
## Semester - III

| Course Particular | Course Code | Course Nomenclature | Theory/ Practical | Credit | EoSE/ C |
|---|---|---|---|---|---|
| **Program: Undergraduate Certificate, BSc. Home Science** | | | | | |
| **Skill Enhancement Course** | **BHS5302P-S** | **Traditional Embroidery** | **Practical** | 2 | 100 |
| **Main Papers** | | | | | |
| **DCC** | **BHS8301T-CO** | **Food and Nutrition II (Food Science)** | Theory | 4 | 70+30 |
| | **BHS8301P-CO** | **Food Science** | Practical | 2 | 50 |
| **DCC** | **BHS8302T-CO** | **Family Resource Management -II ( Consumer Economics)** | Theory | 4 | 70+30 |
| | **BHS8302P-CO** | **Consumer Economics** | Practical | 2 | 50 |
| **DCC** | **BHS8303T-CO** | **Textile and Clothing- II (Textile & Laundary Science )** | Theory | 4 | 70+30 |
| | **BHS8303P-CO** | **Textile & Laundary Science** | Practical | 2 | 50 |
| **Grand Total** | | | | **20** | **550** |

**Note:- Practical work load is to be counted - 1:1**

**Note *:** Each theory paper is divided into two parts . Part A and Part B

**Part A** : (20 marks) is compulsory and contains 10 questions at least 3 questions from each unit.(50 words each ). Each question is of 2 marks.

**Part B**: (50 marks) Contains 10 questions at least 3 questions from each unit . Candidate is required to attempt any 5 questions selecting at least one question from each unit (400 words each). Each question is of 10 marks.

**Note *:** For Internal evaluation (30 Marks)

i) Assignment : 10 Marks

ii) Term Test : 10 Marks

iii) Attendence : 10 Marks

## Main Papers

## Paper 1

# Food and Nutrition -II

## (Food Science)

**Hours/Week** – 4 hrs /week **Max Marks : 100**
**Duration Examination** – 3 hrs **Min Marks :40**

**Objectives :**The course will enable the students to

1. Get acquainted with the composition of different foodstuffs.
2. Understand the chemistry of foods.
3. Apply the theoretical aspects in ensuring food quality.

**Contents :**

### UNIT I

1. **Physio-chemical properties of foods. –** Concepts of Colloids, osmotic pressure, hydrogen ion concentration (pH) and bound water in foods.
2. **Sensory Evaluation –**Definition, Use of Sensory analysis in product evaluation, Methods of Sensory Evaluation (in brief).
3. **Carbohydrate foods –**
   a. **Starchy Foods-**
      i. Structure of Starch Cell
      ii. Changes produced in starch cell during cooking
      iii. Factors requiring control during starch cookery
      iv. Various preparations using starchy foods.
   b. **Cereals**
      i. Processes done before cooking – Elementary knowledge of milling, polishing, parboiling, flaking, and parching, roasting.
      ii. Various ways of using cereals – whole grain, flour-coarse, fine & refines, convenience foods, cereal food products.
   c. **Sugars-**
      i. Basic knowledge of manufacturing process of sugar and Jaggery
      ii. Properties of sugar.
      iii. Sugar Cookery – Behavior of sugar in concentrated solutions, uses and various preparations of Sugar and Jaggery.

### UNIT II

4. **Protein foods –**
   **(A) Animal Sources :**
      a. **Milk and milk products :**

i) Preparation of milk products in brief: curd , khoa, paneer , cheese and milk powder
ii) Processing techniques – Pasteurization and Homogenization.
iii) Use of milk in food preparations – Effect of heat, acid, enzymes and salt, various uses.

b. **Eggs :**
i) Measures of quality and grading of eggs.
ii) Egg Cookery – Factors affecting whipping quality of eggs and heat coagulation of egg protein.
iii) Uses of egg in cookery.
iv) Methods of cooking egg and egg dishes.

c. **Flesh foods : (**meat, fish and poultry) –
i) Postmortem changes and aging of meat.
ii) Factors affecting tenderness.
iii) Meat cookery – changes during cooking , Curing Process.

(B) **Vegetable Sources :**

a. **Legumes and Pulses :**
i. Effect of methods like soaking, germination and fermentation
ii. Effect of acid and soda during cooking.
iii. Various preparations, incorporation of pulses with other food groups

5. **Fats and Oils :**
a. Types of Fats and Oils.
b. Manufacturing process – separation/ extraction, refining process and hydrogenation.
c. Importance in cooking.
d. Change in fats and oils on heating. Storage of used oils.
e. Rancidity of fats.

## UNIT III

6. **Protective Foods : Fruits and Vegetables**
**a.** Changes occurring during maturation and ripening.
**b.** Pigments present.
**c.** Changes that take place during cooking : Effect of heat, acid and alkali.
**d.** Pectin, gum and applications in food processing.
7. **Phytochemicals**
8. **Food additives :** Types, and functions.

## PRACTICAL
## Food Science

Hours/week ; 2 hrs — Max Marks :50
Exam durtion : 3 hrs — Min Pass Marks : 20

1. **Organoleptic evaluation of foodstuffs.**
2. **Starch and Cereal Cookery :-**
    a. Examination of starches under the microscope.
    b. Various preparations showing.
        i. Dextrinisation, gelatinization and thickening abilities – effect of heat, types of starch, concentration of starch, fat, acid, protein, heating, agitation, and ingredients.
        ii. Gluten formation and factors influencing its formation.
    c. Preparation of selected common recipes.
3. **Sugar – Cookery :**
    a. Preparation showing syrups of various strengths.
    b. Preparation in which :
        i. Size of crystals is controlled.
        ii. Crystal formation is prevented.
        iii. Some functions of sugars are shown.
4. **Pulses , Nuts and oilseeds :**
    a. Effect of acid and alkali on texture and doneness of pulses.
    b. Use and preparation of selected recipes.
    c. Ways of improving nutritive quality of proteins.
5. **Cooking with fats and oils :**
    i) Studying different factors affecting fat absorption.
    ii) Suitability of different fat sources to different products.
6. **Egg cookery :**
    a. Preparation showing functions of egg in cooking – as foaming, coating, binding, flavouring and colouring agent.
    b. Effect of time, temperature, salt and acid on coagulation of egg protein.
    c. Egg white foam – factors contributing to volume and stability.
    d. Various ways of using egg: boiled, poached , fried, scrambled, plain and puffy omelets, egg curry, etc.
7. **Vegetable cookery:**
    a. Effect of acid, alkali, heating, covering and cooking on the colour and doneness of vegetables.
8. **Cooking of flesh foods :**Preparation of selected common recipes using meat, fish, and poultry. (Optional)
9. **Frozen desserts :** Sourffle and Ice creams.
10. **Baked Products** : Cakes and Biscuits.

11. Visit to a food – processing Unit.

**Distribution of Marks**

| | | |
|---|---|---|
| 1. | Files & Records | 10 |
| 2. | Planning (2 Problems) | 10 |
| 3. | Preparation of recipes | 12 |
| 4. | Method of work & cleaning. | 5 |
| 5. | Service | 5 |
| 6. | Identification of (a) Starch grains (2) | 3 |
| 7. | Viva voce | 5 |
| | Total | 50 |

**References ;**


1. Peckham, G.C. : Foundations of Food Preparation. MacMilln Publishing co.
2. Potter, N.N. : Food Science CBS Publisher and Distributers N. Delhi.
3. Swaminathan M. (1995)Food Science –Chemistry and Experimental Foods , BAPCO, Banglore.
4. Sethi, M. and Rao, ES. (2001): Food science, Experiments and Applications. CBS Publications and Distributors, N. Delhi.
5. Srilakshmi, B. (1997) : Food Science, New age International (P) Ltd., Publishers , N. Delhi.
6. Khader, V. (2001) : Textbook of Food Science and Technology. ICAR, N. Delhi.
7. देविना सहाय (2019) : आहार विज्ञान, New Age International Publishers, New Delhi.


## Paper 2
# Family Resource Management -II
### ( Consumer Economics)

**Hours/Week** – 4 hrs /week **Max Marks : 100**
**Duration Examination** – 3 hrs **Min Marks :40**

### UNIT I

1. **Consumer Economics :**

   Definition of consumption and consumer, types of consumer, factors affecting cosumer.

   .

2. **Wants** –definition, classification, chatacteristics ,factor affecting wants
3. **House hold Income** – meaning, types and sources of income,factors affecting family income,ways of supplementing family income.

### UNIT-II

4. **Family budget**-definition, importance and steps in making budget
5. **Family expenditure**- meaning, types, importance and factors affecting family expenditure.
6. **Saving and nvestment-** meaning,importance, types and factors determing saving,critetria

for judgeing good investment and saving

7. **Market :-** Definition, types, characteristics ,channels of distribution.

UNIT III

8. **Consumer education** –Rights and responsibilities of consumer,consumer protectionact 1986 ,consumer legislation ,consumer redressal mechanism,citizen charter and righr to information act.
9. **Enterpreneureship-** definition,need and significance of enterprenureship development in India,challenges faced by women enterprenurer ,major steps in setting up a small scale project.

## PRACTICALS
### Consumer Economics

Hours/week ; 2 hrs — Max Marks :50
Exam durtion : 3 hrs — Min Pass Marks : 20

**PRACTICAL**

1. Study the function of –Retail store,Mobile retailor,Cooperative stores,Super market,Big malls,Multiplex ,Credit Card ,Direct Marketing,Tele marketing ,Mail Order,Vending machines and e-shopping.
2. Conducting case studies of citizen charter in Utillization of Services.
3. Planning and implementation of consumer guidance and counseling centre.
4. Preparation of small scale plan.

**Marks Distribution :**

1. Students are expected to submit files and reports of market survey. 10 Marks
2. Viva 10 Marks
3. Practical related to topic No.2,3 15 Marks
4. Practical related to topic No.4 15Marks

**Total 50 Mark**

**References :**

1. Leland, J. Gordan Stew art, Lee (1974) Economics and Consumer – 7$^{th}$ed D'Von Nostrand Co N.Y.
2. Om Welers (1974): Who Buy – A study of the consumer.
3. Sherlekar, S.A. (1986) : Track Practices and Consumers, Himlayan Publishing House (Unit I, VI)
4. Kolter Philip, Armstrong Gary (1992) : Principles of marketing 5$^{th}$ – ed Prentice Hall of India New Delhi.

5. David H. Bangs, Jr: The market planning guide 3rd ed. Gangotera Pub.
6. Sarkar A : Problems of consumer in modern India, Discovery publishing House.
7. Jones, Bridget (2000) Entertain in istyle, London ; Annes Publishing Ltd.
8. Gill, Robert, W. (1984) Rendering with paper nd ink 2nd Ed.
9. Willar Mak (1960) Know how to draw, London B.T. Batiford Ltd.
10. Chaudhary Rohit (editor) English Lettering and alphabets, New Delhi, Gaurav Publishing House.

## Paper-3
## TEXTILES AND CLOTHING - II
## Textiles and Laundry Science

**Hours/Week** – 4 hrs /week **Max Marks : 100**
**Duration Examination** – 3 hrs **Min Marks :40**

**Contents :**

### Unit 1

**1. Fabric construction**

a. Weaving
b. loom and its parts
c. types of weaves-
   i. construction, properties and uses of plain, twill, satin and sateen
   ii. introduction to complex weave-double cloth weave and pile weave
d. Knitting technology - warp knitting and weft knitting.
e. Blends - definition, properties and stages of blending.
f. Felting - properties and stages of felting

### Unit 2

**2. Fabric finishes**

a. Introduction and need
b. Basic finishes - bleaching, scouring, sizing, mercerizing, calendaring, tantering.
c. Texturing finish - flocking and embossing
d. Functional finishes – water proofing, fire proofing

**3. Dyeing and printing**

a. Classification of dyes.
b. Stages of dyeing equipment used advantage and limitations.

**4. Printing**

**a.** Style of printing - direct, resist and discharge.
b. Methods of printing – block, roller and screen.

### Unit 3

**5. Laundry science**

**a.** Materials and equipments used in laundry.
b. Soaps and detergent – classification, chemical nature, manufacturing properties and

their cleaning action

6. **laundering aids**
   a. Stiffening agents - their types, methods of preparation and uses.
   b. Solvents and absorbents - their types, methods of preparation and uses.
   c. Stain removal - types and methods of removal of stains
   **d.** Care and storage of laundered clothes.

## PRACTICALS
## Textiles and Laundry Science

Duration of examination – 3 hours Max marks: 50
Hours/week: 2 hrs Min Pass Marks: 20

1. Identification of weaves and their design, interpretation on graph.
2. Evaluation of colour fastness.
3. Preparation of samples of tie and dye, batik and printing techniques.
4. Preparation of starches by various stiffening agents and their uses.
5. Removal of stains.
6. Introduction to computer aided designing for weaving software.
7. Visit to texting mills, museums and garment factories.

**Distribution of Marks:**

| | |
|---|---|
| 1. Record & File | 10 marks |
| 2. Identification of weaves | 10 marks |
| 3. Tie & Dye / block Printing / Batik (any one) | 10 marks |
| 4. Stain removal (2) | 10marks |
| 5. Viva voce | 10 marks |
| **Total** | **50 Marks** |

**References**

1. Joseph Marjory L: Introductory Textile Science Holt, Tichard and Winston, N. York
2. Wintage, Isabel B. : Textile fabrics and Their Selection Prentic Hall, Inc., Englewood Cliffs, N. Jersy
3. Joseph Marjory L: Essentials of Textiles Hold, Rinehart and Winston, New York
4. Hess, Katherinc Paddock: Textiles Fabrics and their uses Oxford and IBH –Publishng co. New delhi
5. Corbman Bernard: Textile fiber to Fabric: Mcgraw Hill book Company New York
6. Hollen Norma, Saddle Jane, Angford Anna – Textiles; Macmillan Publishing Co. Inc. N. York
7. Deulkar Durga : Household Textiles and Laundry Work : Atma Ram & Sons, N. Delhi

8. Dhatyagi; Sushella : Fundamentale of Textiles and their Care Oriented Longmans , Bombay
9. Smith Betty F. Block Ira- Textiles in Perspective – Prentice Hall INC Englewoodeliffe Jersey.

## Skill Enhancement Course
### TRADITIONAL EMBROIDERY

Max Marks:100 Hours/week/batch:2 hrs
Min Pass Marks: 40 Exam duration: 3 hrs

**Stitches, colour, motif, cloth,thread etc.used in**

1. KASHIDA OF KASHMIR
2. CHICKENKARI OF LUKHNOW
3. KANTHA OF BENGAL
4. FULKAARI OF PUNJAB
5. JARDOZI
6. KAANCH KADHAI OF KACHH
7. Kasuti of Karnataka

## पारंपरिक कढ़ाई

टांके,रंग आकृति,धागा, आदि का उपयोग करते हुए

1. कश्मीर का कसीदा
2. लखनऊ की चिकनकारी
3. बंगाल का कांथा
4. पंजाब की फुलकारी
5. ज़रदोज़ी
6. कच्छ की कढ़ाई
7. कर्नाटक की कसूती

**Distribution of Marks:**

| | |
|---|---|
| Sample of different embroideries (any two) | : 60 |
| Viva voice | : 10 |
| File and Record | : 30 |
| **Total** | **:100** |

## Scheme of Examination and Courses of StudyB.Sc. Home Science, Part –II (2025-26) Duration of Theory Examinations: --3 hrs

## Semester -IV

| Course Particular | Course Code | Course Nomenclature | Theory/ Practical | Credit | EoSE/ C |
|---|---|---|---|---|---|
| **Program: Undergraduate Certificate, BSc. Home Science** | | | | | |
| Skill Enhancement Course | BHS5402P-S | Food Preservation | Practical | 2 | 100 |
| **Main Papers** | | | | | |
| DCC | BHS8401T-CO | Food and Nutrition -III Nutritional Biochemistry | Theory | 4 | 70+30 |
| | BHS8401P-CO | Nutritional Biochemistry | Practical | 2 | 50 |
| DCC | BHS8402T-CO | Extenstion and Communication-II (Community Development ) | Theory | 4 | 70+30 |
| | BHS8402P-CO | Community Development | Practical | 2 | 50 |
| DCC | BHS8403T-CO | Human Development - II (Early Childhood Care & Education) | Theory | 4 | 70+30 |
| DCC | BHS8403P-CO | ECCE Activity Planning | Practical | 2 | 50 |
| **Grand Total** | | | | **20** | 550 |

**Note:- Practical work load is to be counted - 1:1**

**Note *:** Each theory paper is divided into two parts . Part A and Part B

**Part A** : (20 marks) is compulsory and contains 10 questions at least 3 questions from each unit.(50 words each ). Each question is of 2 marks.

**Part B**: (50 marks) Contains 10 questions at least 3 questions from each unit . Candidate is required to attempt any 5 questions selecting at least one question from each unit (400 words each). Each question is of 10 marks.

**Note *:** For Internal evaluation (30 Marks)

i) Assignment : 10 Marks

ii) Term Test : 10 Marks

iii) Attendence : 10 Marks

# Main Papers

## Paper 1

## Food and Nutrition -III
## (Nutritional Biochemistry)

**Hours/Week** – 4 hrs /week **Max Marks : 100**
**Duration Examination** – 3 hrs **Min Marks :40**

**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. This course will enable students to

1. Develop an understanding of the principles of biochemistry (as applicable to human nutrition)
2. Obtain an insight into the chemistry of major nutrients and physiologically important compounds .
3. Understand the biological processes and systems as applicable to human nutrition.

**Contents :**

**UNIT I**

1. **Introduction to biochemistry -** Definition, Objectives
2. **Carbohydrates –**
   a. Definition, Composition and Classification
   b. Structure and properties of mono-di-and poly- saccharides
   **c.** Functions of Carbohydrates.
3. **Lipids –**
   **a.** Definition, Composition, Classification
   **b.** Physical and Chemical properties
   **c.** Hydrogenation and Emulsification of fats.
   **d.** Acid value, iodine value and saponification value.
   **e.** Functions of Lipids.
   **f.** Rancidity of Fats
   **g.** Lipoproteins – types
4. **Proteins –**
   **a.** Definition, Composition, Classification
   b. Essential and non-essential amino acids
   **c.** Structure and functions of proteins.

**UNIT II**

5. **Enzymes –**
   a. Definition
   b. Classification of enzymes,
   c. Specificity of enzymes

d. Factors affecting velocity of enzyme
e. Enzyme inhibition.
f. General properties of enzyme and functioning

6. **Molecular aspects of transport -** Passive diffusion and active transport.
7. **Vitamins**
   a. Structure and biochemical role of vitamins
   b. Fat soluble – A, D, E and K
   c. water soluble – $B_1$, $B_2$, niacin, $B_6$ and C.
8. **Minerals –** Biochemical role of inorganic elements – calcium, phosphorous, magnesium, iron, copper, sodium, potassium, iodine, fluorine and zinc.

**UNIT III**

9. **Intermediary metabolism –**
   Elementry study of intermidiary metabolism of Carbohydrates lipids and proteins : Glycolysis, gluconeogenesis, glycogenesis, glycogenolysis, β oxidation and biosynthesis of fatty acids, synthesis of ketone bodies, ketosis, general reactions of amino acid metabolism – deamination, transamination, decarboxylation and entry of amino acid into TCA cycle, urea cycle, Citric acid cycle (TCA)..
10. **Introduction to genetic control of metabolism –**
    a. Nucleic acids- Types, Composition and Structures.
    b. Replication and Transcription

**PRACTICALS**
**Nutritional Biochemistry**

Hours/week : 2 hrs — Max Marks : 50
Duration of Examination : 3 hrs — Min Pass Marks : 20
This course will enable the students to

1. Be familiar with qualitative tests and quantitative determinations.

**1 : Carbohydrates**

- Reactions of mono, di and polysaccharides and their identification in unknown mixtures.

**2: Fats**

- Reactions of fats and oils.
- Determination of Acid value, Saponification value and Iodine number of natural fats and oils.
- Demonstration on estimation of crude fat content of foods by Soxhlet's methd.

**3: Proteins**

- Reactions of amno acids and their identification in unknown mixtures.
- Demonstration on estimtion of total N of foods by Kjeldahl method.

**4: Vitamins**

- Estimation of ascorbic acid content of foods by titrimetric method and colorimetric method.

**5: Minerals**

- Estimation of calcium in $CaCO_3$ by EDTA titrimetric method.
- Estimation of chloride in table salt by titrimetric method.
- Estimation of phosphorous by colorimetric method.

**Distribution of Marks**

| | | |
|---|---|---|
| i. | Files, Records etc. | 10 Marks |
| ii. | Qualitative analysis (two compunds) | 20 Marks |
| iii. | Quantitative analysis | |
| | a. Principles and methods | -6 |
| | b. Observation & calcuation | -8 |
| | c. Results & precautions | -6 |
| | **Total -** | **50 Marks** |

**Note :** Atleast one observation of each experiment should be checked by one of the examiners.

**References :**.


1. Conn, E.E. Stumpf P.K. Brueing, G. And Doi R.H. : Outlines of Biochemistry, John Willy & Sons, N. York.
2. Indian Standards Institutions, (1985) ; ISI Handbook of food Analysis, Parts I – XI, Manak Bhawan, New Delhi.
3. Lehniger, A.L., elson, D.L. and Cox, M.M. (1993) : 2nd Ed. Principles of Biochemistry, CBS Publishers and distributors.
4. Murray , R.K. Granner, D.K. Mayes, P.A. and Rodwell , V.W. (1993) : 23rd Ed. Harper's Biochemistry. Lange Medical Books.
5. Rao, K.R. : Textbook of biochemistry, Pentice 4 Hall of India Pvt. Ltd. NewDelhi.
6. Sundararaj , P. and Siddhu, A., (1995) : Qualitative test and quantitative procedures in Biochemistry – a practical Manual, Wheeler Publishing.
7. White, A Handler P., Smith E.L., Stelten, D.W (1959): 2nd Ed. Principles of Biochemistry, Mc Graw Hill Book Co.
8. Swaminathan, Ms (1985) : Essential of Food and Nutrition VI : Fundamentals aspects VII : Applied Aspects. Banglore Printing Co. Ltd.
9. Deb, A.C.() :Fundamentals of Biochemistry, New Central Book Agency Pvt. Ltd. , West Bengal.
10. रंजना नागर एवं सुष्मिता नायर (2013): जीव रसायन, राजस्थान हिंदी ग्रंथ अकादमी जयपुर ।

# Main Papers

## Paper 2

## Extension and Communication - II
## (Community Development)

**Hours/Week** – 4 hrs /week **Max Marks : 100**
**Duration Examination** – 3 hrs **Min Marks :40**

### Unit I

1. **Extension System in India:** Extension efforts in Pre-Independence era:- (Sriniketan, Marthandam, Sevagram, Gurgaon. Post-Independence era:- Firka development, Etawah Pilot Project &Nilokheri Experiment
2. **Rural Development:**
   i. Definition, and Concepts
   ii. Objectives and Importance of rural development.
   iii. Problems in rural development.
   iv. Social Structure & System: Society, Community, Institutions, Social Groups, Family & Marriage.
   v. Impact of Industrialization & urbanization on Indian Social Structures.

### Unit II

3. **Various rural development programmes launched by Govt. of India**
   i. Community Development Program: Meaning, Definition of Community, Development & Community Development, objectives, & Principals of Community Development
   ii. Panchayati Raj System: Concept, Objectives & Challenges, Structural Organization & Role in Community Development
4. **Community Development Programme Approach**
   i. Multi - Purpose
   ii. Target Group
   iii. Growth Centered
   iv. Minimum needs
   v. Antyodaya
   vi. Integrated

### Unit III

5. **Approaches & Methods of Socio-economic Analysis**
   **i.** Survey
   **ii.** Case studies
   **iii.** Observations
   **iv.** Rapid Rural Appraisal
   **v.** Participatory Rural Appraisal

6. **Diffusion & Adoption of Innovations: Meaning & Definition**
   - **i.** Process & Stages of Adoption
   - **ii.** Adopter's Category
7. **Cyber Extension/ E-Extension**

## PRACTICALS
## Community Development

Duration of Examination : 3hrs — Max Marks : 50
No. of Hours/Wk - 2 hr — Min Pass marks :20

1. Visit to the rural/urban community where some community development/extension programmes are going on.
2. Assess any one ongoing programme in that area.
3. Presentation of the report on the programme and socioeconomic condition of the area.
4. Practical use of RPA/PRA methods.

**Distribution of Marks :**

| | |
|---|---|
| 1. File & Record | 20 marks |
| 2. Presentation of Report | 20 marks |
| 3. Viva Voce | 10 marks |
| | **Total :50 marks** |

**References :**


1. Dhama, O.P. & Bhatnagar, O.P. : Extension and Communication for Development, Oxford and IBH Publishing Co., New Delhi, 1985.
2. Singh, R; Text Book of Extension Education, Sahitya Kala Prakashan, Ludhiyana, 1987.
3. Patnayak R; Rural Development in India, Anmol Publication, New Delhi 1990.
4. Reddy, A.; Extension Education, Sri Lakshmi Press, Bapatala, 1987.
5. Baidyanath M; Poverty, Unemployment and Rural Development, Himalaya Publishing House, Bombay, 1991.
6. Thingalaya, N.K. ; Rural India-Real India, Himalaya Publishing House, Bombay, 1986.
7. Alminyso, Social Change and Development, Sage Publications Pvt. Ltd., Madras, 1990.
8. Desai V.; A study of Rural Economics System Approach, Himalaya Publishing House, New Delhi, 1990.
9. डॉ वंदना सिंह एवं पूनम कुमारी,: प्रसार शिक्षा,पंचशील प्रकाशन जयपुर ।
10. डॉ वृन्दा सिंह, प्रसार शिक्षा,पंचशील प्रकाशन जयपुर ।
11. डॉ पी एन कल्ला, डॉ अचला गख्खर, प्रसार शिक्षा के नए आयाम, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
12. डॉ प्रमिला वर्मा एवं कांति पाण्डेय, गृह विज्ञान प्रसार शिक्षा, बिहार हिन्दी ग्रंथ अकादमी,पटना ।


**Journals.**


1. Changing Villages, PPS Gussain for consortium on Rural Technology, D-320, Laxmi Nagar, New Delhi - 110092.

**2.** Journal of Rural Development, The National Institute of Rural Development, Rajendranagar, Hyderabad - 500029.
**3.** Social Welfare, Central Social Welfare Board, Samaj Kalyan Bhavan, B- 12, Tona Crescent, Institutional Area South of IIT , New Delhi - 110016.

## Main Papers

## Paper 3
# Human Development – II
**(Early Childhood Care & Education)**

**Hours/Week** – 4 hrs /week **Max Marks : 100**
**Duration Examination** – 3 hrs **Min Marks :40**

**Content:**

**UNIT I**

1. Introduction to early childhood education .
    a. Meaning and nature of early childhood education
    b. Need and importance of ECCE
    c. Objective of early childhood education

2. Types of curriculum models of early childhood education
    a. Kindergarten
    b. Montessori
    c. Nursery
    d. Balwali

**UNIT II**

3. Organization of early childhood care and education centers .
    a. Building layout of preschool
    b. Indoor and outdoor equipments
    c. Curriculum
    d. Supervision and evaluation

4. Exceptional children :
    a. Definition
    b. Types of exceptional children

**UNIT III**

5. Parent child relationship : Determinents of parent child relationship.
6. Art education and activities for the preschool child.

7. Problem child : Types and corrective measures of problem child.
8. Contribution of following agencies to ECCE in India :
    a. ICCW
    b. IAPE
    c. NCERT
    d. ICDS

## PRACTICALS

Hours/week/batch :2 hrs — Max Marks :50
Exam durtion :3 hrs — Min Pass Marks : 20

(1) Prepration of creative album/ picture book/ children's litreature for early childhood education
(2) Story telling
(3) Visit and report presentation (any two )
    a. Play school
    b. Nursary school
    c. Anganwadi
    d. Institutes of children with special needs
(4) Daily, weekly and monthly planning for an ECCE centre.

**Distribution of Marks:**

| | | |
|---|---|---|
| **1.** | Preparation of creative Albums, Picture Books and Children's Literature | 10 |
| **2.** | Story telling | 5 |
| **3.** | Planning of ECCE centre | 5 |
| **4.** | Developmental Activities | 10 |
| **5.** | Visits & Report presentation | 5 |
| **6.** | File & Record | 10 |
| **7.** | Viva voce | 5 |
| | **Total** | **50** |

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4. Murlidharan, R. Asthama, S.(1991) : Stimulation activities for young children, New Delhi : NCERT.
5. Swaminathan, M. (1984) : Play activities for young children, New Delhi, UNICEF.

6. Tarapore, F., Kettis, G. Benninger, C. (1993) Childs Right to Play Pune: SNDT College of Home science.
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10. National Policy on Education (1986) : New Delhi Ministry of Human resource Development.
11. Seefeldt C. (1980) : A curriculum for preschool Columbus Ohio : Bell & Howell.
12. Pankajam, G. (1994) : Preschool education, Ambala Cantt : Indian Publication.
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14. Mohanty, J & Mohanty, B. Early Childhood Care & Education (ECCE) 1996, Deep & Deep Publication, New Delhi.
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## Skill Enhancement Course

## Food Preservation

Max Marks:100 Hours/week/batch:2 hrs

Min Pass Marks: 40 Exam duration: 3 hrs

**Objectives:**

1. **To learn different methods of preservation of various foods.**
2. **To Impart knowledge about safe storage of fruits and vegetables**

**Content :**

1. Market survey of raw and preserved foods.
2. Juice and squash
3. Fruit jam, jelly, marmalade
4. Pickels-Mixed vegetables, Raw mango , Green Chilli and Lemon pickles.
5. Ketchup, sauce and chutney
6. Drying of Fruits and Vegetables ( Blanched and Unblanched)
7. Domestic preservation of Foods by freezing .

8. Premixes of Juices and Shakes.
9. Dehydrated products- Chips, papad, papadi, wadi (any 3)

# प्रायोगिक
# खाद्य सरंक्षण

पूर्णांक : 100 घंटे / सप्ताह /बैच - 2 घंटे

न्यूनतम पास प्राप्तांक : 40 परीक्षा का समय - 3 घंटे

**उद्देश्य :**

1. खाद्य सरंक्षण की विविध विधियों को सीखना
2. फल एवं सब्जियों के सुरक्षित भंडारण की जानकारी

**विषय सूची:**

1. कच्चे एवं सरंक्षित भोज्य पदार्थों का बाज़ार सर्वेक्षण
2. जूस और स्क्वैश
3. फलों का जैम, जेली, मुरब्बा
4. अचार-मिश्रित सब्जियां,हरी मिर्च, कच्चे आम और नींबू का अचार.
5. केचप, सॉसऔरचटनी.
6. फल एवं सब्जियों को सुखाना ( ब्लांच एवं अनब्लांच )
7. हिमीकरण द्वारा घरेलू स्तर पर खाद्य सरंक्षण
8. जूस एवं शेक्स के प्रिमिक्सेस
9. निर्जलीकृत उत्पाद -चिप्स, पापड़, पापड़ी, वड़ी, )कोईभी3)

**Distribution of Marks:**

| | | |
|---|---|---|
| 1. | Planning and preparation of two food products | |
| | a) Quality Characteristics | :40 |
| | b) Method of work and cleanliness | :10 |
| 2. | Viva-Voce | :20 |
| 3. | File and Record | : 30 |
| **Total** | | **:100** |