

**DIRECTION, SCHEME AND SYLLABUS**

**FOR**

**CBCS SEMESTER PATTERN**

**IN**

**B.Sc. HOME SCIENCE**

**GONDWANA UNIVERSITY**

**GADCHIROLI (M.S.)**

**INDIA**

**2017-18**

**B.SC. HOME SCIENCE SEMESTER –I**  
**PAPER-I**  
**Fundamentals of Food Science and Nutrition-I**  
**(1T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
I Practical	25

**OBJECTIVES :-**

1. To understand the function of food and the role of various nutrients, their requirements and effect of deficiency and excess.
2. To promote basic knowledge pertaining to various food groups and nutrients.
3. To make students familiar with the different methods of cooking, their advantages and disadvantages.
4. To develop ability to improve the nutritional quality of food.

**THEORY**

**UNIT- I:-**

**INTRODUCTION TO FOOD AND NUTRITION**

1. Basic terms used in Food and Nutrition. Definitions-Foods, Nutrition, Optimum nutrition, Nutritional status, Nutrients and Health.
2. Functions of food-Physiological, psychological and social
3. Characteristics of basic food groups and their contribution to the diet.
4. Nutrients and their type (Macronutrient / Micronutrient)
5. Scope of Nutrition
6. Specific dynamic action of food (SDA)
7. Protein sparing action of carbohydrates.

**UNIT II: -**

**BALANCED DIET AND RDA**

**1. Balanced Diet**

Definition.

Concept of Balanced diet.

Factors affecting balanced diet.

**2. THE RECOMMENDED DIETARY ALLOWANCES (RDA)**

Definition of RDA, Recommendations set-up, Reference Person and Recommended Dietary Allowances for Indians

Uses of Recommended Dietary Allowances (RDAs)

Food value Table

### Unit III- Macronutrients

1. Protein- Definition, classifications, functions, sources, Digestion and absorption and deficiency states.
2. Fats - Definition, classifications, functions, sources, Digestion and absorption and deficiency states.

### UNIT- IV

#### Fat Soluble Vitamins and Minerals

1. **Fat Soluble Vitamins** :Functions, Sources and Deficiency of:
  - a. Fat Soluble Vitamins -1) Vitamin A 2) Vitamin D 3) Vitamin E 4) Vitamin K
2. **Minerals**: Functions, Sources and Deficiency of :
  - b. Major Mineral -1) Calcium 2) Phosphorous 3) Iron 4) Iodine.

### PRACTICALS

<b>Total Marks</b>	<b>25</b>
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1. Food Presentation and Table Setting.
2. Preparation of Ingredients : Pre-preparation, methods of mixing, methods of cooking.
3. Simple cooking- preparation, serving, calculation of cost and yield
  - a) Appetizers : Soups ( any 2 ).
  - b) Starters: a) Paneer Preparations b) Samosa c) Kabab d) Cutlet (any 2).
  - c)Salad : a) Sprouted b)Vegetable c) Fruits ( any 2).
  - d)Raita: (any 2 ).
  - e)Snacks : Pakoras, Namkin, Sandwiches, Idli, Dhokla (any 2)

### INTERNAL ASSESSMENT (Refer Direction) Total Marks:-15

1. Market survey of the Food Commodities as per Food Groups and their cost.
2. Latest Kitchen appliances in the market-their use & upkeep (any 5).

### Books Recommended:-

1. **Nutritive Value of Indian Foods:** *Gopalan C, Rama Shastri & Balasubramanin S.C.,* National Institute of Nutrition, 1993
2. **Food Science, Chemistry and Experimental Foods:** *Dr.M.Swaminathan,*The Bangalore Printing and Publishing Co. Ltd. 1995.

3. **Essentials of Food and Nutrition**, Vol.I (Fundamental aspects): *Dr. Swaminathan*, 2<sup>nd</sup> edition BAPPCO, 1985.
4. **Applied Nutrition**: *R. Rajlakshami* Oxford & IBH Pub. Co.pvt Ltd,3<sup>rd</sup> edition, 1981.
5. **Foods and Nutrition**: *The Educational Planning Group, Delhi*, Arya Publishing House. 3<sup>rd</sup> edition, 1991.
6. **Food Chemistry**: *Meyer, L.H.* CBS Publishers & Distributors, Delhi, 1987.
7. **Scope manual on Nutrition**: *Latham M.C., McGandy, McCann M.B.& Stare F.J.* Published by the Upjohn Co, Kalamazoo, Michigan, 2<sup>nd</sup> edition. The Upjohn Co, Kalamazoo, Michigan 1972.
8. **Every Day Indian Processed foods**: *K.T. Achaya*, National Book Trust, India, 1984.
9. **The book of Ingredients**: *Philip Dowell & Adrian Bailey, Michaey*, Michael Joseph, Ltd, 1980.
10. **Nutrition an integrated approach** : Pike Ruth L and Brown Myrtle L. 1970 :: Wiley Eastern Pvt Ltd.
11. **Nutrition Science**: *B. Srilakshmi* 4th Edition. New Age International Ltd.
12. **Fundamentals of Foods, Nutrition and Diet Therapy** :*S.R Mudambi and M.V.Rajgopal.* New Age International Ltd.
13. **Modern Cookery**: Thangam Phillip

**B.Sc HOME SCIENCE**  
**SEMESTER - I**  
**PAPER -II**  
**Fundamentals of Human Development**  
**(1T-2)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
I Practical	25

**Objectives :**

1. To make the students aware of science of Human Development.
2. To make student aware of methods of studying human behaviour.

**Theory:**

**Unit I - Introduction to Human Development**

1. What is Human Development? Definition of HD, why do we need to study HD?
2. Brief history and studies of HD
3. HD as a scientific discipline
4. Scope of the subject
5. Developmental period
6. Rate of development and developmental task.

**Unit II – Growth & Development**

1. Meaning of growth & development, Principles of growth & development
2. Principal of growth and development
3. Factors influencing growth and development and dimensions of development
4. Role of heredity and Environment, maturation, genetic endowment and learning
5. Needs and Rights of children's

**Unit III :- Stages of development –**

1. Female reproductive system, menstrual cycle, Fertilization, Conception.
2. prenatal Development- Factors influencing prenatal Development.
3. Complications / Hazards during pregnancy.
4. Disturbance and care during pregnancy.
5. Birth process, kind of birth

**Unit IV – Creche**

1. **Creche:-** Meaning , importance, setup, programme planning ,staff, type of records and maintenance

2. **Play:-** Meaning, definition ,type, values, characteristics,theories
3. **Discipline:-** Definition, type and principals.

<b>Total Marks</b>	<b>25</b>
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### **Practicals**

1. Methods of child study –
  - Anthropometry, Observation, Interview, Questionnaire, Case study, Projective, Psychological tests, Sociometry, Longitudinal and cross sectional approach
2. Survey of 10 pregnant women (use of questionnaire is compulsory)
3. Observation of children while play.(record to be maintained)
4. Various development of children.

### **Internal Assessment (Refer Direction) (Total marks:-15)**

1. Visit to crèche and Anganwadi
2. Preparation of resources files on human development.
3. Preparation of work book on any one.
4. Type of play.
5. Type of discipline, Heredity and environment etc.

### **References :**

- Santrock, J.W. (2006). Child development New York : Mc Graw Hill.
- Swaminathan, M. (1998), The first five years : A critical perspective on early childhood care and education in India. New Delhi : Sage .

**B.Sc. HOME SCIENCE**  
**SEMESTER – I**  
**PAPER – III**  
**Fundamentals of Textile & Clothing**  
**(1T-3)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
I Practical	25

**OBJECTIVES:**

1. To get acquainted with basic knowledge of textile fibers.
2. To acquire knowledge of various principles of clothing constructions, and their application.

**Unit I:**

1. Scope of textile and Importance of clothing .:
2. Classification of textile fibers, General and essential properties of textile fibers
3. Manufacturing process of natural fibers.:-Cotton, silk, wool ,jute.
4. Physical and chemical properties of natural fibres

**Unit II :**

1. Manufacturing process, of man made fibers :- viscose rayon, nylon, polyester Acrylic.
2. Physical and chemical properties of man made fibres
3. Latest fibres :- Introduction and use of - Organic cotton , Bamboo , Soy, Lyocel, Metallic, Lycra (spandex)

**Unit III :**

1. Factors affecting clothing : Age, Sex, Cultural influence, Occupation, Economic Status, Social status, Regional beliefs.
2. Introduction to Tools for pattern making and Garment construction- Measuring tools, marking tools, Cutting tools, sewing tools, Pressing tools,

3. Sewing machine –parts, functions, care
4. Types of sewing machines and their uses (over lock ,embroidery, computerized, industrial)

#### **Unit IV: Clothing**

1. General principles of clothing construction .Process of Taking body measurements for different garments,
2. Importance of drafting method.
3. Preparation of Cloth for clothing construction. Cutting & stitching according to design and textures of fabric (plaids, stripes, border and bold designs).

#### **PRACTICALS**

<b>Total Marks</b>	<b>25</b>
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1. Demonstration of taking body measurements.
2. Drafting, cutting & stitching of :-Apron, , Bloomer, Baby Frock
3. Embroidery album Decorative stitches - chain, herringbone, stem, running, lazy-daisy, satin, French knot, bullion stitch, buttonhole(Make 4 samples of combination of 2 decorative stitches)
4. Introduction to a sewing machine with a demonstration and practice of learning the running of sewing machine on paper on straight lines, curved lines and corners

#### **Internal Assessment (Refer Direction) (Total marks:-15)**

1. Make a decorative article by using combination of decorative stitches( embroidery)
2. Visit to Textile Mill or handloom unit

#### **References:**

- Deulkar Durga - Household Textile and Laundry Work, Orient Longman, Delhi.Dantiyagi
- S. - Fundamentals of Textile and their care. Orient Longman, Delhi.
- Dorling Kindersley- The complete Book of Sewing, London, New York.
- Dorothy Siegart, Lyle-Modern Textiles, John Wiley and Sons.Inc New York
- Doongaji. S and Deshpande R - Basic Process of Clothing Construction.
- Erwin, Mabel and kinchen- Clothing for Modern ,Mac Milan publishing, New York.
- Fabrics science by Joseph Puzuto
- Modern textiles by Dorothy Siegart Lyle
- Understanding fabric from fiber to finished cloth by Debbie and GiolloUnderstanding
- textiles by Phyllis G. Tortora and Billie J Collier
- Corbman,P.B., Textiles-Fibre to Fabric, Gregg Division/McGraw Hill Book Co.,US, 1985.
- Joseph M.L.,Essentials of Textiles (5th Edition), Holt, Rinehart and Winston Inc.,Florida, 1988.



**B.Sc. HOME SCIENCE**  
**SEMESTER – I**  
**Paper – IV**  
**(Fundamentals of Family Resource Management)**  
**(1T-4)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
I Practical	25

**OBJECTIVE:**

- 1) To develop good taste through the study of basic elements and principles of design
- 2) To develop aesthetic sense and to be good art consumer

**COURSE CONTENT: Theory**

**Unit I – Introduction to Foundation of art and Design**

1. Meaning of art
2. Elements of art:- a) Line b) Form c) Colour d) Texture e) Space d) Light g) Pattern h) Idea
3. Concept of design
4. Objectives to design – i) Beauty ii) Expressiveness iii) Functionalism
5. Design and principles of art
6. Types of design : - i) Structural ii) Decorative iii) Naturalistic  
iv) Stylized v) Geometric iv) Abstract vii) Modern viii) Traditional

**Unit II-Principal of Design in interior**

3. **Harmony:-** a) Definition and importance
4. b) Line and shape ,texture, idea and colour  
c) Application in Interior decoration
3. **Balance:-** a) Definition and Importance b) types of Balance – Formal, Informal, Radial  
c) Balance in interior & exterior decoration
4. **Rhythm –**  
a) Definition and importance  
b) Application in interior decoration
5. **Proportion –**  
a) Definition and importance

## 6 .Emphasis –

a) Definition and importance

### Unit III –Importance of colour and colour scheme in Interior Decoration

#### 1. Classification of color

- i) Primary ii) Secondary iii) Intermediate iv) Tertiary
- iv) Quaternary v) Neutral

#### 2. Characteristics or dimensions of colour

- i) Hue ii) Value iii) Intensity

3. Colour wheel, Warm & cool colours

#### 4. Colour Schemes:

- a) Related colour scheme: i) Monochromatic ii) Analogous
- b) Contrast colour scheme: i) Complementary ii) Double complementary
- iii) Split complementary iv) Triad v) Neutral

#### 5. Colour schemes for different rooms

- i) Kitchen and dining
- ii) Drawing room /Living room
- iii) Bed room

### Unit IV– Decorating Interior & Exterior

1. **Flower Arrangement :-** Definition and importance

2. i) Elements of Art in flower Arrangement. ii) Principles of Art in Flower arrangement.

#### 3. Types of flower arrangement

- a) Traditional b) oriental / Japanese c) Modern d) Floating e) Miniature b) Dry

4. **Use of Flower arrangements:** i) Personality ii) Occasion iii) Placement in rooms

iv) Flowers as gift

5. Objectives and Material required for floral decoration.

<b>Total Marks</b>	<b>25</b>
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## Practical

Experiment No. 1.- Types of design

- i) Structural ii) Decorative No. iii) - Naturalistic and stylized No. iv) - Geometric and Abstract No.
- v) - Modern and TraditionalNo. vi) - Types of Balance

**B.Sc. HOME SCIENCE**  
**SEMESTER – I**  
**Paper – V**

**ENGLISH AND COMMUNICATION SKILLS**

Total Marks :	50
Theory :	40
Internal Assessment	10

No.2. - Ways & of obtaining rhythm

No.3. - Harmony of line and shape

No.4. - Classes of colors

i) Primary ii) Secondary iii) Intermediate

No.5. - Colour Wheel

No.6. - Warm & cool colours

No.7. - Value Scale -

No.8 - Types of flower decoration / Arrangement

i) Single stick      ii) Small Bunch      iii) Miniature      iv) Modern

**INTERNAL ASSESSMENT(Refer Direction)**

<b>Total Marks</b>	<b>15</b>
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Accessories in interior (Any two)

1) Accessories in home decoration (Creative Art)

2) Floral Carpets

3) Artificial Flowers

4)Rangoli-Using various types of materials

Note-Workshop to be conducted to teach new articles

**Books Recommended**

1) Goldstein H/ Goldstein v – ‘ Art in Everyday Life’ Macclian co, New York 4<sup>th</sup> Edition

2) Mann M- Home Furnishing, weley Easterly Pvt Ltd.

3) Sundaraj ‘Text Book of Household arts’ orient long man, Bombay

## Unit IV

### Grammar

Articles, Prepositions

1. Change of Narration
2. Tenses
3. Transformation of Sentences : Assertive, Interrogative, Exclamatory

### Books Recommended

**Objective:** English Grammar Practice by Raj N. Bakshi ed. by Orient Longman.

1. Macmillan Foundation English by R.K. Dwivedi pub. by Macmillan India Ltd.
2. 1 To prepare the students to communicate effectively in English Business Communication by Rajendra Pal and J.S. Korbahadri pub. by Sultan Chand and Sons, New Delhi ISBN 81-7014-928-2
- 3 3 English for the general public by C.S. Mudambadi Vikas Publishing House Pvt Ltd.
- 4 4 English for the students of technical and professional courses by S. Chandra and etc in and some New Delhi, idiomatic English.
- 5 5 English Grammar - Communicative approach by J.E. Nesfield adapted by N.K. Agrawal and F.T. Wood Interview techniques, group discussions, seminar presentation, etc.
- 6 Creative English For Communication by N. Krishna Swamy and T. Sriraman published by Macmillan India Ltd.

## Unit I

Text: English prose for Pleasure and Profit (An Anthology)

By R. N. Roy published by S. Chand and Co. New Delhi

Prescribed Lessons: i) Home to Gandhi ii) All About A Dog

### Internal Assessment :

**Marks : 10**

**Unit II** Conversational Skill will be taught. Role play method is recommended. The VWXGHQW ZLOO EH DVVHV VHG GXULQJ WKH μUROH SOD\¶ SUDFWLFDQ,

1) Comprehension:

**Handling of audio – visual aids such as OHP.** The topic for role play can be taken from any part of the passage based on text will be given for analysis. Questions will be based on comprehension of content and vocabulary. Answers must be written in the students own language, with minimum use of words and phrases from the

**Method of Assessment:**

The student will be assessed for language fluency, correct grammar and logical sentence construction.

## Unit III

1) **Passage Writing** for the theory paper will carry 8% of the total marks (50) and for the Sessional 10% of the total marks (25)

It will test the descriptive vocabulary and constructive logical narrative capabilities of the students.

2) **Letter Writing**

Students should be trained thoroughly in dealing with formal and informal letters.

1. Letters to Parents/Relatives/ Friends
2. Letters to Principle

**B.Sc. HOME SCIENCE**  
**SEMESTER– I**  
**Paper – VI**

**Applied Physics and Basic Computer-I**

**Max. Marks:50**

**List of Practical's**

Practicals: (Any 10 to be performed)

1. To identify and study different components in physics Lab.
2. Use of Vernier Calipers to determine dimensions of a given object.
3. Use of Screw Gauge to determine dimension of a given object.
4. Comparison of measurements with Scale, Vernier Callipers and Screw Gauge.
5. Use of Travelling Microscope to determine inner diameter of a Capillary tube.
6. To study ohms law.
7. To study P-N junction diode.
8. To determine the value of resistor from given color code.
9. To find focal length of convex/concave lens.
10. Use of mouse as an input device for computer to draw different shapes in Paint, Save and print the file.
11. Scan documents and save it in PDF and print it.
12. Scan documents and save it in JPEG format and print it.
13. To study and identify a diode, LED, transistor, IC, resistor and capacitors from mixed collection of items.

**References :-**

1. Elements of Computer Science, S. K. Sarkar, A. K. Gupta, S. Chand & Co., New Delhi
2. Fundamental of computers E. Balguruswamy, Mc Graw Hill Education Pvt. Ltd. New Delhi
3. Computer fundamental (concepts, system & application) Pradeep K. Sinha, Priti Sinha, Sixth edition 2011, B.P.B . Publication
4. A Text book of Engineering Physics, N. N. Padole and S. A. Pawade, DNA Publication, Nagpur.
5. Comdex computer course, Vikas Gupta, PM Publication, New Delhi.
6. Experiments in Engineering Physics by Avadhanulu, S. Chand Publications, New Delhi.

**B.Sc. HOME SCIENCE**

**SEMESTER –II**

**CBCS**

**B.Sc HOME SCIENCE**  
**SEMESTER –II**  
**PAPER-I**  
**Basic Food Science and Nutrition-II(2T-1)**

<b>Total Marks</b>	<b>100</b>
Theory + IA	60 +15 = 75
Practical	25

**OBJECTIVES :-**

1. To understand the function of food and the role of various nutrients, their requirements and effect of deficiency and excess.
2. To promote basic knowledge pertaining to various food groups and nutrients.
3. To make students familiar with the different methods of cooking, their advantages and disadvantages.
4. To develop ability to improve the nutritional quality of food.

**COURSE CONTENT THEORY**

**Unit I**

**Carbohydrates and Fibre**

1. Carbohydrates – Definition, classifications, functions, sources, Digestion and absorption and deficiency states.
2. Importance in disease prevention.

**Unit II**

**Vitamins**

Water Soluble Vitamins: Functions, Sources and Deficiency of :

- i) Thiamine (B<sub>1</sub>) ii) Riboflavin (B<sub>2</sub>)      iii) Nicotinic acid (B<sub>3</sub>) iv) Pyridoxine (B<sub>6</sub>)  
v) Biotin vi) Folic Acid vii) Cyanocobalamin (B<sub>12</sub>) viii) Vitamin C.

**Unit III**

**Minerals and Water**

**1. Minerals** Functions, Sources and Deficiency of

Trace element- 1) Sodium 2) Potassium 3) Magnesium 4) Zinc

**2. Water** - Functions of water in human body, water balance, sources of water in human body, effect of dehydration and its prevention.

## Unit IV

### Energy and Methods of Cooking

1. **Energy** :Definition and factors affecting BMR .Units ofEnergy.

Energy measurement of food (Bomb calorimeter).

### 2. Methods of Cooking

1. Objective of cooking food
2. Different cooking methods, different cooking media
3. Effect of different methods of cooking on nutrients.

### PRACTICAL :Total marks -25

Simple cooking- preparation, serving, calculation of cost and yield.

- a)Cereals – Plain Rice, Pulao, Sweet Rice Masale Bhat(any2)
- b)Chapati, Puri, Paratha, Missi Roti, PuranPoli, Bhakri( any 2).
- c) Pulse Preparation – Whole, Dehusk and Sprouted ( any 2 ).
- d) Vegetable Preparation- Dry Curries and Baked ( any 2 ).
- e) Fruit Preparation – Fresh, Dried Baked and Steamed ( any 2).
- f) Milk Preparation – Porridge, Desserts, Curds, and Paneer Preparation ( any 2 ).
- g) Egg. Preparation – Boiled, Fried, Poached and Custard ( any 2)

### INTERNAL ASSESSMENT

Any one of the following

<b>Total Marks</b>	<b>15</b>
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1. Market survey of the Food Commodities as per Food Groups and their cost.
  2. Scrap Book: Related to food groups, Sources, Deficiencies of Various nutrients.
1. Canteen.

### Books Recommended:-

1. **Nutritive Value of Indian Foods:***Gopalan C, Rama Shastri&Balasubramanin S.C., National Institute of Nutrition, 1993*
2. **Food Science, Chemistry and Experimental Foods:** *Dr.M.Swaminathan,The Bangalore Printing and Publishing Co. Ltd. 1995.*
3. **Essentials of Food and Nutrition**,Vol.I (Fundamental aspects): *Dr. Swaminathan, 2<sup>nd</sup> edition BAPPCO, 1985.*
4. **Applied Nutrition:** *R. Rajlakshami Oxford & IBH Pub. Co.pvt Ltd,3<sup>rd</sup> edition, 1981.*
5. **Foods and Nutrition:** *The Educational Planning Group, Delhi, Arya Publishing House. 3<sup>rd</sup> edition, 1991.*
6. **Food Chemistry:** *Meyer, L.H. CBS Publishers & Distributors, Delhi, 1987.*
7. **Scope manual on Nutrition:** *Latham M.C., McGandy, McCann M.B.& Stare F.J. Published by the Upjohn Co, Kalamazoo, Michigan, 2<sup>nd</sup> edition. The Upjohn Co, Kalamazoo, Michigan 1972.*



# **B.Sc. Home Science**

## **Semester II**

### **Infant Stimulation And Toddlerhood**

#### **Paper- II**

#### **(2T2)**

Total Marks:100  
Theory:60  
IA:15  
Practical:25

#### **UNIT-I Infancy:-**

- (0-2 years) Neonate- an overview, reflexes, APGAR scale, adjustments of neonate,
- factors affecting, Physical development height, weight, head circumference.
- Definition, changes in body proportion & structure, common motor skills,
- pre-speech forms of communication, speech skills, cognitive
- Developmental process, sensory motor development, socio-emotional development.

#### **Unit-II Care:-**

- Immunization.
- Guidance in feeding, weaning, teething, toilet training, bathing, sleeping, health &
- Postnatal care of mother & baby, importance of breast feeding , advantages of breast feeding , scientific method feeding .

#### **Unit – III Toddlerhood:-**

- Characteristics, developmental tasks, physical development, muscle control, speech development, emotional behavior, socialization, interest in play, development of understanding beginnings of morality, hazards & happiness.

#### **Unit – IV Stimulation**

- Development of senses, role of care giver in providing a safe environment for developing motor abilities. Significance of stimulation during infancy, type of stimulation, [visual, motor, auditory, language & tactile].
- Personality: - meaning, definition, factors influencing heredity environment, peer group, social interaction.

## **Practicals:-25 Marks**

1. Anthropometric measurement, introduction, height, weight, head, midarm, chest, circumference, measurement of 5 children & compare with norms  
How to take measurements.
2. Learning & preparation of different activities for stimulation, tactile, auditory, motor, language, visual & cognitive.
3. Preparation of educational toys a) constrictive, b) matching / sorting / classifying, c) simple mathematical.

## **Internal Assesment :-15 Marks**

1. Survey of ten lactating mother( use of questionnaire is compulsory)
2. Visit to maternity ward.
3. Visit to well baby clinic  
(Record to be maintained)

## **Book Recommended:-**

1. Developmental Psychology : Elizabeth Hurlock, 5<sup>th</sup> edition, 1981, Tata McGraw Hill Publishing Co. New Delhi
2. Human Development : Dian E Papalia & Sally Wendkos Olds, 5<sup>th</sup> Edition 1981,  
1. Tata McGraw Hill Publishing Co. New Delhi
- 3 Child Psychology : Vatsayayan, 3<sup>rd</sup> edition KedarNath Ram NathMeerul.
4. Developmental Psychology : Vatsayayan, 3<sup>rd</sup> edition KedarNath Ram NathMeerul.
- 5 Children in Crèche : Alfred D`Souza, Intellectual Publishing House, Delhi

**B.SC. HOME SCIENCE**  
**SEMESTER – II**  
**PAPER – III**  
**Fabric Study**  
**(2T-3)**

<b>Total Marks</b>	<b>100</b>
Theory + IA	60+15
Practical	25

**OBJECTIVES:**

1. To understand the importance and necessity of various construction techniques for different fabrics, and to acquire the skills to apply those construction techniques in a sample form
2. To enhance the knowledge of fabrics.

**Unit I :**

1. Types of Yarn – Simple, novelty, textured yarns. Yarn twist,
2. Spinning Process- Mechanical- Ring spinning, Open-end spinning.
3. Chemical spinning – Dry, wet, melt.
4. Blends : Reasons for blending, methods of blending,

**Unit II :-Methods of Fabric construction**

Weaving Knitting, Felting and Bridingand non woven fabric,

Weaving – Parts of Hand looms and Process

1. Standard weaves :- Plane and derivates, twill and derivatives, satin and sateen, honeycomb, mockleno.
2. Basic Knitting Technology :- Principles of weaving and knitting, Introduction to weft and warp knitting.
3. Knitting:- Classification of weft knitting machines. Terms and definition of weft knitting.
4. Study of basic weft knit structures and their characteristics

**Unit III**

1. Finishing Process :- General and special finishing. Purpose of finishes.
2. Sizing, singeing, desizing, scoring, bleaching, mercerizing, calendaring and special calendaring., tentering and napping finishes.
3. Wrinkle free finishes:- Water repellent, Flame retardant and antimicrobial finish, shrinkage control

#### Unit IV

1. Clothing requirement for infants, toddlers, pre-school and elementary school children. Self-help- garment.
2. Wardrobe planning- meaning, importance and budgeting, Factors influencing wardrobe planning for different age groups. Methods of arrangement of garments in wardrobe. Storage of clothe.

#### **PRACTICALS :- 25 Marks**

1. Make samples of
  - i. Surface ornamentation- Appliqué, Quilting, smoking,
  - ii. Drafting cutting and stitching of :-Baba suit, Romper, Saree Petticoat
  - iii. Plain seam and seam finishes – Pinking, Turned and Stitched, Edge stitched, overcast finish, overlapped, piped finish
  - iv. French seam, run-n-fell seam, lapped seam, top stitching, piped seam

<b>Total Marks</b>	<b>25</b>
Drafting	5
Stitching-	10
Sample	5
Record	5

#### **INTERNAL ASSESSMENT**

1. Preparation of sample book based on trimmings, fasteners.
2. Preparation of Charts/ Assignments.

<b>Total Marks</b>	<b>15</b>
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#### **REFERENCE BOOKS:**

1. Aswani K.T. Fancy Weaving Mechanism, Mahajan Books, Ahmedabad.
2. DeulkarDurga - Household Textile and laundry work, Atmaram and sons, Delhi,
3. Dongorkemy Kamala S.- The Romance of Indian Embroidery, Thakur and Co. Bombay.
4. Dorothy Siegart, Lyle - Modern Textiles, John Wiley and Sons. Inc New York.
5. Nisbet H. - Grammer of Textile Design, Taraporwala and Sons, Bombay
6. PanditSavitri - Indian Embroidery, its variegated charms.
7. Complete Guide to Sewing-Readers Digest, The reader's digest association, 1976
8. Complete Book of Sewing, Alison Smith Dorling Kindersley, 1999
9. Singer Sewing Book, Gladys Cunningham, The Singer Company

**B.Sc. Home Science**  
**Semester II**  
**Fundamentals of Home Science**  
**Extension Paper IV**  
**(2T4)**

**Total – 100**  
**Theory – 60**  
**Prac. -25**  
**Int. Ass. - 15**

**Objectives :**

- To impart knowledge regarding :
- To impart knowledge of extension education :
- To acquire knowledge of meaning, fields and objectives of home science extension.
- To develop understanding the importance and functions, models of communication.
- To understand the role of extension teaching method in the field of extension.

**Unit – I**

**Extension Education :** Definition of education, types of education, definition of extension education, origin & meaning of extension education, concept , objectives, principles fields, philosophy of extension education, variation between formal & extension education, essential links in the chain of rural development.

**Unit – II**

**Home Science Extension :** Definition concept of home science extension, fields of home science extension, philosophy of home science extension, characteristics of home science extension, objectives of home science extension, scope of home science extension, guiding of principles of home science extension.

**Unit – III**

**Communication in Extension:** Meaning & Definitions, importance and functions of communication in extension, scope of communication, models of communication, communication process, and problems related to elements of communication.

**Unit – IV**

**Extension Teaching Methods :** Meaning & definition, importance functions and classification of extension teaching methods according to use and according to form, study of various extension teaching methods.

Interpersonal approach : Visits (Home & Farm), calls (Office & Telephone) & letters.( Personal & Official )

Group approach : Lecture, Method demonstration, study tour, group discussion and meetings.

Mass approach : Circular letter, result demonstration, puppet show, exhibition and film show.

### **Practicals :25 Marks**

1. Preparation & presentation of flannel cut outs on home science aspects to provide effective communication to the learners.
2. Practice of preparing circular letter to motivate homemakers for acceptance of new ideas.
3. Visits to rural areas to get information about rural living (their needs, interests, customs and traditions, standard of living, economic status, educational background, habits, etc)
4. Framing of simple questionnaire to collect data on rural life style.

### **Internal Assessment : 15 Marks**

- 1) Preparation of a twelve page album on rural development activities.
- 2) Arranging 5 photos in photo-album on any developmental activity in village.

### **Reference :**

1. Dahama, O.P. and Bhatnagar O.P. Education and communication for development oxford and B.M. publishing Co. New Delhi.
2. Chandra A : Introduction of home science, Metropolitan book co. New Delhi.
3. Supe S.V. An Introduction to extension education oxford and IBH publishing co. New Delhi.
4. Singh K. Rural sociology, prakashan Kendra, Lucknow.
5. FarkadeT.Gonge, S.Gruhavigyanvistar, Vidyaprakashan, Nagpur.

**B. Sc I Home Science  
Semester II  
ENGLISH & COMMUNICATION SKILLS  
Paper VI**

Total Marks	50
Theory	40
Internal Assessment	10

**Unit I**

Text : English Prose for Pleasure and Profit (An Anthology)

By R.N. Roy published by S. Chand and Co. New Delhi.

**Prescribed lessons :-**

- i) Martin Luther King ii) The Little Angel iii) The Way To Equal Distribution
- iv) The Dying Sun

**Unit II**

**1. Comprehension :-**

An unseen passage will be given for analysis. Questions will be based on Comprehension of Content and Vocabulary. Answers must be written in the students Own language with minimum use of words and phrases from the passage.

**UNIT III**

**1. Paragraph Writing :-**

Students would be given four topics for paragraph writing. Out of which one is to be attempted with in 150 words.

**2. Letter Writing :-**

Students should be trained thoroughly in dealing With Formal Letters/Business Correspondence such as :

- 1) Sales Letters    2) Enquiry Letters                            3) Job application Letters
- 4) Letters to the Editor    5) Business proposal

**Unit IV**

**Grammar**

Change of Voice

- 1. Degrees of Comparison
- 2. Transformation of Sentences : Use of  $\pm$  As soon as, No sooner than, either or, neither nor, unless, until, etc.
- 3. Phrasal Verbs
- 4. Punctuation

## **Internal Assessment :-**

### **A) Personal Interview/Viva :-**

The students will be given training on how to appear for an interview, what kind of common questions to expect, the kind of language required for appropriate formal responses etc. Role Play method is recommended here.

### **B) Group Discussion :-**

Students will need to acquire Correct Speaking Skills as well as leadership skills taught through this module.

## **Method of Assessment :-**

The student will be assessed for language fluency, Correct grammar and logical sentence construction.

Passing Marks for theory paper will be (18) of the total marks of (50) and for the Internal Assessment (10) of the total marks of (25)

## **Books Recommended :-**

- 1) English Grammar Practical by Raj N. Bakshi ed. by Orient Longman.
- 2) English Grammar and Composition by Rajendra Pal and Premlata Suri ed by Sultan Chand and Sons, New Delhi.
- 3) Business Communication by Rajendra Pal and J.S. Korlahalli pub. by Sultan Chand and Sons, New Delhi, ISBN 81-7014-928-2
- 4) Creative English For Communication by N. Krishna swamy and T. Sriraman pub. by Macmillan India Ltd.



**B.Sc. HOME SCIENCE**  
**SEMESTER-II**  
**PAPER-VI**  
**Physics and Basic Computer-II**

**Max. Marks: 50**

**Practical's (Any 10 to be performed)**

1. Measurement of Voltage at various points in a given DC electric circuit using dc voltmeter.
2. Measurement of Voltage at various points in a given DC electric circuit using multi-meter.
3. Verification of values of given resistances by using multi-meter.
4. Experimental verification of Ohm's Law.
5. Experimental verification of series and parallel combination of resistances using multi-meter.
6. Determination of refractive Index of a material of glass slab.
7. Determination of Focal Length of a given convex lens.
8. Determination of refractive index of a material of a prism.
9. To determine particle size from given XRD.
10. To study morphology of particle from given SEM/TEM photographs.
11. To connect computer to internet and Create email ID.
12. To Attached documents and sending mails to others.
13. To study Potentiometer.
14. To study meter Bridge.
15. To study principle of rheostat.

**References:-**

1. Elements of Computer Science, S. K. Sarkar, A. K. Gupta, S. Chand & Co., New Delhi
2. Fundamental of computers E. Balguruswamy, Mc Graw Hill Education Pvt. Ltd. NewDelhi
3. Computer fundamental (concepts, system & application) Pradeep K. Sinha, Priti Sinha, Sixth edition 2011, B.P.B . Publication
4. A Text book of Engineering Physics, N. N. Padole and S. A. Pawade, DNA Publication, Nagpur.
5. Comdex computer course, Vikas Gupta, PM Publication, New Delhi.
6. Nanotechnology: Principles and practices, Capital publication 2011 by sulbha Kulkarni, pune.
7. Experiments in Engineering Physics by Avadhanulu, S. Chand Publications, New Delhi.

**GONDWANA UNIVERSITY**

**B.Sc. (Home Science)**

**SEM-III**

**CBCS**

**Gondwana University**  
**B. Sc. HOME SCIENCE**  
**SEMESTER III**  
**PAPER – I**  
**Meal Management**  
**(3T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
I Practical	25

**OBJECTIVE:**

- 1) To learn Principles of Meal Planning
- 2) To plan and calculate balanced diets for family members

**COURSE CONTENT:**

**THEORY UNIT-I**

**Family Meal Management:**

**I) Meal Planning:**

- 1) Use and importance of RDA and Food Value Tables in meal
- 2) Principles, Objectives & Advantages of Meal Planning
- 3) Planning of balanced diet based on the following factors;
  - a) The nutritional needs of the family members-RDA for various age groups.
  - b) Sensory factors- eye appeal taste, aroma, flavour, texture, temperature, etc.
  - c) Other factors- availability of foodstuff, tradition, culture, religion, likes and dislikes, food fads and fallacies.

**II) Diet planning with reference to special individual requirements:**

- 1) Nutrition during adulthood: Balance diet for Adult Man, Women. Dietary guidelines for Adults (Reference Man / Reference Woman)

**UNIT II**

- 1) Nutrition for Mother:
  - A. Nutrition during pregnancy: a) Desirable weight gain b) Nutritional requirements c) Diet during normal pregnancy.
  - B. Nutrition during lactation: a) Nutritional Requirement b) Diet during Lactating Period.

## UNIT - III

### Family Meal Management:-

Nutrition for specific age groups:

1. Nutrition during infancy: a) Nutritional requirements b) Types of milk fed to infants c) Advantages of Breast Feeding d) Bottle feeding e) Weaning and Supplementary foods

2) Nutrition during :

1. Preschool age. 2. School going children

a) Nutritional requirements

b) Establishment of good food habits

## UNIT - IV:.

1) Nutrition during Adolescence

a) Nutritional requirements

b) Establishment of good food habits

2) **Geriatric nutrition (age over 60 years):**

a) Changes occurring during Ageing.

b) Nutritional requirements

c) Diet during old age.

<b>Total Marks</b>	<b>25</b>
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## PRACTICAL

1) Calculation of nutrients present in different recipes (any 2)

2) Calculation of cost and amount of food to get specified amount of calories (any2)

3) Conversion of Weights and volumes of raw foods to cooked food (any 5)

4) Conversion and Weight of portion of food containing same level of a nutrient energy, proteins, iron, calcium.

5) Weights and Measures - Standard and household measure for raw and cooked food.

6) Meal Planning for various groups:

a) Planning and Calculation of a whole days model meal for

i) Adult Man ii) Adult Woman

iii) Pregnant women IV) Lactating woman v) Infant (10 to 12 months)

vi) Preschooler (2-6 years) vii) School Child (6-10 years)

viii) Adolescent Boy ix) Adolescent Girl x) Old Person

## INTERNAL ASSESSMENT

<b>Total Marks</b>	<b>15</b>
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- 1) Visit to Balwadi and conduct anthropometry and write a report. (Sample Size: 25)
- 2) Visit to Schools and give nutrition education programme. (V –VII<sup>th</sup>Class)

### References

- 1) **Nutritive Value of Indian Foods:** *Gopalan C, Rama Sastri & Balasubramanian S.C.* National Institution, 1993.
- 2) **Understanding Nutrition:** *Whitney E.N. & Rolfes S.R.* 8<sup>th</sup> Edition West/ Wordsworth. 1999
- 3) **Dietetics:** *B Srilakshmi*, New Age International (P) Ltd., Publishers 3<sup>rd</sup> Edition, 2000
- 4) **Nutrition and Dietetics :** *Shubhangini A. Joshi*, Tata McGraw Hill Publishing Co. Ltd., New Delhi, 1992
- 5) **Nutritional Research:** Current Scenario and Future Trends Editor: *K, Krishnaswamy*, Oxford and IBH Publication Co. Pvt. Ltd., 2000
- 6) **Nutritional Problems of India:** *Shukla P.K.*, Prentice Hall of India Pvt. Ltd., Delhi 1982
- 7) **The Science of Food:** An Introduction to Food Science, Nutrition and Microbiology: *Gaman P.M. & Sherrington K.B.* 2<sup>nd</sup> Edition. Pergamon Press, 1989.

**Gondwana University**  
**B.SC HOME SCIENCE**  
**SEMESTER - III**  
**PAPER -II**  
**Early Childhood Development and Education**  
**(3T-2)**

Total Marks	100
Theory	60
IA	15
I Practical	25

**Objectives:**

- \* To make students aware of development during childhood.
- \* To make students aware of preschool and it's functioning.

**Unit-I Early Childhood**

Characteristics, Development tasks, Physical development, Motor development, Speech development, Emotional development, Socialization(play development), Development of understanding, Sex role typing, Family relationship, Personality developments, Hazards Behaviour problems - Enuresis, Thumb sucking, Stuttering, Stammering, Feeding problems, Temper Tantrums.

**Unit-II Early Childhood Education**

Significance of Early Childhood years, need, importance, objectives and goals Contributions of early childhood educators – Rousseau, Pestalozzi, Froebel, Montessori, GijjubhaiBadheka, TarabaiModak, AnutaiWagh, types of preschool education.

**Unit-III Curriculum Planning**

Factors influencing, Curriculum Planning, Routine activities – Free conversation, Storytelling, Music and rhyme, Creative activities, Science experiences, Social studies experiences, Children's literature Readiness programme, Nature walk, Festivals, Importance of school lunch/snack hour.

**Unit- IV Administration and Organization**

An introduction to building and equipment for preschool, Low cost equipments and games without equipment, Essential of records and reports in pre-school, Child Welfare, meaning, National and International organizations, Role and qualities of preschool teacher.

Total Marks	25
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**Practicals:**

- i) Visit to a nursery school
- ii) Preparation of teaching aids for nursery teaching-puppets, charts, flash cards, posters etc.
- iii) Participation in a nursery school – five participations Record to be maintained.

**Internal Assessment:**

Total Marks	15
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Assignment on Early Childhood Care & Education

**Books Recommended**

- I) Development Psychology Elizabeth Hurlock, 5<sup>th</sup> Edition  
Tata Mc Graw Hill Publishing Co.,New Delhi
  
- II) Early Childhood Education Dr. G.Pankajam, 1<sup>st</sup> Edi.  
(Foundation &Practice) The Indian Publication
  
- Early Childhood Education J.S. Growal

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER – III**  
**Textile Design PAPER – III**  
**(3T-3)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
I Practical	25

**Objectives**

1. To acquire knowledge of various methods of fabric construction.
2. To develop creativity in designing for prints.
3. To impart knowledge of traditional textiles of India.
4. Create awareness of different dyeing and printing techniques.

**Theo**

**ry**

**Unit**

**I:**

- 1 Design – Types, design development, motif, pattern and layout, design manipulation, inspiration from nature and history. Types of motifs from India, China, Japan ,
- 2 Elements of design and their effects- Line, shape, Color and Texture.
- 3 Principles of design and their effects- Proportion, Balance, Emphasis, Rhythm,
- 4 .Develop designs for saree, Dress material and dupatta, bedcover, curtain by using different designs.

**Unit II :**

- 1 Methods of fabric contractions : Weaving, - handloom, its parts and operation.  
Types of weaves, basic weaves, decorative weaves.-Dobby,Jacquardpile,Swivel,Lappet  
Double cloth
- 2 Introduction to Knitting – Classification, difference between warp and weft knitting,  
Basics of warp and weft knitting, ,uses, advantages and disadvantages,  
Non wovens :Bonded fabric, Felt -types and manufacturing process and their uses.  
Other methods of fabric constructions – Netting, lace making, braiding.

**Unit III :**

1. Finishes, Importance of finishes : General finishes – Scouring, bleaching, singeing, sizing, mercerizing, tentering, calendaring.



2. Special finishes: Special calendaring, napping, flame proofing, water proof and water repellency, shrinkage control, permanent press, wrinkle resistances.

#### **Unit IV :**

1. Regional embroidery : History, stitches, colour, material , threads and stitches used in Kantha of Bengal, Chamba of Himachal Pradesh, Kasuti of Karnataka, Kashida of Kashmir.
2. Phulkari of Panjab, Chikankary of Uttarpradesh, Manipuri from Manipur, Kathiyawadi of Gujrat.

<b>Total Marks</b>	<b>25</b>
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#### **Practical**

1. Make an embroidery album of Kantha of Bengal, Chamba of Himachal Pradesh, Kasuti of Karnataka, Kashida of Kashmir., Phulkari of Panjab, Chikankari of U.P Manipuri, Kathiawadi of Gujrat
2. Develop designs for saree, Dress material and dupatta, bedcover, curtain by using different design with different colours.

#### **INTERNAL ASSESSMENT**

<b>Total Marks</b>	<b>15</b>
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1. The Internal Assessment marks will be given on different type of article by different type of regional embroidery.
  - a) Kantha of Bengal
  - b) Chamba of Himachal Pradesh,
  - c) Kasuti of Karnataka,
  - d) Kashida of Kashmire
  - e) Phulkari of Panjab
  - f) Chikankari of U.P
  - g) Manipuri
  - h) Kathiawadi of Gujrat

#### **BOOKS RECOMMENDED**

- Chattopadhyaya, K., Handicrafts of India, All India Handicrafts Board, New Delhi, 1975.
- Ikat textiles of India Chelna Desai, Chronicle Books, San Francisco, 1988
- Silk Brocades Yashodhara Roli & Janssen BV, New 2003
- Hand-woven Fabrics of India, Jaslen Dhamija and Jyotindra Jain, Mapin Publishing Pvt. Ltd. Ahmedabad, 1989
- Tie-Dyed textiles of India, Veronica Murphy & Rosemary Crill, Victoria

&Albert Museum, London, 1991

- Traditional Indian costumes and Textiles, ParulBhatnagar, Abhishek Publication, Chandigarh, 2004
- Designs for a life time UshaShrikant, SamataEntreprise,Mumbai, 2002
- Marsh, J.T., An Introduction to Textile Finishing, B.I. Publishers, 1979
- Corbman,P.B., Textiles-Fibre to Fabric, Gregg Division/McGraw Hill Book Co.,US, 1985
- Potter MD and Corbman BP. Textiles: Fibres to Fabric – Published by McGraw Hill Inc. U.S.A
- UshaShrikant - Ethnic Embroidery of India, SamaiaEnterprises , Mumbai.  
William Watson - Textile Design and colour, Longman Green and Co. London.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER III**  
**PAPER –IV (i) (Optional)**  
**Extension Learning**

**(3T-4)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
I Practical	25

**Objectives:**

1. To develop understanding regarding extension teaching
2. To develop understanding regarding extension learning
3. To impart the knowledge of motivation for extension achiever
4. To understand the role of extension worker in rural development.

**THEORY:**

**Unit –I**

**Extension Teaching:** Meaning, definition of extension teaching and importance of extension teaching, factors contributing to teaching, principles of extension teaching, steps involve in extension teaching and desirable traits of a teacher for effective extension work.

**Unit-II**

**Extension Learning:** Meaning and definition of extension learning ,laws of learning, principles of learning, ideal learning situation to achieve the goal, learning experience.

**Unit-III**

**Extension Motivation:** Definition and classification of motivation, importance of motivation in extension work, basic elements to motivate the home maker.

## Unit-IV

**Extension Worker:** Meaning and definition of extension worker, classification of extension worker, qualities of extension worker, role and duties of extension worker in the field of rural development, role of duties of subject matter specialist in the field of rural development.

### PRACTICAL:

Total Marks	25
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1. Study of village panchayat and submission of report.
2. Conducting method demonstration on Home Science aspects to provide effective communication.
3. Handling and operation of O.H.P. for transparency presentation.
4. Preparation of flash cards and presentation of story to provide communication to the group of learners.

### INTERNAL ASSESSMENT

Total Marks	15
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Write a detail account on one the progressive programme held in your village

Eg. GraminSwachataAabhiyan, sarvashikshaaabhiyan etc.

### Books Recommended:

1. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
2. Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.
3. Reddy Adivi. A. Extension Education, Shree Laxmi Press, Bapatla, Guntor, A.P.
4. Singh J. K., Mass Media and Information Technology, Mangaldeep Publication, Jaipur.
5. Kumar K. J. L., Mass Communication in India, Jaico Publishing House, Mumbai.
6. Audio Visual Aids for Co-operative Education and Training, FAO Publications.

**Gondwana University**  
**B.Sc. Home Science Semester III**  
**PAPER – IV (ii)**  
**(Optional) Housing and**  
**Home Furnishing(3T-4)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
I Practical	25

**Objectives**

- 1 To develop understanding regarding housing needs, Principles, Planning of house
- 2 To experiment with space, Preparing house plans .
- 3 To develop graphic skills to express ideas in design, forms, knowledge of landscaping and economic use of space.

**Theory**

**COURSE**

**CONTENT**

**Unit I**

- a) Concept of Housing
- b) Importance of Housing
- c) Family Housing Needs – (i) Protection (ii) Economic Needs (iii) Affectional (iv) Social (v) Standards of Living (vi) Housing Goals (vii) Style (viii) Function (ix) Occupation (x) Physical and Mental Health
- d) Selection of Site for House -(i) Physical features (ii) Type of soil (iii) Hygienic Conditions (iv) Practical convenience (v) Legal point of view (vi)Economic Conditions
- e) Principles of house planning - (i) Orientation (ii) Aspect (iii) Prospect (iv) Privacy (v) Grouping (vi) Roominess (vii) Furniture (viii) Sanitation (ix) Circulation (x) Economy

## Unit II

- a) Factors affecting house planning: (i) Income (ii) Occupation (iii) Size of the family (iv) Socio-economic status of the family
- b) Study of various rooms in the house with respect to:
- (i) Living area: (a) Verandah (b) Drawing room
  - (ii) Sleeping area: (a) Bedroom (b) Guestroom
  - (iii) Service area: (a) Staircase (b) Toilet (c) Dining room
  - (d) Store room
  - (e) Kitchen-Types of kitchen: (a) One wall
  - (b) Two wall (c) U-shape (d) L-shape
  - (f) Storage facility in different rooms

## Unit III-

### Arrangement of Furniture

1. a) Selection of furniture: (i) Expressiveness (ii) Styles (iii) Beauty (iv) Utility (v) Comfort (vi) Flexibility (vii) Durability (viii) Cost
  - b) Material Required for construction: (i) Wood (ii) Metal and alloy (iii) Plastic (iv) Glass (v) Willow, rattan, cane.
  - c) Care of furniture
2. (a) application of art elements and principles in arrangement.  
(b) Various kinds of Architectural symbols used in scale drawing.  
(c) Arrangement in different rooms- (i) Living (ii) Dining (iii) Bedroom

## Unit IV

- (a) Bonsai- (i) History (ii) Preparation of soil (iii) Selection of plants (iv) Potting and repotting (v) Different styles (vi) Selection of containers (vii) Care
- (b) Landscaping- (i) Importance (ii) How a professional landscape design can enhance home
- (iii) Selecting landscape plants (iv) Selecting landscape structures/materials
- (v) Installing driveways and walkways (vi) Lighting (Outdoors) (vii) Garden ornaments

<b>Total Marks</b>	<b>25</b>
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## Practical

- Exp. No. 1: Symbols of various kinds of furniture used in scale drawing.  
Exp. No. 2: Arrangement of furniture with the help of symbol in Drawing room.  
Exp. No. 3: Arrangement of furniture with the help of symbol in Bed room.  
Exp. No. 4: Cleaning of different metals copper, silver, iron, brass, aluminum.  
Exp. No. 5: Care and cleaning of furniture

## INTERNAL ASSESSMENT

<b>Total Marks</b>	<b>15</b>
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Accessories in Home Decoration (any two)

- 1) Articles made out of low cost / waste material
  - (a) Fabric painting, oil, water, nib, knife, sand, glass, stain glass etc.
  - (b) Wax work / candles etc.
- 2) Preparation of bonsai.
- 3) Visit to Landscape /rock garden.

## Books Recommended:

1. Agan T. C. – ‘The House’ Oxford and I. B. H. publishing Co.
2. Ann Reilly; Susan A. Roth – ‘The Home Landscape’, Home planners Inco. Tucson, Arizona.
3. Deshpande R. S. – ‘Modern Indian Homes in India’, United Book Corporation, Poona, 2<sup>nd</sup> Edition.
4. Deshpande R. S. – ‘Build your own Home’, United Book Corporation, Poona, 4<sup>th</sup> Edition.
5. Deshpande R. S. – ‘Low Cost Housing’, United Book Corporation, Poona, 4<sup>th</sup> Edition.
6. Goldstin H. / Goldstein V. – ‘Art in Everyday Life’ MacMillan Co., New York, 4<sup>th</sup> Edition.
7. Pak – Tin & Helan Yeap – ‘Feng Shui – Health Harmony’ B.Jain Publishers Pvt Ltd., New Delhi, 1998.
8. Rutt A. – ‘Home Furnishing’, Wiley Eastern Pvt.Ltd., New Delhi, 2<sup>nd</sup> Edition.  
Shrivastav – ‘Remedial Vastu Shastra’, Manoj Publication, Delhi, 2001.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER III**  
**Paper – V (i)**

**(Optional) Applied**

**Physiology**

**3(T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
I Practical	25

**Objectives:**

1. To understand the structure and function of various organs of human body.
2. To promote the basic knowledge of first aid.

**Unit – I**

1. Animal Cell – Definition, Structure and functions of cell organelles.
2. Tissue – Definition, classification, structure and functions of tissue.
3. Muscular system – Definition, types, structure and functions.

**Unit – II**

1. Locomotor system- Definition of bones, classification and functions.
2. Joints of the skeleton – Definition, types structure and functions.
3. Digestive system – Structure and functions of alimentary canal, associated glands. Process of digestion and absorption.

**Unit –III**

1. Excretory system – definition, structure and functions of excretory organs.
2. Formation of urine
3. Lymphatic System – definition of lymph, lymph circulatory system, spleen its structure and function.



## Unit –IV

1. Sense organs – Structure and functions of Eye, Ear, Nose, Tongue and Skin.
2. First Aid – Definition, first aid box, Importance of first aid. Triangular bandage – types and importance.

First aid during emergencies- Drowning, Burns and Scalds, Dog bite, Snake bite, artificial respiration

### INTERNAL ASSESSMENT :

The internal assessment marks shall be awarded on the basis of assignments like class test, attendance, project assignments, seminar, study tour, visits to hospital, industrial visits, field work, visits to educational and research organizations or any other innovative practice/ activity.

### Internal Practical :

1. Study and identification of bones.
2. Study and use of Microscope.
3. Study of microscopic slides of common organs – lungs, artery, vein, liver, kidney, testis, ovary, salivary gland.
4. To examine the blood group and Rh-factor
5. Determination of hemoglobin by Sahli's method.

Marks distribution -25	
Experiment	07
Spotting	08
Viva-voce	05
Record book	05

### References / Books Recommended :

- i) Human Physiology - C. C. Chatterjee
- ii) Anatomy and Physiology for Nurses - Pears
- iii) Text book of Medical Physiology - A.C. Guyton
- iv) Foundation of Anatomy and physiology- Janet S. Ross, Kathleen J.W. Wilso

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER -III**  
**Paper V (ii) (Optional)**  
**BASIC CHEMISTRY**  
**(3T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
I Practical	25

**COURSE CONTENT:**  
**THEORY**

**UNIT-I**

- (a) **Water:** Sources, impurities, hard and soft water, hardness, temporary and permanent hardness, disadvantages of hard water for domestic purpose,
- (b) Methods of purification of water for domestic purpose (i) Screening, ii) sedimentation, iii) coagulation, iv) gravity sand filter and pressure filtration and v) sterilization: boiling, chlorination (chlorine gas, bleaching powder, chlorine tablet and high test hypochlorite), ozonization, aeration and ultraviolet radiation

**Unit-II**

- (a) **Alloy:** Definition, Classification of alloy (ferrous and Non-ferrous), purpose of making an alloy
- (b) Effect of alloying various elements on properties of steel, composition and uses of stainless steel and brass.

**Unit-III**

- a) **Solutions:** Types of solutions, different ways of expressing concentration of solution (**equivalent weight, molecular weight, normality and molarity**)
- b) **Physical Properties of Liquids:** Surface tension (definition, determination of surface tension by Stalagmometer method). Viscosity (definition, determination by Ostwald's Viscometer).

## Unit-IV

- (a) **Colloids:** Definition, types of colloidal systems, Types of colloidal solution, methods of preparation, properties (Tyndall Effect, Brownian Movement, Electrophoresis, Electro-osmosis) and colloids in daily life (applications)
- (b) **Emulsion and gel:** definition, types, methods of preparation, properties and their applications.

### INTERNAL ASSESSMENT :

<b>Total Marks</b>	<b>15</b>
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The internal assessment marks shall be awarded on the basis of assignments like class test, attendance, project assignments, seminar, study tour, industrial visits, field work, visits to educational and research organizations or any other innovative practice/activity.

### Internal Practical:

<b>Total Marks</b>	<b>25</b>
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#### A) Volumetric analysis:

1. Single acid base titration, Determine the Normality and weight per liter.
2. Determination of total and permanent hardness of water by EDTA titration.

#### B) Physical Experiments.

- 1) Determination of viscosity of given liquid by Ostwald's Viscometer.
- 2) Determination of Surface tension of given liquid by Stalagmometer.
- 3) Preparation of colloidal solution of starch.

### BOOK RECOMMENDED:

1. Text-Book of organic Chemistry: B; S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
2. Text Book of Physical Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
3. A Text Book of Basic and Applied Chemistry, P.C. Jain and Monica Jain.
4. Polymer Science by V.R. Gowarikar, Wiley Ester Ltd. 1987.
5. Text Book of Organic Chemistry by J. L. Finar, Longman Publication.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER -III**  
**Paper V (iii) (Optional)**  
**Applied Physics and Computer Application-I**  
**(3T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
Practical's	25

**Objectives:** To learn about electrical safety, Heat, Appliances and Operating systems and word processing software (MS WORD) and database creation and management software (MS EXCEL)

**Unit-I Electricity and personal safety:** Concept of ac and dc voltage, frequency and voltage of ac supply in India, Electrical Safety and Precautions, Safety devices in use of electricity : fuse, earthing, earthing methods, circuit breakers, MCBs (Miniature Circuit Breakers for domestic electric supply), lightning conductor), Management of electrical hazards (shocks, burns, fire).

**Unit-II Transmission of Heat:** Concept of Heat, Modes of heat transfer: conduction, convection and radiation (with at least three examples each). Concept of Temperature; Fahrenheit, Celsius and Kelvin) and Conversion of temperature among them. Examples of good and bad conductors of heat(at least three each)

**Unit –III Appliances:** Principle, construction and working of: pressure cooker, thermos flask, solar cooker, Mercury thermometers (laboratory thermometer, clinical thermometer). Heating effect of electric current, thermostatic control and automation with bimetallic strip, principle, construction and working of immersion heater, storage type geyser, and electric press.

**Unit- IV Computer Applications:** Concept of operating system, important features of popular operating systems (WINDOWS, UNIX and LINUX). Microsoft WORD: Applications of MS-Word, Study of different commands: Open a new document, Open a saved document, Typing text, selecting text, copy-paste, cut-paste, saving file, closing file, renaming a file, page layout (margin, orientation, page size), creating header & footer, applying fonts, font size, Bold, Italic and Underline, preview document, printing a page/printing a document. **Microsoft EXCEL:** Applications of MS-Excel, Opening of worksheet, selecting cells, entering and editing text, entering numbers, Entering and editing formulas, inserting rows and columns in worksheet, create database.

**INTERNAL ASSESSMENT** (Refer Direction)

**Practicals (Any 10 to be performed)**

1. To study basic components used in physics Laboratory.
2. Measurement of temperature and its inter-conversion in other scales.
3. To find the efficiency of an electric heater.
4. Calibration of bimetallic strip and verification of automation.
5. Open MS-Office, create file in MS Word and perform various operations in it
6. Open MS-Office, create file in MS Excel and enter given data in it, creating a worksheet in excel
7. Visit to science center.
8. Visit to industries making/repairing home appliances.
9. To study electrical safety devices.
10. Use of multi-meter to measure voltage and frequency of ac supply.
11. Study of Resistance box, Rheostat and Potentiometer.

**Reference Books:**

1. Principles of physics (vol. I & II) – Halliday&Resnik
2. Principles of physics – Subramanyam, Brijwal
3. How things work (vol. I &II ), INDUS (Harper Collins India)
4. Study of electrical appliances and devices, K. B. Bhatia, Khanna Publishers, New Delhi.
5. Electrician Theory, A. K. Mittal, Arihant Publication, Merath.
6. Basic Electrical Engineering, M. L. Anwani, Dhanpat Rai& Co. (P) Ltd.
7. Elements of Computer Science, S. K. Sarkar, A. K. Gupta, S. Chand & Co., New Delhi
8. Fundamental of computers E. Balguruswamy, McGraw Hill Education Pvt. Ltd. New Delhi
9. Computer fundamental (concepts, system & application) Pradeep K. Sinha, PritiSinha, Sixth edition 2011, B.P.B . Publication
10. A Textbook of Engg. Physics, N. N. Padole, S. Pawade, DNA Publication, Nagpur.
11. Comdex computer course, Vikas Gupta, PM Publication, New Delhi.
12. Operating System, Dr. S. B. Kishor, Das GanuPrakashan, Nagpur.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER III**  
**Apparel Construction-I**  
**Skill Base**

<b>Total Marks</b>	<b>50</b>
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**Making sample of the followings:**

1. Different Types of pleats.
2. Different Types of Tucks.
3. Different Types of plackets.
4. Different Types of Neckline finishing.
5. Hemline finishing.
6. Different Types of waistline finishing and waist belt.
7. Different Types of Ruffles.
8. Shirring.
9. Different types of pockets.
10. Patch work.
11. Bows.
12. Fabric buttons and flowers.

Make a portfolio of the sample as given in the syllabus

**Books Recommended:-**

1. Complete guide to sewing – Reader’s Digest
2. Encyclopedia of dress Making – Raul Jewel
3. Comparative clothing construction techniques –S.S Chhabra

**GONDWANA UNIVERSITY**

**B.Sc. (Home Science)**

**SEM-IV**

**CBCS**

**Gondwana University**  
**B. Sc. HOME SCIENCE**  
**SEMESTER IV**  
**PAPER - I**  
**Community Nutrition**  
**(4T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
Practical	25

**OBJECTIVE:**

- 1) To prepare standardized recipes for specific age groups and calculate the nutrients
- 2) To orient students to the basic principles of nutritional assessment as applied to the study of community nutrition.
- 3) To understand the importance and of nutrition education
- 4) To develop an understanding of the role of micro-organism in food.

**COURSE CONTENT:**

**THEORY UNIT - I**

**1) Malnutrition**

- a) Definition and Types of malnutrition.
- b) Causes & Symptoms of malnutrition
- c) Commonly occurring Deficiencies of Malnutrition Diseases Generally Occurring due to Malnutrition.
- d) Prevalence of Malnutrition in India.
- e) Effects of malnutrition on general health, physical, mental and national development.

**UNIT – II**

**Nutritional Assessment**

- 1) Assessment of Nutritional Status:
  - a) Anthropometry.
  - b) Diet Survey
  - c) Clinical Assessment
  - d) Laboratory Method (Biochemical)



Limitations and interpretation of all the above parameters.

2) Role of National organizations (ICAR, ICMR, NIN, CFTRI) and International organizations (FAO, WHO, UNICEF, CARE) in Community Nutrition and Health.

### **UNIT – III**

#### **1) Nutrition Education**

A) Meaning, importance, objectives of Nutrition Education..

a) Methods and evaluation of Nutrition Education.

b) Problems involved in organizing Nutrition Education Programme for the community and how to solve them.

B) National Nutrition Programme: a) ICDS b) MDM Programme c) National Nutrition Anemia Prophylaxis Programme (NNAPP) and d) Vitamin A Prophylaxis Programme (VAPP) e) Goiter Control.

### **UNIT – IV**

#### **Principles underlying Food spoilage and Food preservation :Improving Shelf Life and Nutritional Quality of Food**

1. **Food Spoilage** :Types of Food Spoilage.Food Perishability based on shelf life.

#### **2. Food Preservation**

1) Importance of Food Preservation.

2) General Principles and Methods of Food Preservation

a) High/Low temperature (pasteurization/refrigeration/deep freezing)

b) Drying (sun-drying / mechanical drying)

c) Radiation

d) Preservatives.

3. **Food Fermentation**: Role of Microorganisms as food fermenting agent for products such as Idli, Curd, Butter, Cheese & Bread. Nutritive value of Fermented foods

4.**Leavening Agent**: Microbiological Chemical and Natural Leaveners.

<b>Total Marks</b>	<b>25</b>
Planning	05
Cooking	05
Calculation	05

## PRACTICAL:

1) Planning, Preparation and Nutritive Calculation of selected recipes for :

Presentation	05
Record	05

- i) Weaning recipes for infants (any two)
- ii) Nutritive Finger Foods for Preschool Child (3-6 yrs) (any two)
- iii) Packed Tiffin's (small break) for school going child (6-8 years) (any 2)
- iv) Mini Meal for a school going child (any one)
- v) Packed Lunch for Adolescents / Adults (any one)
- vi) Nutritious Recipes for Adolescent Girl/ Boy (any two)
- vii) Nutritious Recipes for Adult man/ woman (any two)
- viii) Nutritious recipes for Pregnant mother (any two)
- ix) Nutritious recipes for Lactating mother (any two)
- ix) Soft Recipes for Old Age (any two).

## INTERNAL ASSESSMENT

Total Marks	15
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Any one of the following

- 1) Surveys to check the School lunches/ Mid day Meals.
- 2) Conduct a Survey and maintain record of BMI (Sample size: 50)
- 3) Preparation of Workbook/ Scrapbook on Food Spoilage and Food Preservation.
- 4) Canteen

## References

- 1) **Nutritive Value of Indian Foods:** *Gopalan C, Rama Sastri & Balasubramanian S.C.* National Institution, 1993.
- 2) **Understanding Nutrition:** *Whitney E.N. & Rolfes S.R.* 8<sup>th</sup> Edition West/ Wordsworth. 1999
- 3) **Dietetics:** *B Srilakshmi*, New Age International (P) Ltd., Publishers 3<sup>rd</sup> Edition, 2000
- 4) **Nutrition and Dietetics :** *Shubhangini A. Joshi*, Tata McGraw Hill Publishing Co. Ltd., New Delhi, 1992
- 5) **Nutritional Research:** Current Scenario and Future Trends Editor: *K, Krishnaswamy*, Oxford and IBH Publication Co. Pvt. Ltd., 2000
- 6) **Nutritional Problems of India:** *Shukla P.K.*, Prentice Hall of India Pvt. Ltd., Delhi 1982
- 7) **Food Preservation and Processing:** *M. Kalyani* Publishers, 1996,
- 8) **Food Microbiology:** *Frazier W.C. & D.C. West Hoff.* McGraw – Hill Book Co. Ltd Inc. 1981.
- 9) **The Science of Food:** An Introduction to Food Science, Nutrition and Microbiology: *Gaman P.M. & Sherrington K.B.* 2<sup>nd</sup> Edition. Pergamon Press, 1989.

**Gondwana University**  
**B.SC HOME SCIENCE**  
**SEMESTER - IV**  
**PAPER -II**  
**Late Childhood and Adolescence**  
**(4T-2)**

<b>Total Mark</b>	<b>100</b>
Theory	60
IA	15
Practical	25

**Objectives:**

\*To make students aware of development during late childhood.

\*To make students aware of puberty, adolescence & concerns of adolescence.

**Unit: I**

**Late Childhood**

Characteristics, Developmental tasks, Physical development, Speech development, Social behavior(Play interest), Sex role typing, Family relationship, Personality changes, Hazards, Behavioral Problems – Hyper activity, Slow learners, Truancy, School dropouts, Nail biting, Ties.

**Unit –II Puberty**

Characteristics, Criteria, Causes and body changes. Effects of puberty changes and sources of concern, Hazards, Sex education.

**Unit - III Adolescent Development**

Characteristics, Developmental tasks, Physical changes, Emotionality, Morality, Adolescent interests, Personality changes, Hazards.

**Unit - IV Adolescent Care & Concerns**

Identity Formation, Family relationships, Parenting Skills, for Adolescents, Psychological Disturbances – Depression, substance abuse, Suicide, Adolescent Pregnancy, Eating disorders.

Total Marks	25
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**Practicals:**

- i) Study of Prejudices, Emotions, Self Concept & Aspiration of school age children.
- ii) Survey of interest of late childhood children.
- iii) Study of Adolescent problems by survey method. Min. sample – 50 and calculate percentage record to be maintained.

Total Marks	15
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**Internal Assessment:** Project on psychological disturbance of Adolescents.

**Books Recommended:**

- 1) Developmental Psychology: E.B.Hurlock, 5<sup>th</sup> Edition, 1981,  
Tata McGraw Hill Publishing Company, New Delhi.
- 2) Human Development: Diane, E. Papalia & Sally Wendkos Olds, Company,  
New Delhi.
- 3) Adolescent Development: E. B. Hurlocks, 5<sup>th</sup> Edition, 1981,  
Tata McGraw Hill Publishing Company, New Delhi.
- 4) The Psychology of Adolescent: A.T. Jerslid, 7<sup>th</sup> Edition, Prentice Hall Inc.  
Englewood Cliff's N. J., U.S.A.

**Gondwana University**  
**B.SC. HOME SCIENCE**  
**SEMESTER – IV**  
**PAPER – III**  
**DYEING AND PRINTING**

**(4T-3)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
Practical	25

**OBJECTIVES-**

- To provide comprehensive knowledge about the concepts of dyeing and printing of textiles.
- To foster understanding of traditional Indian embroideries-motifs used, colour combinations used etc.

**Unit I:**

1. Dyes : Classification, Natural and synthetic ,different types of dyes – direct, acid, basic, reactive, sulphur, vat, azo and natural dyes (vegetable, animal, mineral and mordents used) .
2. Dyeing- Introduction, classification, Methods of dyeing: stock, yarn, piece and union and cross dyeing ,garment dyeing ,Common dyeing defects

**Unit II:**

2. Dyeing vs. Printing
3. Styles of printing – Direct, Resist, Discharge
3. Methods of printing – Block, stencil, Roller, Screen, Rotary screen, Heat Transfer,
4. Digital, Flock
5. Common printing defects and their remedy

### Unit III:

1. Preparation of cloth for printing, types of ingredients used in printing, types of different thickeners, After treatment of printed goods,.
2. Colorfastness: Factors affecting colorfastness, Testing Wash fastness, Light fastness
3. Paintings: Kalamkari, Madhubani, Warli.
2. Prints :Sanganeri print fabrics, bagru print fabrics

### Unit IV: Traditional textiles of India

1. Traditional Indian Textiles -Sarees: Bandhani, Patola, Chanderi, Paithani, Dacca, Banarasi, Kanjivaram.,Brocades, Kashmiri Shawls. Jamdani, IkatPochampalli
2. Costumes of different states of India – Maharashtra, Punjab, Gujrat, Rajasthan, Tamilnadu. West Bengal, Kashmir.

### PRACTICAL

1. Dyeing with direct dyes- cotton
2. Dyeing with reactive dyes- cotton, wool, silk
3. Dyeing with acid dyes- wool, silk
4. Tie and dye technique
5. Block printing using single and double coloured blocks, various placements of blocks
6. Batik technique Make sample and article of screen, block, stencil.and batik
7. Preparation of an article/garment with a combination of techniques learnt above

<b>Total Marks</b>	<b>25</b>
Printing	15
Record	10

### INTERNAL ASSESSMENT

<b>Total Marks</b>	<b>15</b>
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The Internal Assessment marks will be given on different type of article and album by different Printing.

- a) Block printing
- b) Screen
- c) Stencil
- d) Batik
- e) Tie and Dye

## **BOOKS RECOMMENDED**

- 1 Potter MD and Corbman BP. Textiles: Fibres to Fabric – Published by McGraw Hill Inc. U.S.A
- 2 UshaShrikant - Ethnic Embroidery of India, SamaiaEnterprises , Mumbai.
- 3 William Watson - Textile Design and colour, Longman Green and Co. London.
- 4 Vastrashilpvigyan by Vimla Sharma. Loyal Book Depot Meerut.
- 5 Vastrashastra: Prof. VimalAdhau Maharashtra VidhyapeethGranthNirmitMandalasathi, Vidhya Books Aurangabad.
- 6 VastravigyanavamParidhan - Dr. Vrunda Singh PanchsheelPrakashan Jaipur.
- 7 VastravigyanavamParidhan - Dr. PrarnilaVermaBihaar Hindi Granth Academy Bhopal.
- 8 VasiraShilpVigyan :Vimla Sharma ,.
- 9 VastravigyanKeMulSiddhant- Dr. G.P. Sheeri - Vinod PustakMandir Agra

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER IV**  
**PAPER – IV (i) Optional**  
**Extension Education (Rural Sociology)**

4(T-4)

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
Practical	25

**Objectives:**

1. To understand the nature of rural society and its problems.
2. To develop awareness regarding the women education.
3. To impart the knowledge of factors affecting status of women in the family.
4. To understand the role of vocationalisation in home science.

**Unit –I**

**Rural Sociology:** Meaning of sociology and rural sociology, Scope of Rural sociology, elements of rural sociology in India. Importance the study of rural sociology.

**Unit-II**

**Rural Society:** Meaning and definition of rural society, characteristics of rural society, Importance of rural society, classification of rural social groups and rural institutions.

**Unit-III**

**Social Control:** Meaning of social control, Agents of social control, Rural and urban life, Characteristics of urban life, control between urban and rural life.



## Unit-IV

**Community Development:** Meaning and definition of community development, elements of community development, objectives of community development programme, philosophy behind community development programme.

### **PRACTICAL:**

<b>Total Marks</b>	<b>25</b>
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1. Preparation of extension folder on home science extension aspect.
2. Preparation of non-project teaching aid-chart.
3. Study of batch-gate to analysis working pattern and submission of report.
4. Practice of plant propagation method- budding/grafting.

### **INTERNAL ASSESSMENT:**

<b>Total Marks</b>	<b>15</b>
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Preparation of kitchen garden in college premises.

### **Books Recommended:**

1. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
2. Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.
3. Reddy Adivi. A. Extension Education, Shree Laxmi Press, Bapatla, Guntur, A.P.
4. Singh J. K., Mass Media and Information Technology, Mangaldeep Publication, Jaipur.
5. Kumar K. J. L., Mass Communication in India, Jaico Publishing House, Mumbai.
6. Mehta D. S., Mass Communication and Journalism in India, Allied Publishers Pvt. Ltd., Chennai.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER IV**

**PAPER – IV (ii) Optional Housing and Home Furnishing**  
**(4 T-4)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
Practical	25

**Objectives –**

- To gain knowledge about the role of internal amenities in contributing for satisfying family living
- To learn technique that will help one to construct some furnishing items, relative to their function and beauty.

**UNIT I -Internal Amenities**

1. Interior Decoration –i)Essential factors of interior decoration ii)Available material For decoration iv) Decoration in various rooms
2. House Drainage – i)Bath water ii)Laundry water iii) House cleaning water
3. Methods of house drainage – i) Dilution ii) Purification iii) Soakage pits.
4. Waste Disposal - Types of Refuse – i)Dry ii)Solid iii) Liquid
5. Methods of waste disposal –i) Tipping or dumping ii) Taking in to the sea iii) Compost formation iv) Burning v) Conservancy system

**UNIT II - Lighting and Furniture**

(A) Natural Lightning

(B) Artificial Lightning: (i) Candles (ii) Oil Lamp (iii) Kerosene Lamp (iv) Gas Lighting (v) Electric Lighting

(C) Principles of Lighting: (i) Intensity (ii) Steady (iii) Glare (iv) Color (v) Safety (vi) Economy

(D) Types of Lighting: (i) Direct (ii) Semi-direct (iii) Indirect (iv) Semi-indirect

**Unit III**

a) Different symbols used in house plans

b) House plans for different income levels- (i) Higher (ii) Middle (iii) Lower

c) Vastushastra- (i) Importance (ii) Placements of rooms (iii) Location of well (iv) Placements of Doors (v) Position and fixing

**Unit IV –Home Furnishing andFloor Coverings**1.HomeFurnishing – (a) Necessity of curtains (b) Types of curtains (c) selection of curtains (d)Making and Hanging of curtains (e)Care and maintenance of curtain

## 2. Carpet and Rugs:

- a) Factor affecting the selection- (i) Character (ii) Styles (iii) Pattern (iv) Texture (v) Durability (vi) Cost (vii) Color (viii) Size
  - (b) Types of carpets and rugs.
  - (c) Care of carpets and rugs.
3. Wall treatment- (i) Wallpapers (ii) Paints (iii) Tiles
4. Glass ceiling:- (i) Meaning (ii) Importance (iii) Types of glass ceiling (iv) Care of glass ceiling.

## Practicals

- 1: Drawing of Architectural symbols for house Plan.
- 2: Drawing of floor Plan for low income group.
- 3: Drawing of Floor Plan for middle income group.
- 4: Drawing of Floor Plan for high income group.
- 5: Draw one wall kitchen.
- 6: Draw two wall kitchens.
- 7: Draw 'U' shaped kitchen.
- 8: Draw 'L' shaped kitchen.
- 9: Working drawing of landscape design.

<b>Total Marks</b>	<b>25</b>
Floor Plans	10
Draw kitchens	05
Landscape Drawing	05
Record	05

## INTERNAL ASSESSMENT

<b>Total Marks</b>	<b>15</b>
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Any two of the following

- (a) Accessories in Home Decoration (any two)  
Ceramic work / Clay Modeling / Pottery painting
- (b) Visit to ideal house/ideal kitchen
- (c) Preparation of sample book on furnishing materials and types of curtains

## Books Recommended:

- Agan T. C. – 'The House' Oxford and I. B. H. publishing Co.
- Ann Reilly; Susan A. Roth – 'The Home Landscape', Home planners Inco. Tucson, Arizona.
- Deshpande R. S. – 'Modern Indian Homes in India', United Book Corporation, Poona, 2<sup>nd</sup> Edition.
- Deshpande R. S. – 'Build your own Home', United Book Corporation, Poona, 4<sup>th</sup> Edition.
- Deshpande R. S. – 'Low Cost Housing', United Book Corporation, Poona, 4<sup>th</sup> Edition.
- Goldstein H. / Goldstein V. – 'Art in Every day Life' MacMillan Co., New York, 4<sup>th</sup> Edition.
- Pak – Tin & Helan Yeap – 'Feng Shui – Health Harmony' B. Jain Publishers Pvt Ltd., New Delhi, 1998.
- Rutt A. – 'Home Furnishing', Wiley Eastern Pvt. Ltd., New Delhi, 2<sup>nd</sup> Edition.
- Shrivastav – 'Remedial Vastu Shastra', Manoj Publication, Delhi, 2001

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER IV**  
**Paper V(i) Optional**  
**BASIC CHEMISTRY (4T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
IA	15
Practical	25

**COURSE CONTENT**

**THEORY**

**Unit-I**

- a) **Fuels:** Definition, classification, characteristics of good fuel, calorific value, preparation of Gobar gas.
- b) Crude petroleum and its refining by fractional distillation, cracking of petroleum, composition and application of LPG, Precautions while using LPG

**Unit-II**

- a) **Acid and base:** Concept of acid, base and salt, (Arrhenius theory and Lowry and Bronsted Theory), Conjugate pair, neutralization reaction.
- b) pH and pH scale, (Numerical on pH scale) Buffer solution and its applications in everyday life.

**Unit-III**

- a) **Organic Compounds:** Definition, saturated and unsaturated hydrocarbon, classification of organic compounds based on their structure and functional groups. Definition of alkane, alkene and alkyne with examples.
- b) Homologous series, IUPAC nomenclature of alkane, Laboratory preparation, chemical properties and uses of methane and ethylene.

**Unit-IV**

- a) **Corrosion:** Definition, atmospheric corrosion (Corrosion by oxidation and by other gases). Factors causing atmospheric corrosion,
- b) Methods for protection of metals from corrosion (Galvanizing, tinning and electroplating).

## Practical

### Practical A

1. Titration of strong acid vs strong base (Acid-base double titration)
2. Determination of pH of different solutions by using pH meter/ pH paper.

<b>Total Marks</b>	<b>25</b>
Practical A	10
Practical B	05
Record	05
Viva Voce	05

### Practical B

1. Detection of functional groups- Acids, Alcohols, Aldehydes and Ketones.
2. Preparation of acidic and basic buffer solution.

## INTERNAL ASSESSMENT

<b>Total Marks</b>	<b>15</b>
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1. Assignment book/ workbook for topics from syllabus (all four units)

### BOOK RECOMMENDED:

1. Text-Book of organic Chemistry: B; S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
2. Text Book of Physical Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
3. A Text Book of Engineering Chemistry, S.S. Dara and Suresh Umare, S. Chand Publication, New Delhi.
4. A Text Book of Basic and Applied Chemistry, P.C. Jain and Monica Jain.
5. Polymer Science by V.R. Gowarikar, Wiley Ester Ltd. 1987.
6. Text Book of Organic Chemistry by J. L. Finar, Longman Publication.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER –IV**  
**Paper – V (ii) Optional**  
**Applied Physiology 4(T-5)**

Total	100
Theory	60
IA	15
Practical	25

**Unit 1:**

1. Blood – composition and function of blood, blood cells, blood groups, blood coagulation.
2. Heart – structure and function, blood vessels and their structure and function.

**Unit 2:**

1. Respiratory system – structure and function of respiratory organs.
2. Mechanism of respiration.

**Unit 3:**

1. Female reproductive system- structure and functions of female reproductive organs, physiology of menstrual cycle, ovulation and menopause.
2. Male reproductive system – structure and functions of male reproductive organs spermatogenesis.

**Unit 4:**

1. Nervous system – structure of neurons, structure and function of cerebrum and cerebellum.
2. Endocrine glands – structure and function of pituitary gland, thyroid gland and adrenal gland.

**INTERNAL ASSESSMENT:**

The internal assessment marks shall be awarded on the basis of assignments like class test, attendance, project assignments, seminar, study tour, visits to hospital, industrial visits, field work, visits to educational and research organizations or any other innovative practice/ activity.

**Practical:**

1. To determine the bleeding time.
2. To determine the clotting time of blood.
3. Application of Triangular bandage.
4. First Aid

Marks distribution -25	
Experiment	06
Spotting	04
Bandage	05
Viva-voce	05
Record book	05

### **Books recommended / References:**

1. Community Health and Nursing- Basavan Phappa B.T.
2. Practical Pathology- Chaturvedi O.U.
3. Human Anatomy- Chaurasia
4. Medical Physiology- Guyton
5. Hygiene and Public Health- Ghosh P.
6. A.B.C. of Nursing in the Home- Gravelious E.M.
7. Manual of First Aid- Gupta
8. Nursing- George
9. Anatomy and Physiology for Nurses- Jain A.K.
10. Practical Guide to First Aid- Keech P.
11. Anatomy and Physiology for Nurses- Pearce
12. Essentials of Community Health Nursing- J.E. Park
13. Practical First Aid- Park & Park

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER –IV**

**Paper – V (iii) Optional**  
**Applied Physics & Computer Applications –II**  
**(4T-5)**

<b>TotalMarks</b>	<b>100</b>
Theory	60
IA	15
Practical's	25

**Objectives:** To learn and understand the basic concept about electricity, effects of electric current, Nanotechnology, MS power point and internet.

**Theory**

**Unit- I Electromagnetic Induction and its Application:** Concept and statement of Faradays laws of electromagnetic induction, Transformer (working principle and construction), transformation ratio (turns ratio, Voltage ratio and Current ratio), efficiency of transformer, types of transformer and applications of transformer. Electricity from generator to home, Definition of kilowatt hour unit for consumption of electricity.

**Unit -II Home Appliances:** Motor based appliances: Principle, construction, working, defects and remedies of: mixer- grinder, fan, cooler, hair dryer, vacuum cleaner, washing machine, and refrigerator. Microwave oven: concept of microwave heating, principle and working of Induction Cooker.

**Unit- III Nanomaterials and Nanotechnology:** Introduction of Nanomaterials and Nanotechnology, Various properties of Nanomaterials, Preparation and characterization, techniques role of nanomaterials in food industry, textile, nanomedicine, health industry.

**Unit- IV Computer Applications: MS Power point:-** applications of MS Power point, creating presentation, adding slides in presentation, deleting slide, creating masters, formatting text, color to fonts, inserting auto-shapes, inserting pictures, inserting sound, inserting videos, slide show. **Internet:-** Internet, Internet connection (Broadband, Dial-up and wireless connection), Web browsers (Internet explorer, Mozilafirefox, Google chrome and Opera), World Wide Web, Search engine, E-mail.



**INTERNAL ASSESSMENT (Refer Direction)**

**Practical (Any 10 to be performed)**

1. Study of transformer and determination of turn's ratio
2. To measure power of an appliance and calculate time for 1 kWh unit of electric energy consumption.
3. To determine electrochemical equivalent (ECE) of copper using copper volt ameter.
4. To find  $E_1/E_2$  of two cells by potentiometer.
5. Measurement of voltages of given dry batteries of different voltages.
6. Creating e-mail id and use of internet to send/ receive e-mails.
7. Creating and enhancing Power Point Presentation
8. Create slides using different slide layouts
9. Working with shapes, lines, text and objects: creating rectangles, squares, circles, ellipse, polygon etc.
10. To study particle size and morphology from XRD/SEM photograph.
11. To study different nanomaterials samples.
12. Visit to Industry.

**INTERNAL ASSESSMENT**

1. Assignment book/ workbook for topics from syllabus (all four units)

**Reference Books:**

Principles of physics (vol. I & II) – Halliday&Resnik

2. Principles of physics – Subramanyam, Brijwal
3. How things work (vol. I &II ), INDUS (Harper Collins India)
4. Study of electrical appliances and devices, K. B. Bhatia, Khanna Publishers, New Delhi.
5. Electrician Theory, A. K. Mittal, Arihant Publication, Merath.
6. Basic Electrical Engineering, M. L. Anwani, DhanpatRai& Co. (P) Ltd.
7. Elements of Computer Science, S. K. Sarkar, A. K. Gupta, S. Chand & Co., New Delhi
8. Fundamental of computers E. Balguruswamy, McGraw Hill Education Pvt. Ltd. New Delhi
9. Computer fundamental (concepts, system & application) Pradeep K. Sinha, PritiSinha, Sixth edition 2011, B.P.B . Publication
10. Comdex computer course, Vikas Gupta, PM Publication, New Delhi.
11. A Textbook of Engg. Physics, N. N. Padole, S. Pawde, DNA Publication, Nagpur.
12. Nanotechnology : Principles and Practices, Capital Pub,2011 by SulbhaKulkarni, pune.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER –IV**  
**Skill BaseApparel Construction**

**Total Marks-50**

1. Male and Female mechanical and fiashoutcrouqui (Front and Back)
  2. Different poses with print and texture.
  3. Drafting, Cutting and Stitching of Salwar and Kurti, Katori Blouse.
- \* Make a portfolio depicping male and female figure in different poses.
  - \* Show different texture and print in 4’’ x 4’’ box each.
- Any four design of print and texture.
- \* Give design, drafting, cutting and stiching for garment mention in the syllabusand stich above mentioned garments.

<b>Total Marks</b>	<b>50</b>
Design	10
Drafting	10
Stiching	20
Record	10

**GONDWANA UNIVERSITY**

**SYLLABUS**

**B.Sc. (Home Science)**

**CBCS**

**SEM- V**

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER V**  
**PAPER-I**  
**Diet Therapy**  
**(5 T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**OBJECTIVES:**

- 1) To provide knowledge about the causes and symptoms of various diseases
- 2) To understand the role of diet in the management of these conditions.
- 3) To plan, calculate and prepare diets for various diseases. .

**COURSE**

**CONTENT:**

**THEORY UNIT-I**

**Diet Therapy and G. T. Disorders:**

1. Introduction to diet therapy:

A) Applications of principles of diet therapy:

- a) Dietetics: Meaning & Principles of Dietetics.
- b) Diet counselling: Role of Dietician & important aspects/Tips to remember for planning a healthy diet for patient.

c) Dietetic care in hospital patients: its importance &

B) Therapeutic adaptations of the Normal Diet :

- a) Soft diet    b) Clear Liquid diet    c) Liquid diet
- d) Bland diet    e) Low fibre diet

C) Modes of feeding:

- a) Enteral    b) Parenteral

**UNIT-II**

**Conditions Requiring Nutritional Support:**

Causes, Symptoms and Principles of Dietary Management of some of the special conditions requiring Nutritional support:

- 1) Fevers: Short and long
- 2) Anemia: Types
- 3) Surgery: Pre and postoperative care
- 4) Burns: Types, degree

- 5) Cancer: Types of Cancer, carcinogens
- 6) Food Allergy; Common food allergens

### UNIT-III :

1) Gastrointestinal disorders:

Causes, Symptoms and Principles of Dietary Management of Gastro- intestinal disorders:

- a) Peptic Ulcer
- b) Diarrhoea
- c) Acidity
- d) Constipation

2) Liver disorders:

- a) Viral Hepatitis
- b) Cirrhosis

### UNIT-IV

#### **Renal Disorders:**

Causes, Symptoms and Principles of Dietary Management of some of the special conditions requiring Nutritional support:

- (a) Glomerulonephritis
- (b) Nephrotic syndrome
- (c) Acute and chronic Renal failure
- (d) Importance of dialysis.
- (e) Renal calculi

**INTERNAL ASSESSMENT** (Refer Direction)

<b>Total Marks</b>	<b>15</b>
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### PRACTICAL

<b>Total Marks</b>	<b>25</b>
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1. Preparation and Evaluation of Therapeutic adaptations of the Normal Diet

- 1) Liquid Diets (Full Clear)
- 2) Soft Diet
- 3) Bland Diet

2. Planning, Calculation and Preparation for the following disorders:

1) Gastrointestinal Disorders:

- a) Peptic Ulcer
- b) Diarrhoea
- c) Constipation

2) Liver Disorders:

- a) Jaundice: Mild to Moderate
- 3) Fever: Short and long duration.
- 4) Anemia: Iron Deficiency
- 5) Kidney Disorders :
  - a) Nephritis
  - b) Nephrosis

## References

1. **Nutritive value of Indian Foods:** *Gopalan C, Rama Sastri & Balasubramanian, S.C.* National Institute of Nutrition, 1993.
2. **Krause's Food Nutrition and Diet therapy:** *L Kathleen Mahan, Sylvia Escott Stump.* 19<sup>th</sup> edition, W.B. Saunders Co. 1996.
3. **Normal & Therapeutic Nutrition:** *Corinne H. Robinson & M.R Lawer,* 15<sup>th</sup> Edition 1997.
4. **Clinical Dietetics:** *F.P. Antia* , 2<sup>nd</sup> Edition. Oxford University Press 1973.
5. **Text book of Human Nutrition:** Editors: *Bamji M.S. Rao N.P Reddy V.* Oxford & IBH pub. Co. pvt.Ltd. 1996.
6. **Dietetics:** *Srilakshmi B,* 3<sup>rd</sup> Edition, New Age International (p) Ltd., 2000.
7. **Manual of Nutrition and diet Therapy:** *Grills & Bosscher,* Macmillan Pub.Co. Inc. 1981.
8. **Essentials of Nutrition and Diet Therapy** *Williams S.R. Times Mirror / Mosby College Pub.* 1990.
9. **Nutrition & Dietetics:** *Shubhangini A. Joshi* . Tata McGraw - Hill Pub. Co. Ltd., New Delhi 1992.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER**  
**Dynamics of Marriage & Family Paper-II**  
**(5 T-2)**

**Objectives:**

- To make students aware of marriage and family.
- To make students aware of changes and problems of old age.

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**Unit-I:**

Adultho Early Adulthood Characteristics, Developmental tasks, Interests, Social mobility, Adjustment to - Sex role, Vocation, New Family parenthood.

**Middle Age**

Characteristics, Developmental Tasks, Adjustment to Physical Changes in appearance, sensory abilities, physiological functioning, health & menopausal syndrome.

Vocational adjustment, Adjustment to changed family pattern.

**Unit-II: Marriage**

Concept, Definition, Philosophy, Functions, Readiness for Marriage, Selecting a partner, Premarital Counseling, Marital Adjustment – factors influencing and areas. Conflicts & its causes Divorce – its effects.

**Unit-III: Family**

Definition, family as an social institution, characteristics, functions, family life cycle – stages, roles & relationships, types of families, family tension, crises in family life.

**Unit-IV: Old age**

Concepts, Characteristics, Developmental tasks, Adjustment to physical changes, Motor abilities, Mental abilities, Interests & retirement, Problems, Homes for the aged.

## Practical

Total Mark	25
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- i) Visit to home for the aged.
- ii) Study of problems of the aged.
- iii) Study of interests of the young adults
- iv) Interviewing families of different background for understanding changing functions of Families.
- v) Group discussion on need for preparation for marriage.  
Record to be maintained.

## Internal Assessment

Total Mark	15
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To study various marriage customs in India.

## Books Recommended

- Marriage and Family Landis and Landis, 2nd Edition, 1953, Building a successful marriage Prentice Hall Inc. Englewood Cliffs N. J.
- Marriage Robert V. Blood.
- Exploring Marriage David Knox And the Family
- Corsor, Rose (1975); The family, its structure and functions, New York, Mac Publishing Co.
- Guppy, G R (1976) ; Family and social change in Modern India, New Delhi, Vikas pu.co.
- Rao P & Rao V N ( 1982), Marriage – The family & women in India, New Delhi, Vikas pu.co.
- Shrivastava, Ak (1986); Social class & Family life in India.
- Freeman, Theory & practice of psychological testing, Oxford & IBH pu.co. New Delhi.
- Anna Anastasi, Psychological testing .



**Gondwana University**  
**B.Sc. HOME SCIENCE SEMESTER V**  
**PAPER-III**  
**Apparel Pattern**

Design(5 T-3)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**Objective:-**

- 1) To apply the knowledge of Body measurements, pattern making and grading.
- 2) To apply knowledge of textures and print (designs).

**Unit I**

- 1) Different type of figures and analyzing figure type.
- 2) Method of taking body measurements- children, men, women.
- 3) Standardizing body measurements, size charts- types & use.
- 4) Methods of making basic patterns: 1) Drafting 2) Draping 3) flat pattern method, with advantages & limitation of each method.

**Unit II**

- 1) Pattern making symbols – meaning, importance & use.
- 2) Pattern envelope- back, front & guidesheet.
- 3) Fashion reading -meaning, importance & procedure.
- 4) Selection of garment design on the basis of art elements- line, form, colour & texture.

### **Unit III**

- 1) Importance of fit, areas of fit & types of fit.
- 2) Pattern adjustment for perfect fit – shoulder, neckline, bust line, armhole.
- 3) Garment shaping techniques – darts, tucks pleats & gathers.
- 4) Dart manipulation- meaning, importance & technique.

### **Unit IV**

- 1) Pattern grading – meaning importance, principles
- 2) Methods of grading
- 3) Pattern layout- meaning, importance & types.
- 4) Lay marking for different prints & textures: - Stripes, plaid, one way print, large motifs, pile fabrics, satin fabrics.

### **Practical**

<b>Total Marks</b>	<b>25</b>
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- 1) Making basic patterns by drafting & draping- Bodice, skirt & sleeves.
- 2) Designing garment using different shaping device.
- 3) Making pattern by flat pattern method for straight skirt, flared skirt, pleated skirt, gather skirt, puff sleeves, Bishop Sleeve, Cap sleeves, petal sleeve, Ladies tops & Kurtis with different necklines & silhouettes.
- 4) Draping of cowl neck, princessline & halter bodice.
- 5) Making pattern envelope front and back.

### **Internal Assessment**

<b>Total Marks</b>	<b>15</b>
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Make samples as mentioned in syllabus.

## BOOKS RECOMMENDED

- Bains, S. and Hutton, J., Singer Sewing Book, Hamlyn, London, 1972
- Patternmaking for Fashion Designers, Lori A. Knowles, 2006, Fairchild Publications Inc.
- Principles of Flat Pattern Design, 4<sup>th</sup> Edition, Nora M. MacDonald, Fairchild Publications Inc.,2009.
- Armstrong, Helen.,Pattern Making for Fashion Design,Harper Collins Publishers.,1997.
- Verma, Gayatri,Cutting and Stitching Pratical,AsianPublishers,Darya
- Gang, New Delhi,2007.( Hindi Book)
- Armstrong, H.J. (2009), Pattern Making for Fashion Design, Harper Collins Publishers, INC, New York.
- Constantino, M, Fashion Marketing, BT Batsford, London.

# Gondwana University

## B.Sc. HOME SCIENCE SEMESTER V PAPER-IV

### Extension Programme Planning

(i)(5 T-4)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

#### **Objectives:-**

1. To understand the process of programme planning & its importance in extension work.
2. To develop an understanding of social survey.
3. To develop understanding regarding community organization.
4. To develop an understanding of significance of evaluation of extension programme.

#### UNIT –I

##### **Programme Planning Process-**

Definition, Importance, Principles of programme planning process, steps of programme planning process, Professional abilities needed by programme planners, precautions used in programme planning process.

#### UNIT-II

##### **Social Survey-**

Meaning ,Importance and types of social survey, Variation between social survey and social research tools of data collection-questionnaire, observation, interview and schedule.

#### UNIT-III

##### **Community Organization-**

Meaning and concept of community organization, importance, objectives, principles underlined in community organization, methods of community organization in extension work.

## UNIT-IV

### Extension Evaluation-

Meaning and definition of evaluation in the context of extension, scope of evaluation process.  
Types of evaluation, Methods of evaluation programme.

### Practicals:-

<b>Total Marks</b>	<b>25</b>
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1. Practice of public speaking to develop leadership ability among the learners.
2. Preparation of News story to provide extension communication to learners.
3. Handling and operation of slide projector for projection of slide.
4. Conducting socio economic survey rural families and submission of report.

### Internal Assessment-

<b>Total Marks</b>	<b>15</b>
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Organize two days programme on any home science extension aspect and submission of report.

### Books Recommended:

1. Directorate of extension: Extension Education in Community Development.
2. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
3. Chandra.A., Shah. A. and Joshi. V.: Fundamentals of teaching Home Science, Sterling Publishers, New Delhi, 1989.
4. Devdas. R. P., Methods of teaching Home Science, National Council of Education.1978.
5. Waghmare S. K., Teaching Extension, Prashant Publishers, Vallabh Vidyanagar.
6. Singh. K., Rural Sociology, Prakashan Kendra, Lucknow.
7. Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER V**  
**PAPER – IV**  
Advanced Resource Management  
(ii)(5T-4)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**Objectives:-**

- 1) To recognize the importance of wise use of resources in order to reach personal and family goals.
- 2) To make students realize the importance of motivating factors in management – values, goals and standards.
- 3) To give opportunity to develop ability to take rational decisions.

**UNIT I :**

**A) Management**

- a) Definition & Importance
- b) Concept of Management
- c) Principles of Management-(i) Division of Work (ii) Authority and Responsibility (iii) Discipline (iv) Unity of Command (v) unity of Direction (vi) Emphasis on group interest than individual interest (vii) Fair Remuneration (viii) Centralization (ix) Scalar Chain (x) Work Order (xi) Equality (xii) Stability (xiii) Co-operation (xiiii) Initiative

**B) The Management Process:**

- (a) Definition, Importance and Scope
- (b) Planning – i) Importance & need for planning  
ii) Types: - 1) Use- Single, Repeat 2) General, Specific
- 3) Levels – i) Master planning ii) Operational Planning iii) Day to day planning 4) Sequencing & Orderin
- (c) Implementation- i) Controlling/ Executive of plan  
ii) Energizing- checking the progress  
iii) Adjusting the plan
- (d) Evaluative feedback – i) Importance  
ii) Types- 1) Formal 2) Informal 3) Self  
iii) Methods of evaluation
- (e) Relation between planning, controlling & evaluation

## UNIT II : Family Resources

- 1) Resources : a) Definition b) Role of resources c) Scope of resources  
d) Classification – 1) Human Resource: i) Time ii) Energy iii) Interest  
iv) Ability or skill v) Knowledge vi) Attitude
- 2) Non-human – i) Money ii) Material goods iii) Community Facilities  
Factors affecting family resources. Characteristics of resources.

## UNIT III : Motivating factors of Human Life:

- 1) Values : a) Definition b) Importance  
c) Classification – i) Intrinsic ii) Instrumental iii) Human needs values
- 2) Goals: a) Definition b) Importance of goal setting c) Classification –Mean- end  
d) Short term e) Intermediate f) Long term
- 3) Standards: a) Definition b) Importance c) Classification- i) Conventional  
ii)Flexible iii) Qualitative iv) Quantitative

## UNIT IV : Decision Making –

- a) Definition and Importance
- b) Role and scope of decision making
- c) Process of decision making
- d) Types- i) Individual ii) Group iii) Habitual Iv) Intellectual
- e) Factors affecting decision making

## INTERNAL ASSESSMENT

1. Visit to exhibition / Trade show ( Report writing)
2. Assignment/ seminars on related topics
3. Innovative Decorative Article of Home décor.

<b>Total Marks</b>	<b>15</b>
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## Practical

1. Diagrammatic Representation of the following:
  - a) Management Process
  - b) Family Resources
  - c) Inter-relatedness of values, goals and standards.
  - d) Decision Making

### Books Recommended:

1. Good year &Klohar ‘Managing for effective living’ John Wiley and Sons.
2. Gross-crandall-knoll ‘Management for Modern families’ Prentice Hall, Inc. New Jersey.
3. Nickell- Rice- Tucker, ‘Management in family living’ John Wiley & Sons.
4. Swanson Bettye ‘Introduction to Home Management McMillan Pub. House. Inc. New York.
5. BorkarSunita‘ Introduction to Resource Management’, Himalaya Publishing House.
6. Sounderaraj Stella ‘A textbook of Household Arts’ Orient longman.
7. Rudramurthy B., Extension in Planned Social Change, Allied Publishers Pvt. Ltd., Chennai.

<b>Total Marks</b>	<b>25</b>
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**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER V PAPER V**  
**Health Science**  
**(i)(5T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**Objectives :**

1. To understand basic concept of microorganisms
2. To impart knowledge of measures taken for prevention and control of diseases.
3. To promote basic knowledge of role of disinfection in health

**Unit -I**  
**Disease**

s

1. General concept of Bacteria and viruses.
2. Causes, modes of transmission, illeffects, prevention & control Measures of Tuberculosis, Typhoid, cholera.
3. Causes, modes of transmission, illeffects, prevention & control Measures of Rabies, poliomyelitis, measeles.
4. Life cycle of Malerial, Filrrial parasite, round worm & ringworm.

**Unit –II**

**Environmental Sanitation**

1. Environment-Defination, Importance, Purification of water.
2. School Health- Defination, Concept of School Health.
3. Health Education-Defination, Aims & Objectives, Communication of Health Education.
4. Disposal of waste & General Sanitation.

**Unit-III**

**Common Discomforts & Care of Mothers**

1. Common Discomforts- Morning Sickness, Constipation, Heart Burn, Musclicramps, Odema, Indigestion, their tretment.
2. Mother Care- Diet, Dress, Rest & Sleep, Personal Cleanliness, Exercise.
3. Antenatal services & its importnce.

**Unit-IV Immunity**

1. Defination, Classification- Natural & Acquired Immunity.
2. Vaccines- Defination, Types of vaccine.
3. Antibiotices- Defination, Narrow and broad spectrum Antibiotics.
4. Family planning-Defination, neccessity, Methodsof family planning, Importance of family planning.



**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>15</b>
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**Practicals:**

<b>Total Marks</b>	<b>25</b>
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1. Preparation of Blood Smear and Identification of Blood Cells.
2. Determination of Haemoglobin Percentage.
3. Urine Examination - Physical and Chemical (Albumin, Sugar, Acetone)
4. Examination of Permanent Slides of Micro organisms.
5. Study and Use of Common Insecticides, Disinfectants.
6. Visits :- a) Public Health Centre. b) Hospitals. c) Disposal Plants.

**REFERENCES-**

1. Textbook of Paediatrics- Aghor
2. Community Health and Nursing- BasavanPhappa B.T.
3. Textbook Microbiology for Nurses- Baveja C.P.
4. Practical Pathology- Chaturvedi O.U.
5. Textbook of Medicine- P.C. Das
6. Handbook of Paediatrics- Desai
7. Hygiene and Public Health- Ghosh P.
8. Textbook of Preventive and Social Medicine- K. Park
9. Textbook of Preventive and Social Medicine- J.E. Park
10. Essentials of Community Health Nursing- J.E. Park
11. Textbook of Obstetrics and Gynaecology- D.C. Dutta
12. Textbook of Medical Microbiology - Anantnarayan

**Gondwana University**  
**B.Sc. HOME SCIENCE**  
**SEMESTER VPAPER V**  
**APPLIED CHEMISTRY (ii)**  
**(5T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**THEORY**

**Unit-I**

- a) **Carbohydrates:** Definition, classification, open chain structure of glucose and fructose,
- b) Manufacture of cane sugar, optical isomerism of asymmetric carbon atom, plane polarised light, dextro and leavo rotatory compounds.

**Unit-II**

- a) **Fermentation:** Definition, ideal conditions for fermentation, application of fermentation
- b) Preparation of vinegar and ethanol by fermentation process.

**Unit-III**

- a) **Oils and Fats:** Definition, difference between oils and fats, saponification value, iodine value, rancidity and hydrogenation of oils,
- b) Refining of edible oil, naturally occurring fatty acids (saturated and unsaturated), essential and non essential fatty acids. Omega names of MUFA and PUFA

**Unit-IV**

- a) **Soap and Detergents:** Definition, types of soap, Industrial method of preparation of soap, cleansing action of soap,
- b) Difference between soap and detergents, composition of detergent., Liquid detergents,

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>15</b>
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**PRACTICALS**

**Practical A.**

- 1.a Preparations of cosmetics: i) Shampoo (simple and herbal)
- ii) Perfumes

<b>Total Marks</b>	<b>25</b>
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- b.Preparation of dyes and drug:

**2.Methyl salicylate from salicylic acid.**

- a. Orange dye from beta naphthol and aniline or p-toluidine
- b. To compare the cleansing action of detergents/ shampoo by Stalagmometer
- c. Use of physical balance.
- d. Preparation of standard solution for titration.

## Practical B

1. Determination of total fatty acid present in given sample of soap.
2. Determination of total alkali present in given sample of soap

## BOOK RECOMMENDED:

1. Text Book of Organic Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
2. Text Book of Physical Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
3. A Text Book of Engineering Chemistry, S.S. Dara and Suresh Umare, S. Chand Publication, New Delhi.
4. A Text Book of Basic and Applied Chemistry, P.C. Jain and Monica Jain.
5. Polymer Science by V.R. Gowarikar, Wiley Ester Ltd 1987.
6. Text Book of Organic Chemistry by J. L. Finar, Longman Publication,
7. Synthetic Dyes by G R Chatwal, Himalaya Publishing House, New Delhi.
8. Synthetic Drug by G R Chatwal and Anand, Himalaya Publishing House, New Delhi.
9. Organic Chemistry of Natural Products Vol. I and II, by G. R. Chatwal, Himalaya Publishing House, New Delhi.
10. Perfumes, Cosmetics, Soaps Vol. I, II and III by W. A. Poucher , Ninth Edition, Chapman and Hall Publication (1975)
11. New Cosmetic Science by Takeo Mitsui, Elsevier, 1997.

**Gondwana University**  
**B.Sc. Home Science**  
**Semester V**  
**PAPER- V**  
**Nutritional Biochemistry**  
**(iii)(5T-6)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Internal Practical	25

**OBJECTIVES**

1. Develop an understanding of the principals 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.
4. Apply the knowledge acquired to human nutrition and dietetics.

**COURSE CONTENT: Theory**

**UNIT I:**

**Carbohydrates** 1. Definition and Classification: Mono, Di, Oligo, and Polysaccharides with at least two examples of each class.

**Monosaccharide** – 1) based on number of carbon atoms (Triose, Tetrose, Pentose, Hexose), 2) based on functional group (Aldo and Keto derivatives)

**2. Structure and sources of**

Monosaccharide: □ glucose, fructose, galactose.

Disaccharides – maltose, □ lactose, sucrose.

**3. Reducing and Non reducing Sugars 4. Polysaccharides –Classification:**

Homopolysaccharides&Heteropolysaccharides General Idea and difference between: starch, glycogen, cellulose.

**UNIT II:**

**Proteins**

**1. Amino Acids:** Basic Structure of Amino Acid and formation of peptide bond

Classification: 1) Polar , Non-polar. 2) Essential and Non-essential amino acid 3) Glucogenic and Ketogenic

**2. Proteins :** 1. Definition and classification of proteins (based on solubility, based on functions) 2. Structure : Basic idea of primary, secondary and tertiary structure

**Unit III :**

**Lipids**

**1. Fatty Acids :**Essential and non essential fatty acids

Types of Fatty Acids :SFA, MUFA, PUFA, Omega -3 and Omega -6 Fatty Acids. Cis Fatty Acids and Trans Fatty Acid.

2. Lipids :Definition and Classification

#### Unit IV

##### 1. Nucleic Acids

Structure of a mononucleotide. Bases found in nucleic acids. Difference between RNA and DNA and their functions. Structures of DNAs & RNAs. Base pairing rule.

##### 2. Introduction and Definition of :

a. Bioenergetics

b. High Energy compounds :a] ATP b] ADP

c. Inborn errors of metabolism : a]Sickle cell anemia b]Gout

**INTERNAL ASSESSMENT** (Refer Direction)

<b>Total Marks</b>	<b>15</b>
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#### PRACTICALS

##### I. QUALITATIVE ANALYSIS

<b>Total Marks</b>	<b>25</b>
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1. Colour Reactions of Carbohydrates.

1. Fructose

2. Maltose

3. Sucrose

2. Colour Reactions of Cholesterol

##### II. QUANTITATIVE ANALYSIS

1. Estimation of Glucose by Benedict's Method.

##### III. SMALL EXPERIMENT

1. Isolation of Casein from Milk.

##### IV. EXPERIMENTS WITH ENZYMES

1. Inversion (Hydrolysis) of Sucrose by Yeast Invertase.

#### References :

1. West E. S., Todd W.R., Mason H.S. & Van Bruggen J.T. (1974) : 4<sup>th</sup> Ed. Text book of biochemistry, Amerind Pub Co Pvt Ltd.

2. White A., Handlar P., Smith E.L, Stelten, D.W. (1959) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, McGraw Hill Book Co.

3. Murray R K Granner, D.K., Mayes, P.A. & Rodwell V.W.(1993) : 23<sup>rd</sup> Ed. Harper's Biochemistry.Lange medical book.

4. Lehninger, A.L, Nelson D.L. & Cox M.M. (1993) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, CBS Publishers & distributors.

5. Devlin, T.M. (1986) : 2<sup>nd</sup> Ed. Text book of biochemistry with Clinical correlations, John Wiley and sons.

6. Stryer, L. (1995) : Biochemistry, Freeman WH and Co.

7. U. Satyanarayan and U Chakrapani : 2008 Fundamentals of Biochemistry, Books & Allied Pvt. Ltd, Calcutta Trueman R. Patricia 2007 Nutritional Biochemistry MJP Pub, Chennai

**Gondwana University**  
**B.Sc. HOME SCIENCE SEMESTER V**  
**(Skill Base)**

**Apparel Design**

<b>Total Marks</b>	<b>50</b>
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- i) Study and Collect information about National and International designer and make a Portfolio (any 5 designs) **(10 marks)**
- ii) Design, Drafting, Cutting and stitching of western wear (Male and Female)
- a) Plazzo    b) Classic shirt    c) Hot pants    d) Trouser    e) pleated skirt/ peg skirt/ A line skirt/ gored skirt (any two) **(25 marks)**
- iii) Design a decorative fashionable saree/ Indo western saree **(15 marks)**

**GONDWANA UNIVERSITY SYLLABUS**

**B.Sc. (Home Science)**

**CBCS**

**SEM- VI**

Gondwana University

**B.Sc. HOME SCIENCE SEMESTER VI**  
**PAPER-I**  
**Nutrition and Dietetics**  
**(6T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

**OBJECTIVES:**

- 1) To provide knowledge about the causes and symptoms of various diseases
- 2) To understand the role of diet in the management of these conditions.
- 3) To plan, calculate and prepare diets for various diseases.

**COURSE**

**CONTENT:**

**THEORY UNIT-I**

**1. Weight Management: Obesity and overweight.**

Causes, Symptoms and Principles of Dietary Management of obesity and overweight

- a) Types and causes of obesity.
- b) Criteria for obesity and overweight.
- c) Dietary management of obesity:
  - i) Fats in diet
  - ii) Role of exercise

**2. Underweight**

- a) Definition
- b) Problems associated with Underweight
- c) Dietary management of Underweight

**UNIT-II**

**1. Diabetes Mellitus:**

Causes, Symptoms and Principles of Dietary Management of Diabetes Mellitus:  
Diabetes Mellitus:

- a) Normal Blood Glucose level.
- b) Types of Diabetes Mellitus
- c) Treatment: Oral Hypoglycaemic drugs and Insulin.
- d) Role of diet in the management of IDDM and NIDDM.

**2. Food Exchange List**



### UNIT III

#### 1. Hypertension

Causes, Symptoms and Principles of Dietary Management of Hypertension

- a) Normal Blood pressure and types of hypertension
- b) Role of Sodium and Salt in Hypertension
- c) Role of diet in management of hypertension

#### 2 Dyslipidemia

- a) Role of diet in management of high cholesterol
- b) Role of diet in management of high Triglycerides
- c) Role of Omega 3 in management of dyslipidemia.

### UNIT IV:

#### 1) Coronary Heart diseases:

Causes, Symptoms and Principles of Dietary Management of Coronary Heart diseases:

- a) Risk factors for CHD.
- b) Atherosclerotic Heart disease:
- c) Dietary principles of CHD.
- d) Role of fat in management of CHD.
- e) Lifestyle modification.
- d) Control of Risk factors.

<b>Total Marks</b>	<b>15</b>
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### INTERNAL ASSESSMENT

- 1. Preparation of Scrap Book
- 2. Survey of hospital canteen/gym.

### COURSE CONTENT PRACTICAL

Preparation and Evaluation of Therapeutic adaptations of the Normal Diet

- 1) Weight Management: Overweight, Obesity, Underweight
- 2) Metabolic Disorder: Diabetes (NIDDM)
- 3) Hypertension
- 4) Coronary Heart diseases

<b>Total Marks</b>	<b>25</b>
Planning	05
Cooking	05
Calculation	05
Presentation	05
Record	05

## References

1. **Nutritive value of Indian Foods:** *Gopalan C, Rama Sastri & Balasubramanian, S.C.* National Institute of Nutrition, 1993.
2. **Krause's Food Nutrition and Diet therapy:** *L Kathleen Mahan, Sylvia Escottstump.* 19<sup>th</sup> edition, W.B. Saunders Co. 1996.
3. **Normal & Therapeutic Nutrition:** *Corinne H. Robinson & M.R Lawer,* 15<sup>th</sup> Edition 1997.
4. **Clinical Dietetics:** *F.P. Antia* , 2<sup>nd</sup> Edition. Oxford University Press 1973.
5. **Text book of Human Nutrition :** Editors: *Bamji M.S. Rao N.P Reddy V.* Oxford & IBH pub. Co. pvt.Ltd. 1996.
6. **Dietetics:** *Srilakshmi B,* 3<sup>rd</sup> Edition, New Age International (p) Ltd., 2000.
7. **Manual of Nutrition and diet Therapy:** *Grills & Bosscher,* Macmillan Pub.Co. Inc. 1981.
8. **Essentials of Nutrition and Diet Therapy** *Williams S.R. Times Mirror / Mosby College Pub.* 1990.
9. **Nutrition & Dietetics:** *Shubhangini A. Joshi* . Tata McGraw - Hill Pub. Co. Ltd., New Delhi 1992.

**Gondwana University**  
**B.Sc. Home Science**  
**Semester-VI**  
**Paper-II**  
**Developmental Assessment**  
**(6 T-2)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

**Objectives:**

1. To make students aware of developmental assessment.
2. To introduce to the students concept of psychological testing.
3. To sensitize students towards children with special needs.

**Unit-I: Developmental Assessment**

- Meaning, importance & need & function
- Sources of information – interview, case study, checklist & rating scales, observation
- Identifying the developmental milestones as an important aspect of assessment.
- Psychological Testing – origin, uses & functions, standardization (reliability & validity).
- Ethical considerations in testing – confidentiality, privacy, communication of test result.

**Unit-II: Testing**

- Test for infants (Bayleys, Brazelton, Denver).
- Test for children (CPM)
- Test for children “at risk” (VSMS, Bender Gestalt)
- Test for family school relation (Bells adjustment inventory, PCR)
- Assessment of personality (TAT, SCQ, CPQ, General Anxiety Scale)
- Intelligence Test (WISC, SFBT)

**Unit-III: Children with Special Needs - I**

- Meaning and definition of children with special needs
- Importance and methods of studying children with special needs
- Etiology and characteristics of children with special needs – sensory, visual, auditory, orthopedic, mental and linguistic.
- Multiple disabilities – definition, characteristics & problems.

#### **Unit-IV: Children with Special Needs - II**

- Children with behavioral deviation
- Children with emotional disturbances
- Social maladjustments and delinquents.
- Role of family members and welfare programs for meeting the needs of exceptional children.

#### **Practicals:**

Total Mark	25
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Conducting various psychological tests.

1. Parent child relationship
2. Academic anxiety scale
3. Adjustment inventory
4. Intelligence Test – SFBT, CPM
5. CPQ

#### **Visit to the local institute for handicapped.**

Total Mark	15
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#### **Internal Assessment:**

- i) Project Work on related topics from syllabus.
- ii) Case study of special children

#### **Books Recommended**

- 1) **Human Development:** *Diane, E. Papalia & Sally Wendkos Olds, 5th Edition 1981, Tata McGraw Hill Publishing Company, New Delhi.*
- 2) **Abnormal Psychology:** *Coleman, 1988, 5th Edition, and Modern Life: D. B. Taraporevala Sons and Co. Pvt. Ltd.*
- 3) **Psychological Testing:** *Anna Anastasi*
- 4) **Psychological Testing:** *Freeman*
- 5) **Disabled Village Children:** *David Wener Voluntary Health Association of India*
- 6) **Exceptional Children:** *William L. Heward & Michael D. Orlansky, 4th edition An Introductory Survey of Special Education.*
- 7) **Exceptional Children:** *Mahesh Bhargava*

# Gondwana University

## B.Sc. Home Science Semester-VI Paper-III Fashion Design (6 T-3)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

### Objectives

- To understand the concept related to elements and principles of design.
- To understand terminology related to fashion.
- To acquaint the students with the basic factors influencing fashion.
- To foster an understanding of international designers and their work. To learn basic fashion designing process and apparel manufacture,
- To gain Knowledge of fashion marketing and merchandising.

### **Unit I**

- 1) Definition, meaning & importance of fashion.
- 2) Terms used in Fashion industry- knockoffs, pret-a-porter, silhouette, Haute couture, Designers collection.
- 3) Types of fashion – High fashion, mass fashion, classic fashion & fad.
- 4) Meaning of fashion designing and the process flow chart.

### **Unit II**

- 1) Elements of fashion- Line, form, colour, texture in details
- 2) Principles of fashion
- 3) Theories of fashion –Trickle up, Trickle across & Trickle down.
- 4) Fashion cycle & fashion affecting fashion movement.

### Unit III

- 1) Global fashion centers & their workingstyles.
- 2) Father of couture-charles Fredrick worth & his work.
- 3) Fashion leaders, fashion followers & fashion victims.
- 4) Seasons of fashion.

### Unit IV

- 1) Different departments in apparel industry & their function.
- 2) Fashion Merchandising – meaning & importance.
- 3) Visual merchandising- Techniques & importance.
- 4) Types of market & consumer behavior.

### Practical

Total Mark	25
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- 1) Design, Drafting, cutting and stitching of following garments –
  - a) School uniform
  - b) children garments
  - c) male garment
  - d) western garments
  - e) indo western garments
  - f) traditional garment
- 2) Use of computer in fashion designing.

### Internal Assessment

Total Mark	15
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1. Visit to any Garment industry OR Fashion Institute and make a report of it.
2. Designing and making fashion accessories (Purse and fashion jewellery)

### BOOKS RECOMMENDED:

#### **Kaur Navneet,comdex Fashion Design vol 1 Fashion concept SDR Printer Delhi**

- Armstrong, H.J. (2009), Pattern Making for Fashion Design, Harper Collins Publishers, INC, New York.
- Fringes, G.S. (1999), Fashion from Concept to Consumer, 6<sup>th</sup> edition, NJ, Prentice Hall.
- Jarnow, J. Dickerson Kitty G (1987), Inside the Fashion Business, New Jersey, Merrill, Prentice Hall.

- Mc. Kelvey, K., Muslow, J., Fashion Forecasting (2008) Wiley Blackwell
- Tate, S.L. and Edwards, M.S.(1982) The Complete Book of Fashion Design, New York, Harper & Row Publication.
- Stephens Frings Gini, 2007, Fashion: From Concept to Consumer (9th Edition), Prentice Hall
- Genova Aneta 2011, Accessory Design, Fairchild Pubns; 1 edition
- Schaffer Jane, Saunders Sue 2012, Fashion Design Course: Accessories: Design Practice and Processes for Creating Hats, Bags, Shoes, and Other Fashion Accessories, Barron's Educational Series
- Lau John 2012, Basics Fashion Design 09: Designing Accessories: Exploring the design and construction of bags, shoes, hats and jewellery, A Publishing; 1 edition
- The Dynamics of Fashion, Elaine Stone, Fairchild Publication, 2008
- Frings Gini, Fashion From Concept to Consumer, (5<sup>th</sup> Edition), Prentice Hall

Gondwana University

**B.Sc. HOME SCIENCE SEMESTER VI**  
**PAPER-IV**  
Extension Training

Management (i)(6T-4)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

**Objectives:-**

1. To understand the importance of the knowledge of adoption of innovation.
2. To develop an understanding of co-ordination in extension work.
3. To develop awareness regarding importance of training in extension.

**UNIT –I**

**Adaption of Innovation**

Meaning and definition of adoption, steps involved in adoption process. Rate of adoption, innovativeness, diffusion, characteristics of innovations, classification and characteristics of adopters .

**UNIT-II**

**Co- ordination in extension**

Definition, importance and aspect of co-ordination, necessity of team –work for effective co-ordination in extension. practical difficulties of team work and its solution.

**UNIT-III**

**Extension Training**

Meaning band definition of extension training, Importance of training and need of training in extension work. Principles of training, problems in training.



## UNIT-IV

### Development programme

Defination of development, need and importance of development programme in the field of home science. Role and impact of IRDP, ICDS,NPFW,NAEP etc. in upliftment of rural/urban families.

### Practical-

Total Mark	25
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1. Presentation of seminar on home –science extension aspect and submission of report.
2. Handling and operation of opaque projector for display of non-transparent materials.
3. Preparation of Hand-made puppet.
4. Preparation of graphic aid for bringing awareness –poster.

### Internal Assessment-

Total Mark	15
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Evaluation of minor project concerned with development activities.

### Books Recommended:

8. Directorate of extension: Extension Education in Community Development.
9. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
10. Chandra.A., Shah. A. and Joshi. V.: Fundamentals of teaching Home Science, Sterling Publishers, New Delhi, 1989.
11. Devdas. R. P., Methods of teaching Home Science, National Council of Education.1978.
12. Waghmare S. K., Teaching Extension, Prashant Publishers, VallabhVidyanagar.
13. Singh. K., Rural Sociology, Prakashan Kendra, Lucknow.
14. Dahama. O. P. and Batnagar O. P. Ed ucation & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.

Gondwana University  
**B.Sc. HOME SCIENCE**  
**SEMESTER VI**

**Advanced Resource Management (ii)**

PAPER –  
IV(6T-4)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

**Objectives:-**

- 1).To give opportunity to develop ability to manage time, energy and money.
- 2)To develop ability to apply management principles in experimental house and in day to day life experience and various small events.
- 3)To develop ability to apply work simplification techniques.
- 4) To make them aware of intelligent choice of consumer goods.

**UNIT – I Time Management**

- a) Definition
- b) Nature/Importance of time
- c) Specific aids or tools of time management -
  - i) Work Production Curves
  - ii) Rest and sleep periods
- d) Process of managing time
  - i. Planning
  - ii. Implementation
  - iii. Evaluative feedback
- e)Leisure-i)Meaning ii)Importance iii)Activities

**UNIT – II Energy Management**

- a) Energy Management Meaning, Importance
- b) The efforts used in Home making activities
- c) Energy requirements for household tasks
- d) Forms and effects of fatigue
- e) Process of managing energy
  - i. Planning
  - ii. Implementing
  - iii. Evaluating feedback

f) Definition of consumer

g) Intelligent choice of consumer goods

**1) UNIT – III Work Simplification**

- a) Definition
- b) Importance
- c) Techniques
  - i. Process chart

- ii. Operation chart
- iii. Pathway chart
- d) Mendel's classes of change
- e) Consumer credit – credit purchase
- f) Consumer protection

**UNIT – IV Finance / Money Management**

- a) Income concept
- b) Planning – definition, Importance of family finance plan/Budget – steps in making budget
- c) Implementing
- d) Evaluative feedback
- 1) Account keeping
  - a) Definition & Importance
  - b) Types of account keeping
- 2) Definition of consumer
  - a) Intelligent choice of consumer goods
  - b) Consumer credit-credit purchase
  - c) Consumer protection

**INTERNAL ASSESSMENT**

Arrange any one Event

Formal : Exhibition, Seminar.

Informal: Organize Birthday Parties or celebrate Festival

<b>Total Marks</b>	<b>15</b>
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**Practical**

1. Time plan for college going students, working and non-working women.
2. Work simplification techniques applied to any activity – Pathway – process – Operation chart.
3. Establishing Budget making & actual spending (for any event)
4. Account keeping – ( any event)

<b>Total Marks</b>	<b>25</b>
Time plan	05
Work simplification techniques	10
Budget making	05
Record Book	05

**Books Recommended:**

1. Good year & Klover 'Managing for effective living' John Wiley and Sons.
2. Gross-crandall-knoll 'Management for Modern families' Prentice Hall, Inc. New Jersey.
3. Nickell- Rice- Tucker, 'Management in family living' John Wiley & Sons.
4. Swanson Bettye 'Introduction to Home Management McMillan Pub. House. Inc. New York.
5. Borkar Sunita ' Introduction to Resource Management', Himalaya Publishing House.
6. Sounderaraj Stella 'A textbook of Household Arts' Orient longman.

Gondwana University  
B.Sc. HOME SCIENCE SEMESTER VI

**Household Biology (i)**

PAPER – V

(6T-5)

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

**Objectives:-**

1. To develop a knowledge about horticulture and sericulture.
2. To develop a knowledge about dairy science.

**Unit I :- Horticulture :-**

Layout of kitchen garden , its parts , importance and cultivation of Brinjal , Cabbage, Cauliflower and Tomato . Floriculture :- Layout of Ornamental garden, its parts importance and cultivation of Marigold. Nursery Development:- Its importance , preparation of soil, methods of plant propagation such as Budding, Grafting and Layering, common diseases and pest in garden plants and their control.

**Unit II-Poultry Science:-**

Management for meat and eggs. Diseases :- symptoms, causes and remedies of Ranikhet, Bumble foot and cholera. Dairy Science :- Management of Milk Breeds- Jersey , Murrah , Nagpuri. Mushroom :- Introduction to Mushrooms , Types suitable for cultivation , preparation and culture of Spawns. Cultivation of Oyster Mushroom , White Button Mushroom and Paddy Straw Mushroom as a small scale industry.

### **Unit III Sericulture :-**

Introduction to Sericulture, study of different silkworms - Bombyxmori , Eri silkworm , Tassar silkworm with reference to their life cycle , host plants and common diseases . Apiculture:- Introduction to Apiculture, study of different Honey Bees - Apismellifera , Apisindica, Apisdorsata, Apis florae with reference to their life cycle and Bee keeping - traditional and modern, Economic importance of Bee keeping.

### **Unit IV:**

#### **Fertilizers:-**

Vermicompost:- Food habits of Earth worm and its uses in vermicompost ,its cost and economic importance. Organic Manure:- Chemical composition. Chemical fertilizers:- Advantages and Disadvantages of Chemical fertilizers.

#### **Practicals**

<b>Total Marks</b>	<b>25</b>
Garden operation	03
Project and Visit	10
Spotting	05
Record Book	05
Viva-voce	02

1. Study and identification of Garden Implements and accessories.
2. Methods of propagation (Garden operation) - Grafting, budding and layering.
- 3 Study and identification of vegetables, local flowers and their seeds.
- 4 Visit to Garden - Ornamental and Kitchen .
- 5 Visit to Poultry Farm to observe different breeds, housing and feeding
- 6 Visit to Cattle Farm.
- 7 Project :- Preparation of garden - Ornamental or Kitchen Garden. Cultivation of Edible Mushroom . Study of Common diseases of vegetables and their control.

### **References / Books Recommended –**

1. Poultry Production - Dr. R. A. Singh
2. Poultry Production - Dr.S.S.Burkule
3. Dairy Production - Dr. Anilkumar Kulkarni
4. Aadhunik Go-sanverdhan - D. V. R. Thatte
5. Dairy Production - Dr. Prabhakar A. Deware
6. Mushrooms for Livelihood - Dr. VijayaKhader
7. Mushroom Part 2 - Dr. Asha Mane
8. Plant Propagation - M. K. Sadhu
9. Text Book of Entomology - Dr. D. B. Tembhare

Gondwana University  
B.Sc. HOME SCIENCE SEMESTER VI  
PAPER V

**APPLIED CHEMISTRY-II(ii)**  
**(6T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

COURSE CONTENT:            THEORY

**Unit-I**

- a) **Polymers:** Definition, addition and condensation polymerization, preparation and uses of polyethylene, PVC, Nylon-6, Nylon-66 and polyester.
- b) **Rubber:** Definition, chemical nature and vulcanization, synthetic rubber (Buna-S) and uses.

**Unit-II**

- a) **Textile Chemistry :** Definition, Requisite of a true dye, Types of fibres: structure features of fibres (Cotton, wool, silk, cellulose acetate, polyamide, polyesters), Basic operations in dyeing process ( preparation of the fibre, preparation of dye bath, application of dye and finishing), Various methods of dyeing ( direct dyeing, vat dyeing, Mordant Dyeing, and disperse dyeing).
- b) **Witts theory of colour and constitution, classification of dyes based on their functional group- i) Nitro ii) Nitroso and iii) Azo, pollution problem due to dye industry**

**Unit-III**

- b) **Cosmetics:** Definition, functions and ingredients of shampoo, face powder, cold cream, lipstick, hazards of cosmetics.
- c) **Drugs:** Preparation and uses of following drugs: i) Aspirin ii) Paracetamol and iii) oil of winter green.

**Unit-IV**

- a) **Essential oils :**Definition, occurrence and methods of extraction of essential oils. Eucalyptus oil, Rose oil, Lavender essential oil
- b) **Perfumes:** Definition, characteristics of perfume, composition of perfumes, formulation of any two perfumes.

**INTERNAL ASSESSMENT**

<b>Total Marks</b>	<b>15</b>
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Any one of the following :

1. Educational visits to various factories and chemical laboratories in India.
2. Assignment book/ workbook for topics from syllabus (all four units)

## PRACTICAL

### Practical A

1. Preparation of Soap
2. Preparation of liquid detergent
3. Preparation of solid detergents
4. Preparation of phenyl

### Practical B

Identification of Carbohydrates: Glucose, fructose , sucrose and starch

<b>Total Marks</b>	<b>20+05</b>
Practical A	08
Practical B	08
Viva	04
Record	05

### BOOK RECOMMENDED:

1. Text Book of Organic Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
2. Text Book of Physical Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
3. A Text Book of Engineering Chemistry, S.S. Dara and Suresh Umare, S. Chand Publication, New Delhi.
4. A Text Book of Basic and Applied Chemistry, P.C. Jain and Monica Jain.
5. Polymer Science by V.R. Gowarikar, Wiley Ester Ltd 1987.
6. Text Book of Organic Chemistry by J. L. Finar, Longman Publication,
7. Synthetic Dyes by G R Chatwal, Himalaya Publishing House, New Delhi.
8. Synthetic Drug by G R Chatwal and Anand, Himalaya Publishing House, New Delhi.
9. Organic Chemistry of Natural Products Vol. I and II, by G. R. Chatwal, Himalaya Publishing House, New Delhi.
10. Perfumes, Cosmetics, Soaps Vol. I, II and III by W. A. Poucher, Ninth Edition , Chapman and Hall Publication (1975)
11. New Cosmetic Science by Takeo Mitsui, Elsevier, 1997.



**Gondwana University**  
**B.Sc. Home Science Semester VI**  
**PAPER- V**  
**Nutritional Biochemistry- I**  
**(iii)(6T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	60
Internal Assessment	15
Uni. Practical	25

**OBJECTIVES :-**This course will enable the students to :

1. Develop an understanding of the principals 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.
4. Apply the knowledge acquired to human nutrition and dietetics.

**Unit I Metabolism**

- 1. Carbohydrate Metabolism :**Absorption, transport and assimilation of Carbohydrates.
- 2. Protein Metabolism :** Absorption, transport and assimilation of Proteins.
- 3. Lipid Metabolism :** Absorption, transport and assimilation of Lipids.

**Unit II Carbohydrate Metabolism**

- 1. Introduction and significance of intermediary metabolism :**
  1. Glycolysis,
  2. Krebs cycle
  3. Glycogenesis,
  4. Gluconeogenesis.
- 2. Definition :**Blood sugar regulation : hypoglycemia, hyperglycemia and renal threshold. Glucose Tolerance Test.

**Unit III. Protein Metabolism**

- 1. Introduction of**
  - i) Transamination
  - ii) Oxidative Deamination,
  - iii) Urea Formation.
- 2. Enzymes :** Classification according to IUB system. Effect of temperature and pH on the activity of enzymes

**Unit IV: Lipid Metabolism:**

- 1. Lipid profile (Cholesterol, Bile acids, Triglycerides) & Health status.**
- 2. Definition of : Lipogenesis and Hyperlipidemia.**

3. Formation of Ketone bodies in diabetics.
4. Elementary idea of Beta Oxidation

### INTERNAL ASSESSMENT

<b>Total Marks</b>	<b>15</b>
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Any one of the following: -

1. Seminar on any one topic
2. Preparation of Scrab Book based on any one topic
3. Power Point Presentation

### PRACTICALS

#### I. QUALITATIVE ANALYSIS

<b>Total Marks</b>	<b>25</b>
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a. Colour Reactions of Carbohydrates.

1. Glucose
2. Lactose
3. Starch

b. Colour Reactions of Proteins.

1. Albumin
2. Casein
3. Gelatin

#### II. QUANTITATIVE ANALYSIS

1. Sorenson's Amino Acids Titration (Formol Titration)

#### III. SMALL EXPERIMENT

1. Preparation of Potato Starch:

Solubility test and Colour Reactions

#### IV EXPERIMENTS WITH ENZYMES

1. Action of Ptyalin (Salivary Amylase) on Starch.

#### References:

1. West E. S., Todd W.R., Mason H.S. & Van Bruggen J.T. (1974) : 4<sup>th</sup> Ed. Text book of biochemistry, Amerind Pub Co Pvt Ltd.
2. White A., Handlar P., Smith E.L, Stelten, D.W. (1959) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, McGraw Hill Book Co.
3. Murray R K Granner, D.K., Mayes, P.A. & Rodwell V.W. (1993) : 23<sup>rd</sup> Ed. Harpers Biochemistry. Lange medical book.
4. Lehninger, A.L, Nelson D.L. & Cox M.M. (1993) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, CBS Publishers & distributors.
5. Devlin, T.M. (1986) : 2<sup>nd</sup> Ed. Text book of biochemistry with Clinical correlations, John Wiley and sons.
6. Stryer, L. ( 1995) : Biochemistry, Freeman WH and Co.
7. U. Satyanarayan and U Chakrapani : 2008 Fundamentals of Biochemistry, Books & Allied Pvt Ltd, Calcutta
8. Trueman R. Patricia 2007 Nutritional Biochemistry MJP Pub, Chennai

**Gondwana University**  
**B.Sc. Home Science**  
**Semester VI**  
**Project Work**

<b>Total Marks</b>	<b>50</b>
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**(Refer direction point no- 13)**

Every student is required to carry out project work (sem-VI) on a related research topic of the subject/course. It must be on original work. On the basis of this work student must submit the project report (typed & properly bound) at least 15 days prior to commencement of the final examination of sem-VI.

Project work shall be evaluated both by External and Internal examiner in the department/college. Every student shall have to submit the bounded project report in two copies

**Evaluation:** - Project shall be evaluated both by External and Internal examiner in the department/college.

<b>Total Marks</b>	<b>50</b>
<b>Project presentation</b>	<b>20</b>
<b>Project Report</b>	<b>20</b>
<b>Viva vice</b>	<b>10</b>