

**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 V**  
**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: Adulthood**

**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 programmer 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

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

**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**

**Diseases**

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, measles.
4. Life cycle of Malarial, Filarial parasite, round worm & ring worm.

**Unit –II**

**Environmental Sanitation**

1. Environment-Definition, Importance, Purification of water.
2. School Health- Definition, Concept of School Health.
3. Health Education-Definition, 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, Muscle cramps, Odema, Indigestion, their treatment.
2. Mother Care- Diet, Dress, Rest & Sleep, Personal Cleanliness, Exercise.
3. Antenatal services & its importance.

**Unit-IV**

**Immunity**

1. Definition, Classification- Natural & Acquired Immunity.
2. Vaccines- Definition, Types of vaccine.
3. Antibiotics- Definition, Narrow and broad spectrum Antibiotics.
4. Family planning- Definition, necessity, Methods of 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 V**  
**PAPER 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 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-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, 5<sup>th</sup> Edition 1981, Tata McGraw Hill Publishing Company, New Delhi.*
- 2) **Abnormal Psychology:** *Coleman, 1988, 5<sup>th</sup> 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 Voluntery Health Association of India*
- 6) **Exceptional Children:** *William L. Heward & Michael D. Orlansky, 4<sup>th</sup> 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 and 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 & 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. Borkar Sunita 'Introduction to Resource Management', Himalaya Publishing House.
6. Sounderaraj Stella 'A textbook of Household Arts' Orient longman.

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**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. Cultivatin 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 - Bombyx mori , 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



## **PRACTICAL**

### **Practical A**

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

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

### **Practical B**

Identification of Carbohydrates: Glucose, fructose , sucrose and 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 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. 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
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>