



**UNIVERSITY OF RAJASTHAN**

**JAIPUR**

**SYLLABUS**

**B.Sc. (Home Science) Part-II**

**EXAMINATIONS – 2018**



Registration  
No. 100/2018  
Date: 10/10/2018

## B.SC HOME SCIENCE – PART II

### SCHEME OF EXAMINATION

The number of papers and the maximum marks for each paper together with the maximum marks required for a pass course are shown in the scheme of examination against each subject separately. It will be necessary for a candidate to pass in theory as well as practical part of a subject paper, wherever prescribed, separately. Classification of successful candidates shall be as follows:

First Division 60% of the aggregate marks prescribed in honors and subsidiary subjects of Pt.I, Pt.II and Pt.III examination taken together.

Second Division 48% of the aggregate marks prescribed in honors and subsidiary subjects of Pt.I, Pt.II and Pt.III examination taken together.

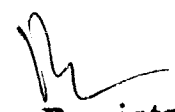
**The theory examination paper will consist of three parts:**

1. **Part I** – will comprise of 10 very short answer questions of 2 marks each. The answer to each question must be within the limit of 20-40 words.
2. **Part II** - will comprise of 5 short answer questions of 4 marks each. The answer to each question must be within the limit of 50-60 words.
3. **Part III** - will comprise of 6 long answer questions (essay type) of 20 marks each with internal choice in each question. Candidate will need to attempt only 3 questions.

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**Scheme for B.Sc. Home Science Part II**

Paper	Subjects	Duration of Exam	Max Marks	Min Marks	No. of Hr/wk Th	No. of Hr/wk Pr
VI	Apparel Technology (Theory)VI	3 hrs	100	36	4	2
	Apparel Construction (Practical)VI	3 hrs	75	18		
VII	Extension Education and Development (Theory)VII	3 hrs	100	36	4	2
	Extension Education and Development (Practical)VII	3 hrs	50	18		
VIII	Life Span Development (Theory)VIII	3 hrs	100	36	4	2
	Human Development (Practical)VIII	3 hrs	50	18		
IX	Nutritional Biochemistry (Theory)IX	3 hrs	100	36	4	2
	Nutritional Biochemistry (Practical)IX	3 hrs	50	18		
X	Interior Space Design (Theory)X	3 hrs	100	36	4	2
	Interior space design(Practical)X	3 hrs	50	18		
		Total	775	270	20+	10=30

  
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## B.SC. HOME SCIENCE PART II

<b>APPAREL TECHNOLOGY (THEORY VI)</b>		
<b>Max Marks: - 100 marks</b>		
<b>Teaching workload: 4 hours/week</b>		
<b>Total teaching workload: 96 hours/year</b>		
<b>Objectives :</b>		
<ol style="list-style-type: none"> <li>1. To teach students about evolution and socio psycho aspects of clothing</li> <li>2. To educate about selection of clothing</li> <li>3. To familiarize the students with the garment production .</li> </ol>		
<b>UNIT-I</b>		<b>Hours</b>
1.	Importance of clothing	3
2.	Social and psychological aspects of clothing <ul style="list-style-type: none"> <li>• Functions of clothing</li> <li>• Theories of clothing</li> <li>• Clothing in relation to status, culture and rituals</li> <li>• Individuality and conformity</li> <li>• Conspicuous consumption</li> </ul>	10
3.	Evolution of clothing in Indian context <ul style="list-style-type: none"> <li>• Sources of evidence for the study of historic costumes</li> <li>• Timeline of clothing of draped style of early civilization till stitched style of 21<sup>st</sup> century.</li> </ul>	8
<b>UNIT-II</b>		
4.	Selection of suitable fabrics and garments for <ul style="list-style-type: none"> <li>• Age – infants, toddlers, pre-school children, school going children, adolescents</li> <li>• Climate, occasion, occupation, fashion, figure</li> <li>• Clothing for people with special needs: maternity and lactation, old age and physically challenged.</li> <li>• Selection of readymade garments</li> <li>• Appearance– Size, design, line and colours,</li> <li>• Fabric- Durability, ease of care</li> <li>• Workmanship- Cutting, sewing and finishing</li> <li>• Cost &amp; Fitting</li> </ul>	20
5.	Production in apparel industry <ul style="list-style-type: none"> <li>• Fusing &amp; pre folding machines</li> <li>• Cutting &amp; spreading – marker types and calculation</li> <li>• Spreading process and equipments</li> <li>• Types of cutting machines</li> </ul>	15

	<ul style="list-style-type: none"> <li>• Ticketing and bundling – purpose and types</li> </ul>	
<b>UNIT-III</b>		
6.	Quality specification system for garment manufacture <ul style="list-style-type: none"> <li>• Quality in raw material</li> <li>• Quality in process production</li> <li>• Quality in final garment</li> </ul>	12
7.	Computer application / automation in garment manufacturing	10
8.	Merchandising and Retailing Window display <ul style="list-style-type: none"> <li>• Interior display</li> <li>• Career in merchandising</li> <li>• Future of merchandising</li> <li>• Meaning and importance of Retailing</li> <li>• Types of retail organisations – Speciality stores, Departmental stores, Franchise retailing, shopping malls etc.</li> </ul>	18
<b>References :</b>		
<ol style="list-style-type: none"> <li>1. Doongaji S. &amp; Deshpande R.: Basic Processes &amp; clothing Construction.</li> <li>2. Kefgan &amp; Phyllis T. Individuality in clothing, Specht &amp; Mac Million Publication.</li> <li>3. Mabel D.E. &amp; A.K.: Clothing for Moderns, 3<sup>rd</sup> edition, New York: Mac Million.</li> <li>4. Tate &amp; Glisson(1961): Family Clothing, New York, John Wiley.</li> <li>5. Amita , A. Stamper , Sue Humpheris Stamp. (1986) , Evaluating Appareal Quality , Fairchild , New York.</li> <li>6. Armstrong J. , Pattern making for fashion design (4<sup>th</sup> edition) , Pearson education</li> <li>7. Thompson &amp; Rea (1947) , The clothing for Children , John Wiley and sons , Inc. , New York.</li> <li>8. Vatsala R. . Textbook &amp; clothing (2003) , ICAR (Indian Council of Agricultural Research)</li> <li>9. Frings , Gini , Stephens , Fashion – Concept of Consumer , Prentice Hall International , New Jersey.</li> <li>10. Marilyn J, Horn., The second Skin (3<sup>rd</sup> edition) , Houghton Mifflin Company, London</li> <li>11. Marshall G.S,Jackson O. H, Stanley M. S. (2012), Individuality in Clothing Selection and Personal Appearance , Prentice Hall , New Jersey.</li> <li>12. Stone , Elaine and Samples , Jean., A Fashion Merchandising , McGraw Hill Book Company.</li> </ol>		
<b>APPAREL CONSTRUCTION (PRACTICAL - VI)</b>		
<b>Max Marks: - 75 marks</b>		
<b>Teaching workload: one practical/week (2 hours/practical)</b>		
<b>Total teaching workload: 24 practicals/batch</b>		
<b>Objectives:</b>		
<ol style="list-style-type: none"> <li>1. To equip students with basics of sewing</li> <li>2. To instruct them to learn about children and women clothing</li> </ol>		
<b>Contents:</b>		<b>Practical</b>
1.	Taking body measurements for different types of garments.	1

2.	<b>Hand stitches</b> <ul style="list-style-type: none"> <li>• Functional : Temporary , Permanent , basting , hemming , running , back stitch</li> <li>• Plain seam and finishes</li> <li>• Enclosed seam :- Run &amp; fell , French seam</li> <li>• Fasteners :- Hook with eye, shank button, loop &amp; button</li> <li>• Plackets :- Even hem , continuous wrap , two piece placket</li> <li>• Edge finishing : – shaped facing , bias facing &amp; bindings</li> <li>• Disposal of fullness :- pin tucks , simple gathers , pleats - knife , box</li> </ul>	7
3.	Construction of Childs and Adult Bodice block with sleeve block	2
4.	Drafting & Construction of Garments Children - 'A' line frock with variations in sleeve and collar / gathered frock with variations in sleeve and collar.	10
5.	<ul style="list-style-type: none"> <li>• Women - Saree blouse and petticoat./ Kurta with salwar or churidar</li> </ul> Visit to garment production unit.	4

#### Examination Scheme

Internal – 15 Marks

Major Problem – 45 Marks (Drafting, Stitching and Finishing)

Minor Problem – 15 Marks (Sample)

#### EXTENSION EDUCATION AND DEVELOPMENT (THEORY VII)

**Max Marks: - 100 marks**

**Teaching workload: 4 hours/week**

**Total teaching workload: 96 hours/year**

#### Objectives :

1. To make the students understand the concept of Extension and its related aspects.
2. To understand the existing supports structure for development efforts.
3. To understand the role of various organizations/institutions in community development.
4. To sensitize the students towards major developmental issues.

#### UNIT I

##### History of Development in India

Hours

1.	Changing concepts and Approaches in development.	7
2.	Concept of Community Development- Evaluation of Community Development Programmes in India since independence.	7
3.	History of Extension Activities in India and Scope of Home Science Extension for meaningful participation in community development in India	12
4.	Role of- voluntary organizations, KVK, village institutions - School, Panchayat and Co-operatives in development.	10

#### UNIT II

##### Extension Education

5.	Concept and Types of Education- Formal, Non-formal, Informal and Extension Education- Meaning, Philosophy, Objectives, Elements, Principles, Process of Extension. Extension worker- Qualities and Role	13
6.	Extension models- Technology – Innovation – Transfer Model, Empowerment/ Participation Model	7
7.	Participatory methods and approaches – PRA, RRA, PLA	13

#### UNIT III

##### Developmental Programmes

8.	Relevant Developmental issues in India – Poverty, health and Nutrition, Population Growth, Illiteracy. Neglect in early childhood: causes, extent and communication of less than 3 years for health and nutrition care.	12
9.	Study the important Flagship developmental programmes of Government of India with special reference to their objectives, target groups, activities, organizational structure and financial support.	15

**References:**

1. Dahama O.P. (1988) : Education and Communication for Development , , Oxford and IBH Publishing Co. Pvt. Ltd. New –Delhi
2. Jain, R. (1993) Mass Media and Rural Development. Voll. II Manak Publication Pvt. Ltd. New-Delhi
3. O.S. Rathore. (1999) Handbook of extension Education, Agrotech Publishing.
4. Pankajam G. (2000) – Extension – Third Dimension of Education, Gyan Publishing House, New –Delhi.
5. Roy, G.L. (1991) Extension Communication Management, Naya Prakash. Kolkata.
6. Uttam Kumar Singh and A K Nayak , (1997) Extension Education, Commonwealth Publishers in association with Dr. Zakir Hussain Institute of Non-formal and Continuing Education.

**EXTENSION EDUCATION AND DEVELOPMENT (PRACTICAL- VII)**

**Max Marks: - 50 marks**

**Teaching workload: one practical/week(2 hours/practical)**

**Total teaching workload: 24 practicals/batch**

**Objectives :**

1. To develop skills in planning and presentation of extension teaching methods.
2. To understand the role of village level organization in the development and their functioning.

**Contents :**

**Practical**

1.	Visit to village organizations mentioned in the theory and submit the report for the same.	4
2.	Develop skills in extension teaching methods- Demonstration, drama/ role play/ puppetry, group discussion, talk and bulletin board display.	14
3.	Select any Flagship programme or developmental issue and present same in the class room.	6

**Examination Scheme**

- Internal Assessment- record and class room participation 10 marks
- Evaluation of project report on selected developmental issues prepared by the student during the session by the external examiner 20 marks
- Plan and present one extension teaching method given by the external examiner 15 marks
- Viva 5 marks

**LIFE SPAN DEVELOPMENT(THEORY VIII)**

**Max Marks: - 100 marks**

**Teaching workload:4 hours/week**

**Total teaching workload:96 hours/year**

**Objectives:**

1. To acquaint the students with the process of life span development.
2. To build understanding of various developmental concepts and achievements.
3. To understand the emerging issues and adjustment across life span stage.
4. To sensitize students to understand developmental delays, laps and individual

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differences in human development.		
<b>UNIT I</b>		<b>Hours</b>
1.	PRENATAL- Conception, stages of prenatal development factors affecting prenatal development, hazards and abnormalities during prenatal development, birth process, complication and recent technological advances in prenatal development and care.	12
2.	NEONATE- Adjustment, sensory, perceptual, abilities, feeding practices and care of new born, importance of early stimulation.	10
3.	INFANCY- Milestone of infancy, physical, motor, social, emotional, cognitive and language development.	10
<b>UNIT-II</b>		
4.	EARLY CHILDHOOD (2 Years to 6 Years)- Developmental Milestones, Major Developments, Significance of Early Childhood years, Importance of play during early childhood.	10
5.	MIDDLE CHILDHOOD AND LATE CHILDHOOD (6 Years to 12 Years)- Developmental Milestones, Major Developments, Peer Pressure, Early and Late Maturity and Factors Influencing Major Development.	12
6.	ADOLESCENTS (12 Years to 19 Years)- Developmental Milestones and Major Developments, Pubertal Changes, Growth Spurt, Early and Late Maturity Identity Crisis, Problems and Conflicts in Family. Friendship and Heterosexual and Homosexual Relationship. STDs, Juvenile Delinquency.	12
<b>UNIT-III</b>		
7.	YOUNG ADOLTHOOD (20 Years to 40 Years)- Developmental Milestones, Responsibilities, Adjustments and Challenges, Changing trends in parenting.	10
	• MIDDLE AGE (40 Years to 60 Years)- Developmental milestones, Characteristics, Changes, Challenges and Adjustment, Health issues and Menopause, Mid life crisis, Course Work and Satisfaction.	10
	• LATE ADULTHOOD/ AGING (60 Years onwards)- Developmental Changes, Physical, Physiological, Health, Cognitive changes, Retirement, Financial Problems and Adjustment to loneliness, Family settings, Illness. Recreational interest, Provisions and Policies for Aging Adults.	10
<b>References :</b>		
<ol style="list-style-type: none"> <li>1. Berk, L. (2006). Child development. Allyn &amp; Bacon. New York</li> <li>2. Berke L.E. (1995). Child Development, Allyn and Bacon</li> <li>3. Hurlock E.B. (1978). Child Development, Mcgraw Hill Publishing Co.</li> <li>4. Lefrancois, G.R. (1996). The Life Span. Wadsworth Publication Company: USA: California.</li> <li>5. Rice, F. (1992). Human Development: A Life Span Approach. Prentice Hall.</li> <li>6. Rice, P. (1995). Human Development: A Lifespan Approach. Prentice-Hall Inc. New Jersey</li> <li>7. Santrock, J.W. (1997). Life Span Development. Brown &amp; Benchmark. New York</li> <li>8. Santrock, J.W. (2007). Life span Development (3<sup>rd</sup>ed). Tata – McGrawHill. New Delhi.</li> </ol>		
<b>HUMAN DEVELOPMENT ( PRACTICAL - XIII)</b>		
<b>Max Marks: - 50 marks</b>		
<b>Teaching workload: one practical/week (2 hours/practical)</b>		
<b>Total teaching workload: 24 practicals/batch</b>		
<b>Objectives :</b>		



1. Students will gain insight into the growth patterns, developmental characteristics and activities of children in a practical situation.
2. They will also learn to understand significant issues related to adolescents, adults and ageing people.

Contents :		Practical
1.	Study of the reflexes of new born in child clinics.	4
2.	Anthropometric measurement of children from birth to 6 years. Plotting and interpretation of data as per WHO norms.	4
3.	Planning, Preparation and conduction of developmentally appropriate activities to enhance overall development of children: physical, motor, language, cognitive, social and emotional (AV aids).	8
4.	Focus group discussion with adolescents to understand their aspirations, educational and career choices.	4
5.	Preparation of a brief questionnaire to identify the problems faced by adults and aging people in communities. Report the information as individual case profile.	4

#### Examination Scheme

Major Problem – Preparation of aids

10 marks

Minor Problem –

- Plotting and interpretation of data on group 10 marks
- Recognition of reflexes 7 marks
- Preparing Questionnaire 8 marks
- Viva 5 marks
- Internal 10 marks

#### NUTRITIONAL BIOCHEMISTRY (THEORY – IX)

Max Marks: - 100 marks

Teaching workload: 4 hours/week

Total teaching workload: 96 hours/year

#### Objectives:

This course will enable the students to –

1. Develop an understanding of the fundamentals of biochemistry.
2. To understand the biochemical process and systems as applicable to human nutrition.

#### UNIT I

Hours

1.	Introduction to Nutritional Biochemistry : <ul style="list-style-type: none"> <li>• Definition and Objectives.</li> <li>• Scope of Biochemistry: knowledge of electron , proton , neutron , atomic number, atomic weight, valency, structure of carbon, pH, buffer, normal and molar solutions.</li> <li>• Role of Biochemistry in clinical nutrition.</li> </ul>	4
2.	Carbohydrates <ul style="list-style-type: none"> <li>• Definition, composition and classification of Carbohydrates.</li> <li>• Functions, Deficiencies and Sources.</li> </ul>	10

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 Nutrition

3.	<ul style="list-style-type: none"> <li>• General properties of monosaccharides, disaccharides and polysaccharides: oxidation reduction, acetylation, inter conversion, reducing property, osazone formation.</li> <li>• Digestion and Absorption.</li> </ul> <p><b>Lipids</b></p> <ul style="list-style-type: none"> <li>• Definition and classification of lipids.</li> <li>• Functions, Deficiencies and Sources.</li> <li>• Important properties of fats: Hydrogenation, halogenation, Iodine number , rancidity, acid number.</li> <li>• Types and properties of fatty acids, essential and non essential fatty acids.</li> <li>• Types and importance of phospholipids , glycolipids and cholesterol.</li> <li>• Digestion and Absorption.</li> </ul>	8
4.	<p><b>Proteins</b></p> <ul style="list-style-type: none"> <li>• Definition, composition and classification of Proteins.</li> <li>• Functions, Deficiencies and Sources.</li> <li>• Essential and Non essential Amino acids.</li> <li>• Quality of protein, supplementary value of protein.</li> <li>• Methods used in determining Quality of proteins – PER, NPU, BV, and Nitrogen Balance.</li> </ul>	11
<b>UNIT – II</b>		
5.	<p><b>Nucleic Acid</b></p> <ul style="list-style-type: none"> <li>• Types , composition</li> <li>• Functions of Nucleic Acids.</li> <li>• Elementary knowledge of Biosynthesis of proteins.</li> </ul>	8
6.	<p><b>Vitamins ( A, D, E, K, B complex and C).</b></p> <ul style="list-style-type: none"> <li>• Definition and Classification.</li> <li>• Functions, Deficiencies and Sources.</li> <li>• Digestion and absorption</li> </ul>	12
7.	<p><b>Minerals (Calcium, Phosphorus , Iron , Iodine , Fluoride , Copper , Zinc, Sodium and Potassium).</b></p> <ul style="list-style-type: none"> <li>• Definition and Classification.</li> <li>• Functions, Deficiencies and Sources.</li> <li>• Absorption and Factors affecting absorption.</li> </ul>	11
<b>UNIT – III</b>		
8.	<p><b>Enzymes</b></p> <ul style="list-style-type: none"> <li>• Definition and classification of enzymes</li> <li>• Mechanism of enzyme action, Factors affecting enzyme reactions: substrate, temperature, pH activator and inhibitor.</li> </ul>	12
9.	<p><b>Intermediary Metabolism</b></p> <ul style="list-style-type: none"> <li>• Carbohydrates - Glycolysis (aerobic and anaerobic), TCA Cycle, Electron Transport chain, glycogenesis, glycogenolysis, gluconeogenesis, blood sugar regulation.</li> <li>• Lipids - Beta oxidation and ketosis.</li> <li>• Proteins – General reactions of amino acid metabolism: deamination, transamination, decarboxylation and urea cycle.</li> </ul>	20

**References:**

1. Devlin T.M. (1986) 2<sup>nd</sup> Ed. Text Book of Biochemistry with Clinical Correlations, John

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- Wiley and Sons.
2. Fruton J and Symond S. General Biochemistry, Asia Publishing House, Mumbai.
  3. Talwar, G.P. (2002) 3<sup>rd</sup> Edition, Text Book of Biochemistry and Human Biolog
  4. Prentice Hall of India, New Delhi.
  5. Kahn Conn , E.E. Stamp P.K. (2000) 7<sup>th</sup> Edition, Outlines of Biochemistry Willey Eastern Pvt. Ltd. New Delhi.
  6. Murray R.K., Granner. D.K. Mayes P.A. and Rodwell V.W. (1993) 23<sup>rd</sup> Ed. Harper's Biochemistry, Lange Medical Book.
  7. Nagar, R and Nair, S.(2001) Jeev Rasayan , Rajasthan Hindi Granth Academy V. Jaipur.
  8. Oser B.L. (1965) 14<sup>th</sup> Ed. Hawk's Physiological Chemistry. McGraw Hill Book Co.
  9. Rama Rao , A. V.SS: (1993) 2<sup>nd</sup> Edition, A Text Book of Biochemistry . L.k. & S. Publishers, Tanuka.
  10. Stryu L. (1995) Biochemistry Freeman WH & Co.
  11. West , E.S. Todd W.R, Mason , H.S. and Van Bruggen J.T. (1974) 4<sup>th</sup> Edition Text Book of Biochemistry . Amerins Publishing , Co. Pvt. Ltd.
  12. White, A , handar , P. Smith E.L. Stelten D.W. (1959) 2<sup>nd</sup> Edition Principles of Biochemistry McGrawhill Book.

### NUTRITIONAL BIOCHEMISTRY(PRACTICAL-IX)

**Max Marks: - 50 marks**

**Teaching workload: one practical/week(2 hours/practical)**

**Total teaching workload: 24 practicals/batch**

**Objectives:**

This course will enable the student to understand:

1. Qualitative analysis of carbohydrates and proteins.
2. Quantitative analysis of carbohydrates and fats
3. Identification of adulterants

**Contents:**

Contents:		Practical
1	Qualitative analysis of known mono-saccharides: (a) Glucose (b) Fructose (c) Galactose	03
2	Qualitative analysis of unknown monosaccharides	01
3	Qualitative analysis of known disaccharides (a) Maltose (b) Lactose (c) Sucrose	03
4	Qualitative analysis of unknown disaccharide	01
5	Qualitative analysis of known polysaccharides (a) Starch (b) Dextrin (c) Glycogen	03
6	Qualitative analysis of unknown polysaccharides	02
7	Qualitative analysis of protein – egg albumin and milk protein casein.	02
8	Qualitative analysis of fat & oil.	01
9	Estimation of Moisture content of fresh peas.	01
10	Estimation of ash content of milk powder.	01
11	Estimation of reducing sugar in honey by Benedict reagent.	01
12	Estimation of acid value of rancid ground nut oil.	01
13	Estimation of Iodine value of ground nut oil.	01
14	Estimation of vitamins in lemon juice by dye method.	01
15	Qualitative testing of some food adulterants in (a) Metanil yellow in turmeric powder, arhar dal and yellow sweets.	02

- (b) Vanaspati in pure ghee.
- (c) Chalk powder and sand in wheat flour.
- (d) Aluminium in sweets.
- (e) Saccharine in sugar cane.
- (f) Argemone oil in mustard oil.
- (g) Lead chromate and coal tar dye in turmeric powder.
- (h) Starch in milk.

**References:**

1. A Practical Manual Wheeler Publishers.
2. Devlin T.M. (1986) 2nd Ed. Text Book of Biochemistry with Clinical Correlations, John Wiley and Sons.
3. Fruton J and Symond S. (1965) 14th Edition, General Biochemistry, Asia Publishing House, Mumbai.
4. Indian Standards Institution (1985) ISI Hand Book of Food Analysis, Parts I to XI, Manak Bhawan, New – Delhi.
5. Talwar, G.P. (2002) 3rd Edition, Text Book of Biochemistry and Human Biology Prentice Hall of India, New Delhi.
6. Kahn Conn , F.F. Stamf P.K. Outlines of Biochemistry Willey Eastern Pvt. Ltd. New Delhi.
7. Lehninger A.L., Nelson D.L. and Cox. M.M. (1993) 2nd Ed. Principles of Biochemistry CBS Publishers and Distributors.
8. Murray R.K., Granner. D.K. Mayes P.A. and Rodwell V.W. (1993) 23rd Ed. Harper's Biochemistry, Lange Medical Book.
9. Nagar, R and Nair, S.(2001) Jeev Rasayan , Rajasthan Hindi Granth Academy V. Jaipur.
10. Oser B.L. (1965) 14th Ed. Hawk's Physiological Chemistry. McGraw Hill Book Co.
11. Rama Rao , A. V.SS: A Text Book of Biochemistry . L.k. & S. Publishers, Tanuka.
12. Sharma Sheel , Practical Biochemistry. Classic Publishing House, Jaipur- Delhi (1993)
13. Stryu L. (1995) Biochemistry Freeman WH & Co.
14. Sundararaj, Pand Siddhu A (1995) Qualitative Tests and Quantitative procedures in Biochemistry.
15. Varley H. Gowenlock, A.H and Bell, M (1980) 5th Edition Practical and Clinical Chemistry Vol. I Willian Heinemann Medical Book Ltd.
16. West , E.S. Todd W.R, Mason , H.S. and Van Bruggen J.T. (1974) 4th Edition Text Book of Biochemistry . Amerins Publishing , Co. Pvt. Ltd.
17. Willian. S, 16th Edition JAOAC Official Methods of Analysis of the Association of Official Analytical Chemists.
- 18 White, A , handar , P. Smith E.L. Stelten D.W. (1959) 2nd Edition Principles of Biochemistry McGrawhill Book.

**Examination Scheme**

	Marks
Qualitative analysis of carbohydrate / oil / protein.	15
Quantitative analysis (Titration )	15
• Principle	05
• Method	02
• Observation and calculation	04
• Result	04

Identification of adulterants	05
Viva	05
Internal	10

**INTERIOR SPACE DESIGN (THEORY -X)**

**Max Marks: - 100 marks**

**Teaching workload: 4 hours/week**

**Total teaching workload:96 hours/year**

**Objectives :**

1. Gain knowledge about the use of art principles in the field of interior.
2. To become aware regarding waste management.

**UNIT-I**

**House Interiors & its treatment**

**Hours**

1.	Wall & wall finishes <ul style="list-style-type: none"> <li>• Definition &amp; importance</li> <li>• Types of walls</li> <li>• Wall treatments: paints, plaster, panelling, wall papers</li> </ul>	4
2.	Floor & floor coverings <ul style="list-style-type: none"> <li>• Definition &amp; importance</li> <li>• Types of floor finishes</li> <li>• Floor coverings</li> <li>• Types of floor covering</li> </ul>	4
3.	Ceilings <ul style="list-style-type: none"> <li>• Definition &amp; importance</li> <li>• Types of ceilings</li> <li>• Treatments for ceilings</li> </ul>	4
4.	Door & Window <ul style="list-style-type: none"> <li>• Parts of a door &amp; window</li> <li>• Types of doors &amp; windows</li> </ul>	6
5.	Arches <ul style="list-style-type: none"> <li>• Introduction &amp; importance</li> <li>• Types of arches</li> </ul>	3
6.	Stairs <ul style="list-style-type: none"> <li>• Introduction &amp; importance</li> <li>• Types of stairs</li> </ul>	3

**UNIT-II**

**Room decoration**

7.	Furniture <ul style="list-style-type: none"> <li>• Types of furniture</li> <li>• Selection use &amp; care</li> <li>• Ergonomic design of furniture</li> <li>• Arrangement of furnituc in various rooms</li> </ul>	4
8.	Using Anthropometric measurements in room for furniture arrangement <ul style="list-style-type: none"> <li>• Bed room</li> <li>• Drawing room</li> <li>• Dining room</li> <li>• Children room</li> </ul>	4
	Flower decoration	4

9.	<ul style="list-style-type: none"> <li>• Selection of plant material for</li> <li>• Fresh arrangement</li> <li>• Dry arrangement               <ul style="list-style-type: none"> <li>(a) Basic equipments</li> <li>(b) Vases and containers</li> <li>(c) Type of flower arrangement</li> <li>(d) Shaping an arrangement</li> </ul> </li> </ul>	
10.	Door and window treatments <ul style="list-style-type: none"> <li>(a) Hard</li> <li>(b) Soft</li> <li>(c) Accessories</li> </ul>	4
11.	Art & Accessories <ul style="list-style-type: none"> <li>• Selection and use for various rooms:</li> <li>• Types of accessories</li> <li>• Selection</li> <li>• Use</li> </ul>	5
12.	Interior lighting <ul style="list-style-type: none"> <li>• Light fixture, accessories and protective devices</li> <li>• Types &amp; purpose of light for various rooms and various activities</li> <li>• Quantity and quality of light available from various sources</li> <li>• Calculation of lighting requirements in a room</li> </ul>	8

**UNIT-III**

**Kitchen planning & waste management**


13.	Kitchen as an important unit of house <ul style="list-style-type: none"> <li>• Functions performed in kitchen</li> <li>• Functional design &amp; arrangement of work places.</li> </ul>	3
	Kitchen geometry <ul style="list-style-type: none"> <li>• Work heights of different work areas and storage areas</li> <li>• Space dimensions of different work centres and work areas</li> </ul>	6
	Principles of kitchen planning <ul style="list-style-type: none"> <li>• Orientation and location of a kitchen</li> <li>• Size and shape of a kitchen</li> <li>• Ventilation, light and socio- economic status of family</li> <li>• Cost and aesthetics</li> <li>• Storage needs</li> <li>• Works centres and work triangle</li> <li>• Colour and safety</li> </ul>	8
	Material specifications for kitchen <ul style="list-style-type: none"> <li>• Floor, wall, sink, ceiling and its characteristics</li> <li>• Platforms, storage etc.</li> <li>• Type of finishes</li> </ul>	6
	Using Anthropometric measurements in kitchen design <ul style="list-style-type: none"> <li>• Storage</li> <li>• Counter</li> </ul>	6
	Domestic waste management techniques <ul style="list-style-type: none"> <li>• Salvage or manual component separation</li> <li>• Compaction or mechanical reduction</li> <li>• Incineration or thermal volume reduction</li> </ul>	8

	<ul style="list-style-type: none"> <li>• Open dumping</li> <li>• Sanitary land filling or controlled tipping</li> <li>• Composting</li> <li>• Vermiculture biotechnology</li> <li>• Waste management by 3 R techniques : Reduction, Reuse Recycle</li> </ul> <p>Kitchen Gardening</p> <ul style="list-style-type: none"> <li>• Planning of kitchen garden</li> <li>• Preparation of a kitchen garden</li> <li>• Methods of propagation <ul style="list-style-type: none"> <li>○ Seed propagation</li> <li>○ Vegetative propagation</li> </ul> </li> <li>• Rotation of crops</li> <li>• Time for negotiable sowing</li> <li>• Landscape gardening</li> </ul> <p>Note: seminar presentation on selected topics from unit I</p>	6
	<b>References:</b>	
	<ol style="list-style-type: none"> <li>1. All you need to know about design &amp; Decorating, (1985) Marshal Carendish Books Ltd..</li> <li>2. Birrel, Verla Leone (1967), Colour and Design. A basic Text (Vol. I &amp; II) Digest submitted in requirement for the degree of education in Teacher college Columbia university.</li> <li>3. Bryan Lawson (1980), How Designer Think, Architectural press Ltd.</li> <li>4. Gillat M. &amp; Goldstein V. (1967), Art Everyday Life, Oxford &amp; IBH publishing Co., New Delhi.</li> <li>5. Goldstein M. &amp; Goldstein V. (1967), Art Everything Life, Mc Graw hill Books comp.Ltd. , New York.</li> <li>6. Halse Altert O. (1978), The use of colour in interior (2<sup>nd</sup> Ed.), Mc Graw Hill Books Comp. Ltd. New York.</li> <li>7. Harburgsen, Gaillhyn (1980), Design Concepts, Allyn &amp; Bacon Inc.</li> <li>8. Patani M., (2010) Home Management, Star Publication, Agra.</li> <li>9. Sulharia and Diamond- Inside Design Creating Tour Environment: Harer and Row Publisher, New York.</li> <li>10. Thomson C.H. (1970), home with character (III rd Ed.), Massachusetts. C. Health &amp; Co., Lexinngton.</li> <li>11. Varghese, M. Atreya, N. Bhatnagar, A. and Chatterjee, L , Ergonomics In Kitchen Design, Dept of P.G. studies and research in Home science, Mumbai.</li> </ol>	
<b>INTERIOR SPACE DESIGN (PRACTICAL-X)</b>		
<b>Max Marks: - 50 marks</b>		
<b>Teaching workload: one practical/week (2 hours/practical)</b>		
<b>Total teaching workload: 24 practicals/batch</b>		
<b>Objectives:</b>		
<ol style="list-style-type: none"> <li>1. Know the various materials used in construction.</li> <li>2. Gain knowledge in principles of planning various types of residential space.</li> <li>3. Be able to top choose furnishing material keeping the financial consideration in mind.</li> <li>4. Gain knowledge on furnishing; develop the skills of drainage, house plans and furniture layouts, creating design for furnishing items.</li> </ol>		



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 University of Rajasthan  
 Jaipur

Contents:		(one class/practical)
1.	Market survey on material used in interiors window	
2.	Market survey on material used in interiors door	
3.	Market survey on material used in interiors roof	
4.	Market survey on material used in interiors Ceiling.	
5.	Market survey on material used for kitchen & modular kitchen	
6.	Drawing types of door and window treatment	
7.	Drawing of roof, ceiling & Flooring types	
8.	Types of doors & window treatments	
9.	Flower arrangement: fresh arrangement	
10.	Making artificial flowers	
11.	Flower arrangement: dry arrangement	
12.	Making a Decorative article using any waste material like Vase, flowers & others	
13.	Introduction to types of Furnishing, Accessories and lighting	
14.	Drawing of standard kitchen plan	
15.	Planning different types of kitchen- L- shape, one wall , U- shape and two wall kitchen	
16.	Developing three dimensional plans of kitchen with storage unit- L shape and one wall	
17.	Developing three dimensional plans of kitchen with storage unit- U shape and two wall	
18.	Interior space planning for different areas of a house in terms of colour, furnishings, furniture arrangement, window treatments, floorings, ceilings, accessories, lighting-Bed room and children's room	
19.	Interior space planning for different areas of a house in terms of colour, furnishings, furniture arrangement, window treatments, floorings, ceilings, accessories, lighting-Living room and dining room	
20.	Interior space planning for different areas of a house in terms of colour, furnishings, furniture arrangement, window treatments, floorings, ceilings, accessories, lighting-Study room and drawing room	
21.	Architectural model (three dimensional) of various rooms along with layout of interiors - bed room and children's room	
22.	Architectural model (three dimensional) of various rooms along with layout of interiors- Living room and dining room	
23.	Architectural model (three dimensional) of various rooms along with layout of interiors- study room and drawing room.	
24.	Prepare a time chart for different negotiable sowing in kitchen garden.	
<b>Examination Scheme</b>		
<b>Exercise</b>		<b>Marks</b>
<b>Major:</b> Three dimensional Models of rooms and kitchen		25
<b>Minor I</b> Drawing of types of door/windows/roofs/ceilings/flooring		7
<b>Minor II</b> Flower arrangement/door or window treatments/lighting		8
<b>Internal</b>		10
	<b>Total</b>	<b>50</b>

  
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