PANJAB UNIVERSITY CHANDIGARH- 160 014 (INDIA)

(Ested. under the Panjab University Act VII of 1947-enacted by the Govt. of India)

FACULTY OF SCIENCE

SYLLABI

FOR

B.Sc. HOME SCIENCE (1st,2nd,3rd & 4th SEMESTER)

(Common to all Streams)

EXAMINATIONS 2015-2016

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B.Sc. HOME SCIENCE -1ST SEMESTER
(Common to all Streams)

Sr. No.	Paper/ Subject	Credit Hours			Theory Marks			Practical Marks			
	Courses	T	P	Total	Paper	Int. Ass.	Total	Paper	Int. Ass.	Total	Total
1	English Language And Communication Skills	2+2(C)	-	4	90	10	100	-	-	-	100
2	Introduction to Foods & Nutrition -I	2	2	4	45	5	50	40	10	50	100
3	Introduction to Human Development -I	2	2	4	45	5	50	40	10	50	100
4	Introduction to Interior Design & Resource Management -I	2	2	4	45	5	50	40	10	50	100
5	Introduction to Clothing and Textiles -I	2	2	4	45	5	50	40	10	50	100
6	Applied Botany - I	2	2	4	45	5	50	40	10	50	100
7	Applied Zoology -I	2	2	4	45	5	50	40	10	50	100
8	Basics of Computer	-	2	2	-	-	-	40	10	50	50
9*	Environmental & Road Safety Education	-	-	-	-	-	-	-	-	-	-
10	Physical Education/ Music/Dance	-	2	2	-	-	-	Satisfactory/ Unsatisfactory S/US			-
	TOTAL			**32**							**750**

B.Sc. (Home Science) First Semester

ENGLISH LANGUAGE AND COMMUNICATION SKILLS
(Theory)

Max. Marks: 100
Theory: 90
Internal Assessment: 10

Credit Hours: 2+2 (Comp.)/week
Duration of Exam: 3 hours

Objective:-

1. To understand the concept of English language and Communication Skills.
2. To test a student's understanding of the text and/or general life-situations, and also devise an effective method of assessing their ability to express themselves in a simple, lucid and correct language.

Instructions to the Examiner:
1. There will be one theory paper of **three hours** duration.
2. The question paper will comprise **four** units.

Unit- I
Prose /Stories

1. The examiner will set *seven* short-answer questions (to be answered in not more than 50-60 words each), from Prose/Story Sections of the prescribed text, out of which a student shall be expected to attempt only *five.*

(5x 2 =10 Marks)

2. The examiner shall set five long-answer questions (to be answered in not more than 120-150 words each), from Prose/Story Sections of the prescribed text, out of which a student shall be expected to attempt only *three.*

(5 x 3 = 15 Marks)

Unit-II
Poetry

3. The examiner will set *seven* short-answer questions (to be answered in not more than 50-60 words each), from Poetry Section of the prescribed text, out of which a student shall be expected to attempt only *five.*

(5x 2 =10 Marks)

4. The examiner shall set five long-answer questions (to be answered in not more than 120-150 words each), from Poetry Section of the prescribed text, out of which a student shall be expected to attempt only *three.*

(3 x 5 = 15 Marks)

Unit- III
Grammar

5. This question shall contain *five* incomplete sentences, in which the student will be expected to fill in the blanks with *five* correct prepositions.

(5 Marks)

6. This question shall contain *five* incomplete sentences, in which the student will be expected to fill in the blanks with *five* correct articles.

(5 Marks)

Unit -IV
Composition

7. This question shall be based on the comprehension of an unseen passage, with five questions on the passage, vocabulary and other grammatical items at the end. **(10 Marks)**
8. The students will be expected to write *one* (formal) letter out of the *two* given: to the editor or to any other Govt. official.

(10 Marks)

9. Paragraph Writing (Descriptive) **(10 Marks)**

PRESCRIBED TEXT BOOKS: ENGLISH AT WORK

POETRY SECTION:

- *Song 36 from Gitanjali*
- *From Homecoming*
- *Myriad- Winged Bird*
- *I Know Why the caged Bird Sings*

PROSE SECTION:

- *Spoken English and Broken English*
- *Principles of Good Writing*

- *The Conjurer's Revenge*
- *I Have A Dream*

INTRODUCTION TO FOODS AND NUTRITION - I
THEORY

Credit Hours: 2/week

Maximum Marks: 50
Paper: 45
Internal Assessment:05

INSTRUCTIONS TO EXAMINERS:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units. Paper setter will set a total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
3. Student will attempt one question from each unit and the compulsory question (Total of five questions)
4. All questions may carry equal marks, unless specified.

OBJECTIVES:

1. To introduce the concept of different areas of Foods and Nutrition.
2. To gain knowledge about Foods and Nutrition.

UNIT- I

1. Introduction to Foods and Nutrition
   - Definition of food
   - Functions of Food- physiological, psychological and social

2. Classification of food on the basis of its functions
   - Health, Optimum Nutrition, Malnutrition
   - Basic terminology used in cooking (refer annexure)

UNIT- II

3. Functions and sources of-
   - Macro nutrients- Carbohydrates, Proteins and Fats
   - Micro nutrients- Minerals: Calcium, Iron and Iodine;
     Vitamins: Fat soluble (A, D, E, K)
     Water soluble (thiamine, riboflavin, niacin, pyridoxine, cyanocobalaminB_{12}, ascorbic acid)

4. Functions and sources of-
   - Water
   - Fiber

UNIT- III

5. Objectives of cooking food
6. Methods of cooking
   - Dry heat, moist heat, cooking with oil
   - solar cooking and microwave cooking
7. Effect of cooking on nutrients

UNIT IV

8. Meal planning
   - Fundamentals of meal planning
   - Factors affecting meal planning
9. Food safety
   - Basic concept of food adulteration
   - Introduction to food safety laws (PFA, BIS, HACCP, ISO, ISI, FPO, FSSA)

ANNEXURE (Basic terminology)

a) A la carte
b) Appetizer
c) Augratin
d) Batter
e) Blanching
f) Braising
g) Croutons
h) Dust
i) Emulsion
J) Fold in
k) Garnish
l) Glaze
m) Grilling
n) Marinate
o) Meringue
p) Puree
q) Roasting
r) Saute
s) Steaming
t) Whip
u) Zest

INTRODUCTION TO FOODS AND NUTRITION - I PRACTICAL

Credit Hours: 2/week
Time: 3 hours

Maximum Marks:50
Paper- 40
Internal Assessment- 10

OBJECTIVES:

1. To understand the concepts of weights and measurements (raw and cooked food) and its importance.
2. To acquire skills in food preparation technique of food.

3. To use appropriate methods of cooking for preparation of specific food products.
4. To observe and understand the principals involved in preparation of different foodstuffs.
5. To learn some methods of preservation of foods.
6. To understand the concept of food adulteration.

CONTENT:

1. Identification of foods.
2. Weights and measures.
3. Concept of portion cooking
4. Raw and cooked weight of foods.
5. Developing and preparing recipes rich in – proteins, carbohydrates, fat, fibre, calcium, iron, vitamin A and vitamin C.
6. Detecting adulteration in foodstuffs – ghee, honey, coffee, milk, haldi

RECOMMENDED READINGS:

1. Discovering Nutrition, Paul Insil, Don Ross, Kimberley McMahon, Melisa Bernstein, Jones and Bartlett Learning, 4th Edition, 2012.
2. Food Hygiene and Sanitation, SunetraRoday, Tata McGraw-Hill Education Private Limited, 2011.
3. Food Science and Nutrition, SunetraRoday, Oxford University Press, 2008.
4. Food Science, B. Srilakshmi, New Age International Publishers, 2012.
5. Foods Facts and Principles, N. ShakuntalaManay, M. Shadaksharaswamy, New Age Publishers, 2013.
6. Fundamentals of Meal Management, Margaret McWilliams, Pearson, 2008.
7. Textbook of Nutrition and Dietetics, KumudKhanna, Elite Publishing House Pvt Ltd, 2008.
8. Nutrition and Dietetics, Shubhangini A Joshi, Tata McGraw-Hill Publishing Company Limited, 2009.
9. Basic Food Preparation: A Complete manual,Faculty of Lady Irwin College, Orient Longman publishers, 2008.

INTRODUCTION TO HUMAN DEVELOPMENT-I

(Theory)

Credit Hours: 2/week

Maximum Marks: 50
Paper: 45
Internal Assessment: 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

Objectives:

- To introduce concepts of human development to students and link it as an interdisciplinary field.
- To discuss the importance and scope of the study of human development.
- To present the applied perspective on human development.

Unit-I

1. Concept of human development.
2. A brief overview of developmental stages of human Development.

Unit-II

3. Scope of the field of human development.
4. Linkage of human development with other fields.

Unit-III

5. Concept of growth and development.
6. Influence of heredity on human growth and development.

Unit-IV

7. Influence of environment on human growth and development.
8. Influence of environmental deprivation and stimulation on growth and development of children.

Recommended Readings:

1. Berk, L.E (1996). Child Development. New Delhi: Prentice Hall.

2. Bhattacharya, S. (2003). Social Work: An Integrated Approach. New Delhi: Deep & Deep Publications Pvt. Ltd.
3. Craig, G. (1999). Human Development. NJ: Prentice Hall.
4. Cole, M., & Cole, S. (1995). The Development of Children. NY: Freeman & Co.
5. Gardiner, H.W., Mutter, J.D., & Kosmitzki (1998). Lives across cultures. Boston: Allyn & Bacon.
6. Gomango, S.P. (2001). Child Labour – A Precarious Future. New Delhi: Tarun Offset.

INTRODUCTION TO HUMAN DEVELOPMENT-I
(Practical)

Max. Marks: 50
Paper: 40
Internal Assessment: 10

Teaching periods: 2/week

Instructions to the examiner:

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

Objectives:

- To introduce methods of studying human development.
- To acquaint students with issues related to development of infants.
- To present the applied perspective on human development.

Content

1. Observation method
2. Observation of an infant.
3. Preparation of poster on any topic pertaining to human development.
4. Preparation of slogans related to issues of human development.
5. Interview method.
6. Interview of mothers related to their feeding and weaning practices.

Recommended Readings:

1. Berk, L.E (1996). Child Development. New Delhi: Prentice Hall.
2. Craig, G. (1999). Human Development. NJ: Prentice Hall.
3. Cole, M., & Cole, S. (1995). The Development of Children. NY: Freeman & Co.
4. Dacey, J.S. & Travers, J.F. (2002). Human Development across the life span, McGraw Hill, New York.
5. Papalia, Diane E. (1978). Human Development, N.Y.: McGraw Hills Book Company.

6. Santrock, J.W. (2007). Life Span Development. Tata McGraw Hill, New Delhi.

INTRODUCTION TO INTERIOR DESIGN & RESOURCE MANAGEMENT-I

(THEORY)

Credit Hours: 2 /week

Maximum Marks: 50
Paper - 45
Internal Assessment - 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

Objectives

1. To understand the fundamentals of interior design & resource management in changing scenario.
2. To recognize the importance of process of management in family life.
3. To recognise the contribution of motivation forces and decision making in management process.
4. To understand the elements and principles of design and their application in home interiors.

Unit -I

1. Meaning & Process of management -
   Planning, Organizing, Controlling and Evaluation
2. Decision Making Process – meaning and steps in Decision Making Process

Unit-II

3. Types of decision, Factors affecting Decision Making Process
4. Motivating factors in Management -Values, Goals and Standards

Unit-III

5. Meaning & Importance of Interior design, Role of Interior Designer

6. Career options in Interior Design Management

Unit-IV

7. Elements of Interior Design – Line, form and shape, colour, texture, pattern and their application in Interiors.
8. Principles of Interior Design – Balance, rhythm, harmony, proportion, emphasis and their application in Interiors.

INTRODUCTION TO INTERIOR DESIGN & RESOURCE MANAGEMENT-I (PRACTICAL)

Maximum Marks: 50
Paper : 40
Internal Assessment: 10

Credit Hours: 2 /week
Duration of Exam: 3 hours

1. Cleaning of different household articles – Brass, Silver, Glass, Plastic, wood
2. Floor decoration – Alpana & Rangoli
3. Goal identification –List down your different types of goals - long term, short term and means - end goals.
4. Making a scrap book comprising of pictures depicting elements and principles of art used in interior
5. To plan, organise and execute an event - Birthday/ Festival/ Institutional/ cultural/ Fashion Show.
   a) Identification of its goal/event and objectives
   b) Preparing proposal – time schedule, list of invitees, planning for menu
   c) Planning of resources
   d) Planning for invitation and decoration
   e) Budget planning
   f) Executing an event
   g) Event evaluation and reporting

Recommended Readings:

1. Gross. L. H. and Crandal E.W., 1967, Management for Modern Families. Appleton Centurion Crafts, New York.

2. Gupta S., Garg N. and Aggarwal.A2004. A Text Book of Family Resources Management , Hygiene and Physiology, Kalyani Publishers, New Delhi,
3. Kaur H., and Macnell, 1994. Theory and Practice of Home Management. Surjeet Publishers. New Delhi.
4. Mann.K.2004, Home Management for Indian Homes. Kalyani Publishers, New Delhi.
5. Nickell P. and Dorsey. M.J. 2002 Management in Family Living 4th Edition. CBS Publishers
6. Rao M. P. 2012 Interior Design - Principles and Practice, Standard Publisher Distributor, Delhi.
7. Randhawa R. 2012. Text Book of Family Resource Management and Health Scince, New light Publishers, Jalandhar.
8. Seetharaman P; Batra S. and Mehra P 2005. An Introduction to Family Resource Management. CBS Publishers and distributors, New Delhi
9. Seetharaman P. and Pannu P. 2012. Interior Design and Decoration. CBS Publishers and Distributors, New Delhi
10. The Educational Planning group Delhi. Home Management 1987. Arya Publishing House, New Delhi
11. Varghese A.M; Ogale N.N and Srinivasan K. 2006. Home Management. New Age International Pvt. Ltd Publishers, New Delhi.
12. Veena G. and et. all Introduction to Interior Design & Decoration, Dominant Publishers and Distributors, New Delhi.

INTRODUCTION TO CLOTHING AND TEXTILES - I
(THEORY)

Maximum Marks: 50

Credit hours -2 /week

Paper: 45

Internal Assessment: 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

OBJECTIVES:

To impart knowledge of

- Fibers, sources of fibers and their properties.
- Machines and tools used for sewing.
- Clothing terminology

Unit-I

- Classification of textile fibers
- Manufacturing Process and Properties of natural fibers:
  - Cellulosic fibers-
    Cotton
    Linen
  - Proteinic fibers-
    Wool
    Silk

Unit-II

- General Fiber Properties - Length, Tenacity, Flexibility, Cohesiveness, Uniformity and Fineness, Crimp, Luster, Density, Elongation, Elasticity, Resiliency, Absorbency, Dyeability, Heat conductivity, Dimensional Stability.
- Physical and chemical properties of :-
  - Cotton
  - Linen
  - Wool
  - Silk

Unit-III

- Terminology of Clothing **:** Grain, Selvedge, Bias, True Bias, Gathers, Dart, Pleats, Tucks, Frills, Flounces, Hemming, Basting, Seam, Seam finishes, Bows, Belts, Trimmings, Fasteners, Bowing, Skewing, Yoke, Facing and Binding.
- Tools and equipments used in clothing construction:
  - Measuring Tools
  - Marking Tools
  - Cutting Tools
  - Sewing Tools
  - Finishing Tools

Unit-IV

- Sewing machine - its parts and their functions, attachments
- Common sewing machine problems and their remedies

Recommended Readings:

1. Kadolph, Anna, L, Langford, Norma Hollen and Saddler," Textiles", MacMillan Publishing company (1993).
2. Corbman, "Textile fiber to Fabric", Mc Graw Hill book company (1983).
3. Irene E. McDermoll and Jeanne. L. Norris, "Opportunities in clothing, Fashion, Merchandising. Chas. A. Bennette Co. Inc, Peoria, Illinois (1968).
4. McCall's, "Sewing in colour- Home dressmaking, Tailoring, Mending, soft furnishings, The Hamlyn Publishing group Ltd. (1963).
5. Kefgen.M and Touchie. P, "Individuality in clothing selection and personal appearance", MacMillan Publishing Co, Inc.
6. Dantyagi.S, "Fundamentals of Textiles and their Care," Orient Longman Ltd, New Delhi.
7. "A Reader's Digest Step by Step guide- Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
8. "The complete Book of sewing-A practical step by step guide to sewing techniques" Dorling Kindersley publication, (1996).
9. "Singer sewing step by step", CY Decosse, Incorporated Minne Tonka, USA.(1990).
10. Tortora, P," Understanding Textiles", Macmillan Publishing Co. Inc., New York, (1978).
11. Trotman, E.R., "Dyeing and Chemical Technology and Textile fibers", B .I. Publications Pvt. Ltd., New Delhi, (1994).

INTRODUCTION TO CLOTHING AND TEXTILES - I
(Practical)

Maximum Marks: 50

Credit hours -2 /wk — Paper: 40

Duration of exam -3 hrs — Internal Assessment: 10

Instructions to examiner

1. There will be four questions in all, two questions from each unit.
2. All questions will carry equal marks.

OBJECTIVES:

To enable the students to-

- Identify fibers.
- Identify stains and their removal.
- Make samples of basic construction techniques.

UNIT-I

Clothing

- Basic hand stitches- Basting, Hemming-visible/invisible, Tailor's tack.
- Practice exercise of Basic seams.
- Types of Seam and self finished seams- Plain, Run and fell, French, lapped.
- Types of Seam Finishes- Overlock, Hand overcasting, Turned and Stitched, Binding

Unit-II

Textile

Fibre Identification:

- Cellulosic fibers
  - Cotton
  - Linen
- Proteinic fibers
  - Silk
  - Wool

Recommended Readings -

1. "The complete Book of sewing-A practical step by step guide to sewing techniques" Dorling Kindersley publication, (1996).
2. "Singer sewing step by step", CY Decosse, Incorporated Minne Tonka, USA.(1990).
3. The complete Book of sewing-A practical step by step guide to sewing techniques Dorling Kindersley Publication, (1996)
4. "Singer sewing step by step", CY Decosse, Incorporated Minne Tonka, USA (1990)
5. Deulkar.D, "Household textiles and Laundry work", Atma Ram and sons Delhi (2002)
6. Pandit.S. "A manual of Children's clothing", Orient Longmans Ltd. Delhi, (1967)
7. Doongaji.S and Deshpande. R. Basic Processes and Clothing Construction", New Raj Book Depot, New Delhi.

8. "A Reader's Digest Step by Step guide-Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
9. Kadolph, Anna, L, Langford, Norma Hollen and saddler, "Textiles", Mac Millan Publishing Company (1993)
10. Coubman, "Textile fiber to Fabric", Mc.Graw Hill book company (1983).

APPLIED BOTANY-I
(Theory)

Credit Hours: 2 Hrs. / per week

Max.Marks :50
Exam. Theory: 45
Internal Assessment: 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

OBJECTIVES:

- To introduce basic concepts about gardening.
- To impart knowledge of propagation of plants by seeds and by other Vegetative methods.
- To impart knowledge about plants which are of economic importance.
- To impart knowledge about growing vegetables, fruits & flowers.

Unit-I

- Study of different types of soil:-
  - Clay
  - Sand
  - Loam
  - Gravel
  - Alluvial
  - Peat

- Study of different Soil Operations:-

  - Tillage
  - Drainage
  - Hoeing & Mulching
  - Irrigation

- Inorganic N, P, K Fertilizers

- Organic Manures:-
  - Farm yard Manure
  - Compost
  - Leaf Mould Manure
  - Green Manure
  - Poultry & Pigeon Manure
  - Soot

Unit-II

- Seed Propagation.
- Vegetative propagation by artificial methods-

  - Cutting,
  - layering,
  - grafting
  - budding.

- Vermicompost.

Unit-III

- Elementary Knowledge about plant tissue culture.
- Elementary Knowledge about Mushroom Cultivation.
- Biofertilizers.

Unit-IV

- Botantical name, family, distribution, part used & uses of the following:

- Fibres: Cotton, Jute & Flax
- Oils: Coconut, Mustard, Ground Nut, Castor Oil & linseed.
- Condiments and Spices: Clove, Cinnamon, Cumin, Cardamom, Coriander, Fennel, Pepper & Turmeric.

APPLIED BOTANY
(Practical)

Max. Marks: 50
Paper – 40
Internal Assessment -10

Credit Hours: 4 Hrs./per week
Duration of Exam: 3 Hrs.

1. Study of Microscope.
2. Preparation of temporary slides of onion peel to study the cell structure.
3. Study of Garden implements (Garden Tools & accessories).
4. To prepare a pot for sowing seeds and study different methods of seed sowing methods.
5. To prepare a pot for repotting of chrysanthemum.
6. (i) Propagation of roses by cutting.
   (ii) Propagation of crotons & coleus by cutting.
7. (i) Propagation by whip & tongue grafting.
   (ii) Propagation by wedge grafting.
8. Economic Botany: - Identify, Name, Family, Part used and uses of the following:

   (i) Fibres: Cotton, Jute & flax.
   (ii) Oils: Mustard, groundnut, Castor, Coconut & linseed.
   (iii) Condiments & spices: Clove, cardamom , cinnamon, cumin, coriander, fennel, pepper & Turmeric

RECOMMENDED READINGS:-

1. B. Choudhary: Vegetables (National Book of India, New Delhi 1979)
2. Breikell C. 1993, Step by Step Gardening Technique (Royal Horticultural

Society's Encyclopedia of Practical Gardening).
3. Dutta A.C. Botany for Degree Students (Oxford University Press, New Delhi 1970)
4. Gangullee H.C. Dass, K.S. Dass, K.S. Dutta C: College Botany Vol. I (New Central Book Agency Calcutta 1991)
5. Gopalaswamianger K.S. 1991 Complete Gardening in India (Messers Nagaraj and Co., Madras).
6. H.T. Harman and D Keter: Plant Propagation, Principles and Practices (Prentice Hall of India Pvt. Ltd. New Delhi 1979).
7. Hind Book of Agriculture: ICAR, New Delhi 1987.
8. J.L. Shreemali Economic Botany (Har Anand Publication, New Delhi 1995)
9. O.P. Sharma: Hill's Economic Botany 2006 Tata McGraw-Hill Publishing Co. Ltd.
10. Robert W. Sehery:Plants for man (Prentice Hall Incorporation 1972 New Delhi.
11 Sham Singh: Fruit Cultivation in India.
12. Sudhir Pardhan: Economic Botany (Kitab Mahal, Allahabad 1982).
13. Sh. S.K. Jain: Medicinal Plants: 2008 (National Book Trust, India).
14. Sh. V. Verma : A text Book of Economic Botany 1984. Emkay Publication.

APPLIED ZOOLOGY-I
(THEORY)

Credit Hours : 2 hours/ week

Total marks : 50
Paper (Theory) : 45
Internal Assessment : 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

OBJECTIVES: To provide knowledge regarding the application of Zoology in day to day life.

Unit- I

An elementary study of the following animals as indicated:

1. Malaria parasite: Detail life history and mode of transmission.
2. *Entamoeba histolytica and Entamoeba coli***:** Habit distribution ,disease produced and mode of transmission.
3. *Trypansoma gambiense and Leishmania dononani* **:** Habit distribution ,disease produced and mode of transmission.
4. *Taenia solium, Ascaris lumbricoides***:** External feature life history , disease caused and mode of transmission.
5. *Fasciola hepatica andWucheria bancrofti***:** life history , disease caused and mode of transmission .

Unit-II

An elementary study of Insect Pest

6. Life history and economic importance of insect pest: Rice Weevil (Sytophillus), Lesser Grain Borer(*Rizopertha*), Gram Dhora(*Callosobruchus*), and Rust Red Flour Beetle (*Tribolium*).
7. Control of insect pest : Cockroach, Termite.
8. Grain Storage: Principles of toxicology with reference to home.
9. Habit habitat and life history only: Mosquito(Culex & Anopheles).

Unit-III

Economic important insect and Earthworm

10. Honey bee: Habit habitat and life history only.
11. Silk moth: Habit habitat and life history only.
12. Lac insect: Habit habitat and life history only
13. External feature life history and economic importance of Earthworm

Unit-IV

14. Elementary knowledge of Apiculture.
15. Elementary knowledge of Sericulture.
16. Elementary knowledge of Vermiculture.
17. Elementary knowledge of Poultry(important breed of poultry, selection of breed, Housing, Feeding and common ailment such as Ranikhet, cocidiosis, fowlpox and fowl cholera, only)
18. Elementary knowledge of Prevention of Bird flue.
19. Elementary knowledge of composite and integrated fish (cultivation of major carps only) culture in pond only (excluding induced breeding).

APPLIED ZOOLOGY-I
(PRACTICAL)

Credit Hours : 2 hours/ week	Total marks : 50
Duration of Exam: 3 hours	Paper (Theory) : 40
	Internal Assessment : 10

1. Phylum based identification and Economic importance of Invertebrates and Vertebrates present in the laboratory.
2. Identification of slides and specimens: Malaria parasite(*Plasmodium*), *Fasciola hepatica(life stages also), Ascaris, Taenia solium, .*
3. Identification of available insect pest and their life stages.
4. Preparation of temporary mounts of mouth parts of cockroach
5. Visit to Poultry farm.
6. Vermiculture.
7. Project report on field visit to renowned poultry

Books Recommended

1. Dhami, PS: A text Book of Zoology for 11^{th} & 12^{th} students(2000)
2. Prasad,S.N.: Invertebrate Zoology(1980)
3. Parker Hasewell: Vertibrate Zoology(1967)
4. Jordan,E.L. & Verma,P.S.: Invertebrate Zoology(1973)
5. Vidyarthy,R.D.:A text book of Zoology for intermediate students (1998).
6. Delela&Verma: A text book of Cytology (1987)
7. Sardar Singh: Bee- Keeping in India, ICAR(1972).
8. Kalyanan, N.P: Common insect of India(1967).
9. Venkita Raman: A text book of Economic Zoology(1990)
10. Naidu,P.M.N.: Poultry keeping in India(1976),ICAR
11. Shukla & Upadhya: Economic Zoology.
12. Lal S.S.: Practical Zoology, Invertebrate.
13. Lal S.S.: Practical Zoology, Vertebrate.
14. Kotpal R.L.: Modern Text Book of Zoology Invertebrate.
15. Kotpal R.L.: Modern Text Book of Zoology Vertebrate.

BASICS OF COMPUTER
(PRACTICAL)

Credit Hours: - 2 / Week	Maximum Marks : 50
Duration of Exam: - 03 Hours	Paper : 40
	Internal Assessment: 10

Objective:

1. To impart basic computer knowledge to students.
2. To enable the students to concept of fundamentals and its applications.

Instructions for paper setters:

- There will two questions in all from Section –II only.
- One question will be set from Sr. No. 1 carrying 20 marks.
- One question will be set from Sr. No. 02 carrying 20 marks.
- Each question can be sub divided into according to the Practical

Section-I
(THEORATICAL BACKGROUND TO BE DONE IN PRACTICAL CLASSES)

1. Introduction to Computer: Definition, Generation, Classification of computers,
   Configurations of computers, Computer software and hardware. Computer peripherals.

2. Computer memory: Types, Main memory, Secondary memory, Introduction to
   Secondary storage devices.

Section II
(PACTICAL)

1. Using Windows: Windows Basics; Start Windows; Using different windows simultaneously; Moving through windows and mouse; Maximize/Minimize windows; Use of help feature; Exit windows; Starting an application; Copy, Move, Delete files/ Directories, Creating Directories. Reaming files and directories.
2. Word Processing Package: Basics of Word Processing; Text Selection, Opening Documents and Creating Documents, Saving Documents/Quitting Documents, Cursor control, Printing and Replacing Text, Spell Check Feature/Autocorrect feature, Grammar facility, Retrieving often used text; Auto text character formatting, Page formatting; Document Enhancement: Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Shorting locks, Adjusting Margins and Hyphenating Documents, Creating Master Documents, Data Source, Merging Documents, Using Mail merge feature for labels and envelopes: Graphics and Using Templates and wizards.
3. Presentation Packages: Basics, General Features, Creating a presentation, Working with slides, Inserting images, Video, Audio Clips, Indents and line spacing, Slide animations transactions, Manual and Automatic slide show, Color themes etc.

Recommended Readings:-

1. Pradeep K. Sinha, Priti Sinha, "Computer fundamentals" BPB Publications, New Delhi, 2011.
2. Mandeep Handa, Virnder Singh "Windows based Computer courses" ABS Publications, Jalandhar, 2011.
3. Suresh K. Basanra, "Computer Today" Galgotia Publications, New Delhi, 2008.
4. Ikvinderpal Singh, Baljinder Singh "Windows Based Computer Courses" Khanna Book Publications Co. (P) Ltd. 2011.

PHYSICAL EDUCATION
(PRACTICAL)

Credit Hours: 2 Hrs. /week Grade: S/US
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider annual assignment of the student, physical education practical file, take practical exam & viva voce based on syllabus for grading the students performance in the examination.

Objectives:

1. Wholesome development of an individual.
2. Knowledge of basic techniques involved in athletic events.
3. Practical knowledge of techniques and skills involved in various games out of syllabus.
4. Knowledge and benefit of yoga in day to day life.

Unit–I

Athletics: Brief knowledge of track and field events. Layout of Track, Short Distance Races (including relay race)
[a] Technique for start, finishing and during running in a race.
[b] General fouls in track events.

Unit– II

Field Event: Throw: Shot put
[a] Dimension of the throwing area and specification of equipment used
[b] Techniques of putting a shot
[c] Fouls of throwing events.

Unit– III

Anyone game from the following games:
[a] Badminton
[b] Kho- Kho
[c] Volleyball
[d] Hockey
[e] Yoga

Unit – IV

[a] Brief knowledge of Asian Games and current national records in Athletics
[b] Knowledge of prominent players of the games in syllabus

REFRENCES:

1. A Text Book of Physical Education and Sports by Atwal and Kansal.
2. Rule Book of Athletics by Amateur Athletic Federation of India.
3. Rule Book of Badminton by Badminton Federation of India.
4. Rules Book of Kho-Kho by Kho-Kho Federation of India.
5. Rule Book of Volley Ball by Volley Ball Federation of India.
6. Rule Book of Hockey by Hockey Federation of India
7. Various search engines found on internet.

MUSIC (VOCAL)
(Practical)

Credit Hours :2 Hrs/week Grade: S/US
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider, music practical file, practical based on syllabus and viva-voce for grading the students performance.

Objectives:

- Introduction *of swara, raga, taal, alamkars.*
- To develop interest in Classical Music

1. Two fast khayals with Alap and Taans of the following Ragas:
   a) Bilawal
   b) Kafi
2. One Lakhsan geet in any raag of the prescribed syllabus
3. The following Taalas with Ekgun and Dugun with Bols on hand.
   a) Teen taal
   b) Dadra taal
4. Life sketches of musicians:
   a) Pandit Ravi Shankar
   b) Pandit Bheem Sen Joshi

REFERENCES:

1. Harish Chander Shrivastava (1993): Rag Prichaya Part – II, Sangeet Sadan Parkashan, 88, South Malaka, Allahabad.
2. Harish Chander Shrivastava (1993) : Rag Prichaya Part – III, Sangeet Sadan Parkashan, 134, South Malaka, Allahabad.
3. Pandit Vishnu Narayan Bharkande (1989): Hindustani Sangeet Padhtti Part II Sangeet Karyalaya, Hathras (UP).
4. Pandit Vishnu Narayan Bharkande (1988): Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
5. Lakshmi Narayan Garg: Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
6. Shri Prabhu Lal Garg Basant: Sangeet Karyalaya, Hathras (UP).
7. Search engines on internet.

DANCE
(Practical)

Credit Hours :2 Hrs/week Grade: S/US
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider, dance practical file, practical based on syllabus and viva-voce for grading the students performance.

Objectives:

- Wholesome development of an individual.
- Introduction to *laya* and *taal*

1. Teen taal: Tatkar in single,dugun and chaugun laykaries
   Namaskar:1, Amad:1, Tora:2, Paran:1, Chakardaar Paran:2, Kavit:1

2. Practical demonstration of ten hand movements with their function
3. Ability to play Teen taal on table.
4. Description of various Gharanas of Kathak.

REFERENCES:

1. Kathak Nritya Shiksha Part-I, by Puru Dadheish

2. Kathak Nritya Shiksha Part-II, by Puru Dadheish

B.SC. HOME SCIENCE – 2ND SEMESTER
(Common to all Streams)

Sr. No.	Paper/ Subject	Credit Hours			Theory Marks			Practical Marks			
	Courses	T	P	Total	Paper	Int. Ass.	Total	Paper	Int. Ass.	Total	Total
1	English Language And Communication Skills	2+2(C)	-	4	90	10	100	-	-	-	100
2	Introduction to Foods & Nutrition -II	2	2	4	45	5	50	40	10	50	100
3	Introduction to Human Development-II	2	2	4	45	5	50	40	10	50	100
4	Introduction to Interior Design & Resource Management -II	2	2	4	45	5	50	40	10	50	100
5	Introduction to Clothing and Textiles -II	2	2	4	45	5	50	40	10	50	100
6	Applied Botany - II	2	2	4	45	5	50	40	10	50	100
7	Applied Zoology -II	2	2	4	45	5	50	40	10	50	100
8	Computer Applications	-	2	2	-	-	-	40	10	50	50
9*	Environmental & Road Safety Education	-	-	-	-	-	-	-	-	-	-
10	Physical Education/Music/ Dance	-	2	2	-	-	-	Satisfactory/ Unsatisfactory S/US			-
	TOTAL			**32**							**750**

The Environment & Road Safety Education is a compulsory qualifying paper, which the students have to study in the B.Sc. 1st year (2nd Semester). If the student/s failed to qualify the paper during the 2nd Semester, he /she/they be allowed to appear/qualify the same in the 4th or 6th Semester/s.

ENVIRONMENT AND ROAD SAFETY EDUCATION (SEMESTER – II)

Note: The syllabus has 15 topics to be covered in 25 hour lectures in total, with 2 lectures in each topic from 2 to 11 and one each for the topics 1 and 12 to 15.

1. Environment Concept:
Introduction, concept of biosphere – lithosphere, hydrosphere, atmosphere; Natural resources – their need and types; Principles and scope of Ecology; concepts of ecosystem, population, community, biotic interactions, biomes, ecological succession.

2. Atmosphere:
Parts of atmosphere, components of air; pollution, pollutants, their sources, permissible limits, risks and possible control measures.

3. Hydrosphere:
Types of aquatic systems; Major sources (including ground water) and uses of water, problems of the hydrosphere, fresh water shortage; pollution and pollutants of water, permissible limits, risks and possible control measures.

4. Lithosphere:
Earth crust, soil – a life support system, its texture, types, components, pollution and pollutants, reasons of soil erosion and possible control measures.

5. Forests:
Concept of forests and plantations, types of vegetation and forests, factors governing vegetation, role of trees and forests in environment, various forestry programmes of the Govt. of India, Urban Forests, Chipko Andolan.

6. Conservation of Environment:
The concepts of conservation and sustainable development, why to conserve, aims and objectives of conservation, policies of conservation; conservation of life support systems – soil, water , air, wildlife, forests.

7. Management of Solid Waste:
Merits and demerits of different ways of solid waste management– open dumping, landfill, incineration, resource reduction, recycling and reuse, vermicomposting and vermiculture, organic farming.

8. Indoor Environment:
Pollutants and contaminants of the in-house environment; problems of the environment linked to urban and rural lifestyles; possible adulterants of the food; uses and harms of plastics and polythene; hazardous chemicals, solvents and cosmetics.

9. Global Environmental Issues:
Global concern, creation of UNEP; Conventions on climate change, Convention on biodiversity; Stratospheric ozone depletion, dangers associated and possible solutions.

10. Indian Laws on Environment:
Indian laws pertaining to Environmental protection: Environment (Protection) Act, 1986; General information about laws relating to control of air, water and noise pollution. What to do to seek redressal.

11. Biodiversity:

What is biodiversity, levels and types of biodiversity, importance of biodiversity, causes of its loss, how to check its loss; Hotspot zones of the world and India, Biodiversity Act, 2002.

12. Noise and Microbial Pollution:
Pollution due to noise and microbes and their effects.

13. Human Population and Environment:
Population growth and family welfare programme, Human Health. HIV-AIDS. Human Rights.

14. Social Issues:
Environmental Ethics: Issues and possible solutions, problems related to lifestyle, sustainable development; Consumerisms and waste generation.

15. Local Environmental Issues:
Environmental problems in rural and urban areas. Problem of Congress Grass & other weeds, problems arising from the use of pesticides and weedicides, smoking etc.

Practical
Depending on the available facility in the college, a visit to vermicomposting units or any other such non-polluting eco-friendly site or planting/caring of vegetation/trees could be taken.

Examination Pattern:
A qualifying paper of 50 marks comprising of fifty multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong answer or un-attempted question), and of 1 hour duration.

The students have to obtain 33% marks to qualify the paper. The marks are not added / included in the final mark sheet.

UNIT II (ROAD SAFETY)

1. Concept and Significance of Road Safety.
2. Role of Traffic Police in Road Safety.
3. Traffic Engineering – Concept & Significance.
4. Traffic Rules & Traffic Signs.
5. How to obtain Driving License.
6. Traffic Offences, Penalties and Procedures.
7. Common Driving mistakes.
8. Significance of First-aid in Road Safety.
9. Role of Civil Society in Road Safety.
10. Traffic Police-Public Relationship.

Note : Examination Pattern :

- The Environment and Road Safety paper is 70 marks.
- Seventy multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong or un-attempted questions).
- The paper shall have two units: **Unit I (Environment) and Unit II (Road Safety).**
- Unit II shall comprise of 20 questions with minimum of 1 question from each topics 1 to 10.
- The entire syllabus of Unit II is to be covered in 10 hours.

- All the questions are to be attempted.
- Qualifying Marks 33 per cent i.e. 23 marks out of 70.
- Duration of examination: 90 minutes.
- The paper setter is requested to set the questions strictly according to the syllabus.

Suggested Readings

1. The Motor Vehicle Act, 1988 (2010), Universal Law Publishing Co. Pvt. Ltd., New Delhi.
2. Road Safety Signage and Signs (2011), Ministry of Road Transport and Highways, Government of India.

Websites:

(a) www.chandigarhpolice.nic.in

(b) www.punjabpolice.gov.in

(c) www.haryanapolice.gov.in

(d) www.hppolice.nic.in

B.Sc. (Home Science) Second Semester

ENGLISH LANGUAGE AND COMMUNICATION SKILLS
(Theory)

Max. Marks: 100
Theory: 90
Internal Assessment: 10

Credit Hours : 2+2 (Comp.)/week
Duration of Exam: 3 hours

Objective:-

1. To understand the concept of English language and Communication Skills.
2. To test a student's understanding of the text and/or general life-situations, and also devise an effective method of assessing their ability to express themselves in a simple, lucid and correct language.

Instructions to the Examiner:

1. There will be one theory paper of **three hours** duration.
2. The question paper will comprise **four** units.

Unit: I
Prose /Stories

3. The examiner will set *seven* short-answer questions (to be answered in not more than 50-60 words each),from Prose/Story Sections of the prescribed text, out of which a student shall be expected to attempt only *five.* **(5x 2 =10 Marks)**

4. The examiner shall set five long-answer questions (to be answered in not more than 120-150 words each),from Prose/Story Sections of the prescribed text, out of which a student shall be expected to attempt only *three.* **(5 x 3 = 15 Marks)**

Unit-II
Poetry

5. The examiner will set *seven* short-answer questions (to be answered in not more than 50-60 words each),from Poetry Section of the prescribed text, out of which a student shall be expected to attempt only *five.* **(5x 2 =10 Marks)**

6. The examiner shall set five long-answer questions (to be answered in not more than 120-150 words each),from Poetry Section of the prescribed text, out of which a student shall be expected to attempt only *three.* **(3 x 5 = 15 Marks)**

Unit: III
Grammar

7. This question shall contain *five* pairs of homophones which the students would be expected to use in sentences of their own so as to bring out the difference in their meaning.
(10 Marks)

8. The students will be asked to correct *ten* sentences or choose the correct sentences out of the given pairs or use the correct form of the verbs in the given sentences.
(10 Marks)

Unit: IV
Composition

9. The students will be expected to write *one* (informal) letter out of the *two* given. **(10 Marks)**

10. Report Writing (On a given situation/incident) **(10 Marks)**

PRESCRIBED TEXT BOOKS: ENGLISH AT WORK

POETRY SECTION:

- *Telephonic Conservation*
- *Dover Beach*
- *Anthem For Doomed Youth*
- *The Unknown Citizen*

PROSE SECTION:

- *Letter To A Teacher*
- *The Best Investment I Ever Made*
- *Taking The Law Into Their Hands*
- *The Elixir Of Life*

INTRODUCTION TO FOODS AND NUTRITION - II
THEORY

Credit Hours: 2/week

Maximum Marks: 50
Paper: 45
Internal Assessment: 05

INSTRUCTIONS TO EXAMINERS:

1. Each theory paper will be of three hours duration.
2. Question paper will have four units. Paper setter will set a total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
3. Student will attempt one question from each unit and the compulsory question (Total of five questions)
4. All questions may carry equal marks, unless specified.

OBJECTIVES:

1. To introduce the concept of different areas of Foods and Nutrition.
2. To gain knowledge about Foods and Nutrition.

Unit- I

1. Study of the food groups with respect to their classification, basic composition and nutritive content
   - Cereals
   - Pulses and legumes
   - Fruits and vegetables
   - Fats and oils
   - Sugar and jaggery
2. Beverages- tea, coffee, cocoa

Unit- II

3. Study of the food groups with respect to their classification, basic composition and nutritive content
   - Milk and milk products
   - Eggs, meat, fish and poultry
   - Nuts and oil seeds

4. Food storage:
    - Introduction and general guidelines for safe food storage
    - Dry food storage
    - Refrigerated store
    - Freezer storage

Unit- III

5. Balanced Diet
    - Definition and concept
    - Factors affecting balanced diet

6. RDA – definition
    - Reference man and woman
    - Food pyramid

Unit IV

7. Food Preservation-
    - Definition and importance
    - Food spoilage causes and factors affecting it
    - Principles of food preservation

8. Methods of preservation – household and commercial

INTRODUCTION TO FOODS AND NUTRITION - II
PRACTICAL

Credit Hours: 2/week — Maximum Marks: 50
Duration of exam: 3 hours — Paper: 40
Internal Assessment:10

OBJECTIVES:

1. To understand the concepts of weights and measurements (raw and cooked food) and its importance.
2. To acquire skills in food preparation technique of food.

3. To use appropriate methods of cooking for preparation of specific food products.
4. To observe and understand the principals involved in preparation of different foodstuffs.
5. To learn some methods of preservation of foods.
6. To understand the concept of food adulteration.

CONTENT:

1. Food preparation according to different food groups –
    - Cereals and cereal products
    - Pulses – husked, de - husked
    - Vegetables and fruits
    - Milk and milk products
2. Beverages preparation
3. Demonstration of preparation of jams, murrabba, pickles for preservation

RECOMMENDED READINGS:

1. Discovering Nutrition, Paul Insil, Don Ross, Kimberley McMahon, Melisa Bernstein, Jones and Bartlett Learning, 4th Edition, 2012.
2. Food Hygiene and Sanitation, SunetraRoday, Tata McGraw-Hill Education Private Limited, 2011.
3. Food Science and Nutrition, SunetraRoday, Oxford University Press, 2008.
4. Food Science, B. Srilakshmi, New Age International Publishers, 2012.
5. Foods Facts and Principles, N. Shakuntala Manay, M. Shadaksharaswamy, New Age Publishers, 2013.
6. Fundamentals of Meal Management, Margaret McWilliams, Pearson, 2008.
7. Textbook of Nutrition and Dietetics, KumudKhanna, Elite Publishing House Pvt. Ltd, 2008.
8. Nutrition and Dietetics, Shubhangini A Joshi, Tata McGraw-Hill Publishing Company Limited, 2009.
9. Basic Food Preparation: A Complete manual, Faculty ofLlady Irwin College, Orient Longman publishers, 2008.

INTRODUCTION TO HUMAN DEVELOPMENT-II

(Theory)

Credit Hours: 2/week | Maximum Marks: 50
Time: 3 Hours | Paper: 45
Internal Assessment: 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four section/UNITs.
3. A total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

Objectives:

- To introduce concepts of human development to students and link it as an interdisciplinary field.
- To discuss the importance and scope of the study of human development.
- To present the applied perspective on human development.

Unit-I

1. The beginning of human life, stages of prenatal period.
2. Factors influencing prenatal development.

Unit-II

3. Types of child birth.
4. Complications during child birth.

Unit-III

5. Reflexes of Infants.
6. Milestones of motor development from 0-2 years.

Unit-IV

7. Factors affecting physical development of infants.
8. Pattern of physical growth and development from 0-2 years.

Recommended Readings:

1. Berk, L.E (1996). Child Development. New Delhi: Prentice Hall.
2. Bhattacharya, S. (2003). Social Work: An Integrated Approach. New Delhi: Deep & Deep Publications Pvt. Ltd.
3. Craig, G. (1999). Human Development. NJ: Prentice Hall.
4. Cole, M., & Cole, S. (1995). The Development of Children. NY: Freeman & Co.
5. Gardiner, H.W., Mutter, J.D., &Kosmitzki (1998). Lives across cultures. Boston: Allyn& Bacon.
6. Gomango, S.P. (2001). Child Labour – A Precarious Future. New Delhi: Tarun Offset.

INTRODUCTION TO HUMAN DEVELOPMENT-II

(Practical)

Max. Marks: 50
Paper: 40
Internal Assessment: 10

Teaching periods: 2/week

Instructions for Paper-setter:

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

Objectives:

- To introduce methods of studying human development.
- To acquaint students with issues related to development of infants.
- To present the applied perspective on human development.

Content

1. Questionnaire method.
2. Preparation of a questionnaire on any issue related to pregnancy.
3. Recording of reflexes of newborn babies.
4. Preparation of a file with collection of traditional practices, rituals and lullabies used while rearing up infants.
5. Preparation of resource material/audio visual aids/ toys to enhance physical development of infants.

Recommended Readings:

1. Berk, L.E (1996). Child Development. New Delhi: Prentice Hall.
2. Craig, G. (1999). Human Development. NJ: Prentice Hall.
3. Cole, M., & Cole, S. (1995). The Development of Children. NY: Freeman & Co.
4. Dacey, J.S. & Travels, J.F. (2002). Human Development across the life span, Mc Graw Hill, New York.
5. Papalia, Daine E. (1978). Human Development, NY: Mc GRaw Hill Book Company.
6. Santrock, J.W. (2007). Life Span Development. Tata McGraw Hill, New Delhi.

INTRODUCTION TO INTERIOR DESIGN & RESOURCE MANAGEMENT-II (THEORY)

Maximum Marks: 50
Paper - 45
Internal Assessment - 05

Credit Hours: 2 /week

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four Units.
3. A total of nine questions comprising of two questions from each unit and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

Objectives

1. To understand the fundamentals of interior design & resource management in changing scenario.
2. To recognize the importance of resources and maximizing & conserving their use in order to achieve goals.
3. To understand the elements and principles of design and their application in home interiors.
4. To understand the importance of colour in interiors.

Unit-I

1. Meaning & Classification of resources – Human, Non-human and Shared resources.

2. Factors affecting the use of resources

Unit-II

3. Money- Types of income, steps in budget planning, advantages and limitations of budget planning.
4. Time - Steps in time plan, tools in time management

Unit-III

5. Energy- Classification of efforts used in homemaking activities and Fatigue
6. Work simplification - Its meaning and principles of work simplification.

UNIT-IV

7. Colour – classification of colours & properties of colour, colour wheel.
8. Colour schemes and Emotional effects of colours

INTRODUCTION TO INTERIOR DESIGN & RESOURCE MANAGEMENT-II (PRACTICAL)

Maximum Marks: 50
Paper : 40
Internal Assessment: 10

Credit Hours: 2 /week
Duration of Exam: 3 hours

1. Table setting for different meals
   Table manners and Napkin folding
2. Budget planning for different income groups
3. Making of colour wheel
   a) Showing primary, secondary and tertiary colours
   b) Properties of Colours - Value, Intensity, Warm colours & Cool colours
   c) Showing different colours scheme
4. Making a scrap book comprising of pictures depicting different colour schemes and analysing

Recommended Readings

1. Gross. L. H. and Crandal.E.W.,1967,. Management for Modern Families. Appleton Centurion Crafts, New York.

2. Gupta.S., Garg.N. and Aggarwal.A2004. A Text Book of Family Resources Management, Hygiene and Physiology, Kalyani Publishers, New Delhi,
3. Kaur.H.., and Macnell., 1994. Theory and Practice of Home Management. Surjeet Publishers. New Delhi.
4. Mann.K.2004, Home Management for Indian Homes. Kalyani Publishers, New Delhi.
5. Nickell.P. and Dorsey. M.J. 2002 Management in Family Living 4th Edition. CBS Publishers
6. Rao. M. P. 2012 Interior Design - Principles and Practice, Standard Publisher Distributor, Delhi.
7. Randhawa R. 2012. Text Book of Family Resource Management and Health Scince, New light Publishers, Jalandhar.
8. Seetharaman P; Batra S. and Mehra P 2005. An Introduction to Family Resource Management. CBS Publishers and distributors, New Delhi
9. Seetharaman P. and Pannu P. 2012. Interior Design and Decoration. CBS Publishers and Distributors, New Delhi
10. The Educational Planning group Delhi. Home Management 1987. Arya Publishing House, New Delhi
11. Varghese A.M; Ogale N.N and Srinivasan K. 2006. Home Management. New Age International Pvt. Ltd Publishers, New Delhi.
12. Veena G. and et. all Introduction to Interior Design & Decoration, Dominant Publishers and Distributors, New Delhi.

INTRODUCTION TO CLOTHING AND TEXTILES - II
(THEORY)

Maximum Marks: 50
Credit hours:2 /wk — Paper: 45
Duration of exam:3 hrs — Internal Assessment:05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four Units.
3. A total of nine questions comprising of two questions from each unit and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

OBJECTIVES:

To impart knowledge of

- Fibers, sources of fibers and their properties.
- Clothing terminology
- Clothing for different age groups.

Unit-I

- Manufacturing process of Man-made fibers :
  - Regenerated Cellulosic Fibers
    Viscose Rayon
    Acetate
  - Synthetic Fibers
    Polyester
    Nylon

Unit-II

- Physical and Chemical properties of Man-made fibers :
  - Regenerated Cellulosic Fibers
    Viscose Rayon
    Acetate
  - Synthetic Fibers
    Polyester
    Nylon

Unit-III

Factors affecting selection of clothing:

- Age
- Season
- Income
- Occasion
- Occupation
- Sex
- Fashion

Unit-IV

Clothing for different age groups with special reference to fabrics, colours, style and details:

- Infants
- Toddlers
- Pre-school children
- Adolescents

- Adults
- Elderly

Recommended Readings

1. Kadolph, Anna,L, Langford, Norma Hollen and Saddler," Textiles", MacMillan Publishing company (1993).
2. Corbman, "Textile fiber to Fabric", Mc Graw Hill book company (1983).
3. Irene E. McDermoll and Jeanne.L.Norris, "Opportunities in clothing, Fashion, Merchandising. Chas.A.Bennette Co.Inc, Peoria, Illinois (1968).
4. McCall's, "Sewing in colour- Home dressmaking, Tailoring, Mending, soft furnishings, The Hamlyn Publishing group Ltd. (1963).
5. Kefgen.M and Touchie.P, "Individuality in clothing selection and personal appearance", MacMillan Publishing Co, Inc.
6. Dantyagi.S, "Fundamentals of Textiles and their Care," Orient Longman Ltd, New Delhi.
7. "A Reader's Digest Step by Step guide- Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
8. "The complete Book of sewing-A practical step by step guide to sewing techniques" Dorling Kindersley publication, (1996).

INTRODUCTION TO CLOTHING AND TEXTILES -II
(Practical)

Maximum marks: 50
Credit hours -2 /wk — Paper: 40
Duration of exam -3 hrs — Internal Assessment:10

Instructions to examiner

1. There will be four questions in all, two questions from each unit.
2. All questions will carry equal marks.

OBJECTIVES:

To enable the students to-

- Identify fibers.
- Identify stains and their removal.
- Make samples of basic construction techniques.

Unit-I

Clothing

Making samples of-

a) Fullness- Types of Darts, Tucks, Pleats, Gathers.
b) Neckline Finishes-Binding, Facing.
c) Fasteners- Button, Buttonhole, Hook and eye, Press Button.

Unit-II

Textile

Fibre identification:

- Regenerated Cellulosic fibers
  - Viscous rayon
  - Acetate rayon
- Synthetic fibers
  - Nylon
  - Polyester
  - Stain Removal

Recommended Readings -

- "The complete Book of sewing-A practical step by step guide to sewing techniques" Dorling Kindersley publication, (1996).
- "Singer sewing step by step", CY Decosse, Incorporated Minne Tonka, USA.(1990).
- "The Complete book of sewing- A practical step by step guide to sewing techniques", Darling Kindersley Publication, (1996).
- "Singer sewing step by step", CY Decosse Incorporated Minne Tonka USA (1990)
- Deulkar D, " Household Textile and laundry work" orient Longmans Ltd. Delhi(1967).
- Doongaji S and Deshpande R . , "Basic processes and clothing construction, " New Raj Book depot, New Delhi.
- A Reader's Digest step by step guide-sewing and knitting", Readers digest (Australia) Pvt. Ltd.
- Kadolph, Anna,L, Langford ,Norma Hollen and saddler "Textiles", Mac Millan Publishing company (1993).
- Corbman , "Textile fiber to Fabric", Mc. Graw Hill book company (1983)

APPLIED BOTANY-II
(Theory)

Credit Hours: 2 Hrs. / per week

Max.Marks :50
Exam. Theory: 45
Internal Assessment: 05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four Units.
3. A total of nine questions comprising of two questions from each unit and one compulsory question of short answer type covering the whole syllabus.

4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified.

Objectives:

- To introduce basic concepts about gardening.
- To impart knowledge of propagation of plants by seeds and by other Vegetative methods.
- To impart knowledge about plants which are of economic importance.
- To impart knowledge about growing vegetables, fruits & flowers.

Unit-I

- Principle and planning of kitchen garden.
- Principle and planning in laying out of a garden.
- Cultivation and Care of Lawns.

Unit-II

- Elementary knowledge about cultivation, care & maintenance of common Indoor foliage plants like crotons.
- Elementary Knowledge about cultivation, care & maintenance of Bonsai
- Elementary Knowledge about cultivation, care & maintenance of Coleus.

Unit-III

- Elementary knowledge about types, cultivation, care and maintenance of Roses
- Cultivation and Care of Hedges.
- Elementary Knowledge about cultivation, care of Chrysanthemums.

Unit-IV

- Botantical Name, Family, Distribution, Part used & uses of the following:-
  - Beverages: Tea, Coffee & Cocoa
  - Medicinal Plants: Holy basil, Mint, Ashwagandha, Amaltas, Aloe vera & Amla
  - Plant dyes: Henna, Indigo & Pomegranate

APPLIED BOTANY-II
(Practical)

Max. Marks: 50
Paper – 40
Internal Assessment -10

Teaching Periods: 2/week

Content

1. Preparation of temporary slides of Rhoeo peel to study the cell structure, stomata and chloroplast
2. To prepare a seed bed for raising seedlings.
3. To prepare a bed for sowing and cultivation of Potato.
4. To prepare a bed for transplanting vegetables like onion, cauliflower, Brinjal & tomato.
5. To demonstrate propagation of plants by layering method:-
   - Air layering
   - Ground Layering.
6. To demonstrate propagation of roses by budding.
7. Maintenance of plants- hoeing, mulching, weeding, staking & tieing.
8. Economic Botany:- Identify Name, Family, Distribution, Parts used and uses of the following:-

   (i) Beverages: Tea, Coffee & Cocoa.
   (ii) Medicinal Plants: Tulsi, Mint, Amla, Ashwagandha, Aloe vera & Amaltas.
   (iii) Plant Dye: Henna, Indigo & Pomegranate.

- Herbarium: Collection of 25 specimens of ornamental plants.
- Visit to herbal parks and forest to study flora in natural habitat, if possible.

RECOMMENDED READINGS

1. B. Choudhary: Vegetables (National Book of India, New Delhi 1979)
2. Breikell C. 1993, Step by Step Gardening Technique (Royal Horticultural Society's Encyclopedia of Practical Gardening).
3. Dutta A.C. Botany for Degree Students (Oxford University Press, New Delhi 1970)
4. Gangullee H.C. Dass, K.S. Dass, K.S. Dutta C: College Botany Vol. I (New Central Book Agency Calcutta 1991)

5. Gopalaswamianger K.S. 1991 Complete Gardening in India (Messers Nagaraj and Co., Madras).
6. H.T. Harman and D Keter: Plant Propagation, Principles and Practices (Prentice Hall of India Pvt. Ltd. New Delhi 1979).
7. Hind Book of Agriculture: ICAR, New Delhi 1987.
8. J.L. Shreemali Economic Botany (Har Anand Publication, New Delhi 1995)
9. O.P. Sharma: Hill's Economic Botany 2006 Tata McGraw-Hill Publishing Co. Ltd.
10. Robert W. Sehery: Plants for man (Prentice Hall Incorporation 1972 New Delhi.
11 Sham Singh: Fruit Cultivation in India.
12. Sudhir Pardhan: Economic Botany (Kitab Mahal, Allahabad 1982).
13. Sh. S.K. Jain: Medicinal Plants: 2008 (National Book Trust, India).
14. Sh. V. Verma: A text Book of Economic Botany 1984. Emkay Publication.

APPLIED ZOOLOGY-II

(THEORY)

Credit Hours : 2 hours/ week	Total marks	:	50
	Paper (Theory)	:	45
	Internal Assessment	:	05

Instructions for Paper Setter:

1. Each theory paper will be of three hours duration.
2. Question paper will have four Units.
3. A total of nine questions comprising of two questions from each unit and one compulsory question of short answer type covering the whole syllabus.
4. Student will attempt one question from each UNIT and the compulsory question (Total of five questions)
5. All questions may carry equal marks, unless specified

OBJECTIVES: To provide knowledge regarding the application of Zoology in day to Day life.

Unit- I

1. An Elementary Knowledge of Structure and Function of DNA.
2. An Elementary Knowledge of Structure of RNA.
3. Chromosomal theory of heredity.

4. An Elementary Knowledge of Structure of human Chromosomes their variation.

Unit- II

5. Heredity-
   - Simple Inheritance(According to Mandel-law)
   - Monohybrid and dihybrid cross
   - Incomplete inheritance
6. Human genetics
   - An Elementary knowledge ABO and Rh Blood groupings.
   - An Elementary knowledge of Genetic basis of blood groups(ABO and Rh)
7. Hereditary Diseases
   - An Elementary Knowledge of Autosomal and sex chromosomal abnormalities.
   - An Elementary knowledge of Genetic basis of common hereditary diseases such as Haemophilia, Colour-blindness, Mongolism, Diabetes, Thalassemia

Unit-III

8. An elementary knowledge of Gene, Genome and Genomic.
9. An elementary knowledge of Genetic engineering.
10. An elementary knowledge of Transgenic product -Bt-Products, Golden Rice, Flavr-Savor Tomato.
11. An elementary Knowledge of Polymerase Chain Reaction(PCR)

Unit-IV

12. An elementary knowledge of Biotechnology.
13. An elementary knowledge of Stem cell research.
14. An elementary knowledge of AIDS and its control.
15. An elementary Knowledge of Forensic DNA Diagnostics.
16. An elementary Knowledge of Swine Flu.

APPLIED ZOOLOGY-II
(Practical)

Credit Hours : 2 hours/ week
Duration of Exam: 3 hours

Total marks : 50
Paper (Theory) : 40
Internal Assessment : 10

1. Blood grouping(ABO)
2. Measurement of Blood pressure (Demonstration).
3. Demonstration of Extraction of DNA.
4. Demonstration of submarine Electrophoresis of extracted DNA in Agarose Gel.

5. Demonstration of Visualization of Extracted DNA by staining it with Ethidium Bromide.
6. Demonstration of Polymerase Chain Reaction(PCR)
7. Project report on visit to renowned laboratory/Institute

Books Recommended

1. Dhami, PS: A text Book of Zoology for 11th & 12th students(2000)
2. Prasad,S.N.: Invertebrate Zoology(1980)
3. Vidyarthy, R.D.:A text book of Zoology for intermediate students (1998).
4. Benzamin Lewin: Gene VIII(2005)
5. Lodish, Berk, Matsudairy, Kaiser, Krieger, Scott, Zipursky, Darnell: Molecular Cell Biology(2003)
6. Delela & Verma: A text book of Cytology (1987)
7. Elot Axel Carlson: Human Genetics(1985).
8. Edmund W. Sinnott, L.C. Dunn and Theodosius Dobzhansky : Principals of Genetics(1973)
9. Dubey,R.C.: Biotechnology(2000)
10. Herren, R.W.: Introduction to Biotechnology.
11. Gupta P K.: Cytology Genetics Evolution and Ecology.
12. Hames B.D., Hooper N.M. & Houghton J.D.: Instant Notes in Biochemistry

COMPUTER APPLICATION (PRACTICAL)

Credit Hours: 2 / Week
Duration of Exam: 03 Hours

Maximum Marks: 50
Paper: 40
Internal Assessment: 10

Objective:

1. To impart computer knowledge to students through practical.

Instructions for paper setters:

- There will two questions in all from Section –II only.
- One question will be set from Sr. No. 1 carrying 20 marks.
- One question will be set from Sr. No. 02 carrying 20 marks.
- Each question can be sub divided into according to the Practical

Section I

THEORETICAL BACKGROUND TO BE DONE IN PRACTICAL CLASSES

1. Computer Memory in details, secondary storage device HDD, CD, DVD, Pen Drive etc.
2. Operating System (OS), Introduction, Function of OS ,Types of OS, Working of OS in brief
3. Current trends internet, WWW, elements of WWW, client, server, web browser, web site, hyperlink, configuration and applications, search engines.

Section II

PRACTICAL

1. Spreadsheet Package: Worksheet Basics, Data Entry in Cells : Entry of numbers, text and formulae, Moving data in a worksheet, Moving around in a worksheet, Selecting Data Range, Using the interface (Toolbars, Menus) Editing Basics, Working with workbooks, Saving and Quitting, Cell referencing; Formatting and Calculations : Calculations and worksheets- using Auto fill, Working with Formulae, Efficient Data Display with Data formatting (number formatting, data formatting etc.), Working with Ranges, Worksheet Printing; Working with Graphs and Charts: Adding/Formatting Text Data with Auto format, creating Embedded Chart using chart wizard, sizing and moving parts, updating charts, Changing chart types, Creating separate charts, Chart wizard, Adding Titles, Legends and Gridlines, Printing Charts; Database Management; finding records with Data form, Adding/ Deleting Records, Filtering Records in a worksheet; Functions and Macro: Worksheet with worksheet function using function-wizard, Creating Macros, Record Macros, Running Macros, Assigning Macros to Buttons, Multiple worksheets and scanners.

2. Internet and its applications, URL, Email (Creating new mail account, sending mail, attachments etc.), search engines, file downloading and saving of file. Writing CD, DVD in different formats using CD or DVD writing software's. Data transfer to or from Solid state devices.

Recommended Readings:

1. Pradeep K. Sinha, Priti Sinha, "Computer fundamentals" BPB Publications, New Delhi,2011.

2. Mandeep Handa, Virnder Singh "Windows based Computer courses" ABS Publications, Jalandhar, 2011.
3. Suresh K. Basanra, "Computer Today" Galgotia Publications, New Delhi, 2008.
4. Ikvinderpal Singh, Baljinder Singh "Windows Based Computer Courses" Khanna Book Publications Co. (P) Ltd. 2011.

ENVIRONMENT AND ROAD SAFETY EDUCATION

UNIT I (ENVIRONMENT)

Note: *The syllabus has 15 topics to be covered in 25 hour lectures in total, with 2 lectures in each topic from 2 to 11 and one each for the topics 1 and 12 to 15.*

1. **Environment Concept:**
   Introduction, concept of biosphere—lithosphere, hydrosphere, atmosphere; Natural resources—their need and types; principles and scope of Ecology; concepts of ecosystem, population, community, biotic interactions, biomes, ecological succession.

2. **Atmosphere:**
   Parts of atmosphere, components of air; pollution, pollutants, their sources, permissible limits, risks and possible control measures.

3. **Hydrosphere:**
   Types of aquatic systems. Major sources (including ground water) and uses of water, problems of the hydrosphere, fresh water shortage; pollution and pollutants of water, permissible limits, risks and possible control measures.

4. **Lithosphere:**
   Earth crust, Soil—a life support system, its texture, types, components, pollution and pollutants, reasons of soil erosion and possible control measures.

5. **Forests:**
   Concept of forests and plantations, types of vegetation and forests, factors governing vegetation, role of trees and forests in environment, various forestry programmes of the Govt. of India, Urban Forests, Chipko Andolan.

6. **Conservation of Environment:**

The concepts of conservation and sustainable development, why to conserve, aims and objectives of conservation, policies of conservation; conservation of life support systems—soil, water, air, wildlife, forests.

7. **Management of Solid Waste :**
   Merits and demerits of different ways of solid waste management—open, dumping, landfill, incineration, resource reduction, recycling and reuse, vermicomposting and vermiculture, organic farming.

8. **Indoor Environment:**
   Pollutants and contaminants of the in-house environment; problems of the environment linked to urban and rural lifestyles; possible adulterants of the food; uses and harms of plastics and polythene; hazardous chemicals, solvents and cosmetics.

9. **Global Environmental Issues:**
   Global concern, creation of UNEP; Conventions on climate change, Convention on biodiversity; Stratospheric ozone depletion, dangers associated and possible solutions.

10. **Indian Laws on Environment:**
    Indian laws pertaining to Environmental protection : Environment (Protection) Act, 1986; General information about Laws relating to control of air, water and noise pollution. What to do to seek redressal.

11. **Biodiversity:**
    What is biodiversity, levels and types of biodiversity, importance of biodiversity, causes of its loss, how to check its loss; Hotspot zones of the world and India, Biodiversity Act, 2002.

12. **Noise and Microbial Pollution:**
    Pollution due to noise and microbes and their effects.

13. **Human Population and Environment:**
    Population growth and family welfare programme, Human Health, HIV/AIDS, Human rights.

14. **Social Issues:**
    Environmental Ethics: Issues and possible solutions, problems related to lifestyle, sustainable development; Consumerisms and waste

generation.

15. **Local Environmental Issues:**

Environmental problems in rural and urban areas, Problem of Congress grass & other weeds, problems arising from the use of pesticides and weedicides, smoking etc.

Practicals:

Depending on the available facility in the college, a visit to Vermicomposting units or any other such non-polluting eco-friendly site or planting/caring of vegetation/trees could be taken.

Examination Pattern :

A qualifying paper of 50 marks comprising of fifty multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong answer or unattempted question), and of 1 hour duration.

The students have to obtain 33% marks to quality the paper. The marks are not added/included in the final mark sheet.

UNIT II (ROAD SAFETY)

11. Concept and Significance of Road Safety.
12. Role of Traffic Police in Road Safety.
13. Traffic Engineering – Concept & Significance.
14. Traffic Rules & Traffic Signs.
15. How to obtain Driving License.
16. Traffic Offences, Penalties and Procedures.
17. Common Driving mistakes.
18. Significance of First-aid in Road Safety.
19. Role of Civil Society in Road Safety.
20. Traffic Police-Public Relationship.

Note : Examination Pattern :

- The Environment and Road Safety paper is 70 marks.
- Seventy multiple choice questions (with one correct and three incorrect alternatives and no deduction for wrong or un-attempted questions).

- The paper shall have two units: **Unit I (Environment) and Unit II (Road Safety).**
- Unit II shall comprise of 20 questions with minimum of 1 question from each topics 1 to 10.
- The entire syllabus of Unit II is to be covered in 10 hours.
- All the questions are to be attempted.
- Qualifying Marks 33 per cent i.e. 23 marks out of 70.
- Duration of examination: 90 minutes.
- The paper setter is requested to set the questions strictly according to the syllabus.

Suggested Readings

3. The Motor Vehicle Act, 1988 (2010), Universal Law Publishing Co. Pvt. Ltd., New Delhi.
4. Road Safety Signage and Signs (2011), Ministry of Road Transport and Highways, Government of India**.**

Websites:

(e) www.chandigarhpolice.nic.in

(f) www.punjabpolice.gov.in

(g) www.haryanapolice.gov.in

(h) www.hppolice.nic.in

PHYSICAL EDUCATION
(Practical)

Credit Hours: 2 Hrs. /week Grade: S/US
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider annual assignment of the student, physical education practical file, take practical exam & viva voce based on syllabus for grading the students performance in the examination.

Objectives:

1. Wholesome development of an individual.
2. Knowledge of basic techniques involved in athletic events.
3. Practical knowledge of techniques and skills involved in various games out of syllabus.
4. Knowledge and benefit of yoga in day to day life.

Unit–I

Athletics: Brief knowledge of track and field events. Layout and marking of Track, Middle Distance Races

[a] Technique for start, finishing and during running in a race.
[b] General fouls in track events.

Unit– II

Field Event: Throw: Discus Throw

[a] Dimension of the throwing area and specification of equipment used
[b] Techniques of throw.
[c] Fouls of throwing events.

Unit– III

Anyone game from the following games:

[a] Badminton
[b] Kho- Kho
[c] Volleyball
[d] Hockey
[e] Yoga

Unit - IV

[a] Brief knowledge of Olympic Games
[b] Olympic records and World records in Athletic events.
[c] Knowledge of prominent players of the games in syllabus
[d] Brief knowledge of Awards and Honors in Various Games.

REFRENCES:

1. A Text Book of Physical Education and Sports by Atwal and Kansal.
2. Rule Book of Athletics by Amateur Athletic Federation of India.
3. Rule Book of Badminton by Badminton Federation of India.
4. Rules Book of Kho-Kho by Kho-Kho Federation of India.
5. Rule Book of Volley Ball by Volley Ball Federation of India.
6. Rule Book of Hockey by Hockey Federation of India
7. Various search engines found on internet.

MUSIC (VOCAL)
(Practical)

Credit Hours :2 Hrs/week Grade: S/US
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider, music practical file, practical based on syllabus and viva-voce for grading the students performance.

Objectives:

- Introduction *of swara, raga, taal, alamkars.*
- To develop interest in Classical Music

1 Two fast khayals with Alap and Taans of the following Ragas:
   a) Yaman
   b) Bhopali
2 One Lakhsan geet in any raag of the prescribed syllabus

3 The following Taalas with Ekgun and Dugun with Bols on hand.
   a) Kehrwa taal
   b) Rupak taal

4. Life sketches of musicians:
   a) Pandit Hari Prasad Chourasia
   b) Pandit Jasraj

REFERENCES:

1. Harish Chander Shrivastava (1993): Rag Prichaya Part – II, Sangeet Sadan Parkashan, 88, South Malaka, Allahabad.
2. Harish Chander Shrivastava (1993) : Rag Prichaya Part – III, Sangeet Sadan Parkashan, 134, South Malaka, Allahabad.
3. Pandit Vishnu Narayan Bharkande (1989): Hindustani Sangeet Padhtti Part II Sangeet Karyalaya, Hathras (UP).
4. Pandit Vishnu Narayan Bharkande (1988): Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
5. Lakshmi Narayan Garg: Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
6. Shri Prabhu Lal Garg Basant: Sangeet Karyalaya, Hathras (UP).
7. Search engines on internet.

DANCE
(Practical)

Credit Hours: 2 Hrs/week Grade: S/US
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider, dance practical file, practical based on syllabus and viva-voce for grading the students performance.

Objectives:

- Wholesome development of an individual.

- Introduction to *laya* and *taal*

1. Jhap taal: Tatkar in single,dugun and chaugun laykaries
   Amad:1, Tora:4, Paran:2, Kavit:1

2. Practical demonstration of ten hand movements with their function
3. Ability to play Teen taal on table.
4. Life sketches of Pandit Uday Shankar ji or Pandit Sundar Prasad ji with their contributions in promoting Kathak dance

REFERENCES:

1. Kathak Nritya Shiksha Part-I, by Puru Dadheish
2. Kathak Nritya Shiksha Part-II, by Puru Dadheish

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B.Sc. (Home Science)3rd Semester

Sr. No.	Paper/ Subject	Credit Hours			Theory Marks			Practical Marks			
	Courses	T	P	Total	Paper	Int. Ass.	Total	Paper	Int. Ass.	Total	Total
1	Art in Everyday life	2	2	4	45	5	50	20	05	25	75
2	Applied Nutrition- I	2	2	4	45	5	50	20	05	25	75
3	Development in Infancy	2	2	4	45	5	50	20	05	25	75
4	Interior Furnishing	2	2	4	45	5	50	20	05	25	75
5	Fabric Construction	2	2	4	45	5	50	20	05	25	75
6	Applied Physics -I	2	2	4	45	5	50	20	05	25	75
7	Applied Chemistry -I	2	2	4	45	5	50	20	05	25	75
8	Physiology and Promotive Health -I	2	-	2	45	5	50	-	-	-	50
9	Physical Education, Music & Dance	-	2	2	-	-	-	Satisfactory/ Unsatisfactory S/US			-
	TOTAL			**32**							**575**

B.Sc. (Home Science)3rd Semester

ART IN EVERYDAY LIFE
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instruction to the examiner:

1. Question paper will have four sections.
2. Examiner will set a total of nine questions comprising of two questions from each unit and one compulsory question of short answer type covering the whole syllabus.
3. Students will attempt one question from each unit and the compulsory question.
4. All questions may carry equal marks unless specified.

OBJECTIVES:-

To enables students-

a) To gain better understanding of the application of Art Principles in interiors.
b) To understand the elements of Art and Design as applied to daily life.
c) To gather information regarding technologies and materials used for interiors.

UNIT-I

a) ART and its Importance.
b) Utility and Functions of Art in everyday life.
c) Composition and its importance.

UNIT- II

a) Elements of Art-Define, Line, Shape, Texture, Value and Color.
b) Principles of Art-Balance, Unity, Repetition, Contrast, Dominance and Harmony
(c) Designs- its importance and types.

UNIT- III

(a) Colour system, colour effect.
(b) Warmth and coolness of the colour.
(c) Psychological Impact of colors in interiors and on Human beings.

UNIT- IV

(a) Properties of colors- Value, intensity, hue.
(b) Value of colors to increase and decrease the illusion.
(c) Tints, tones and shades

B.Sc. (Home Science)3rd Semester

ART IN EVERYDAY LIFE
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Instruction to the examiner:

- The examiner will set a total of three questions from the syllabus. Students will attempt any one question from the three questions set.

OBJECTIVES:-
To enables students-

a) To gain better understanding of the application of Art Principles in interiors
b) To understand the elements of Art and Design as applied to daily life
c) To gather information and understand and enjoy visual arts.

Contents:

1. Preparation of sheets showing elements of art.
2. Preparation of sheets showing principles of art.
3. Colour Wheel, colour schemes(monochromatic, complementary, constructing, related hues)
4. Types of colours- Primary, Secondary, Tertiary, Cool and Warm Colours.
5. Optical illusions created by lines and colours.
6. Making simple landscapes in different mediums of coloring.
7. (Posters, Water, steadlers, Pastels and pencil shading)
8. Use of various methods and techniques to create simple designs for menu and greeting cards.
9. Creating paintings, wall hangings, pots, toys (stuffed and waste material) etc.
10. Form- study of forms-functional and non- functional.
11. Still life
12. Importance of 3- dimensional designs

REFERENCES

1. Art in Everyday Life- Harriet Goldstein Mac Millan Co. New York.
2. Rendering with Pen & Ink- Robert W. Gill (Thames and Hudson Manual).
3. Colour Trends- Vol. I, Ethnic, Japanesque, High- Tech Colours, AIM Creative Products Pvt. Ltd.
4. Colour –A Guide to basic facts and concepts, John Wiley & Sons, New York.
5. A brief history of Indian Painting- Dr. L.C. Sharma, Publishing House Meerut.
6. A Hand Book of Indian Art, Sunil Khosa, Sundeep Prakashan Delhi.

7. Elements of Indian Art, S.P. Gupta, Shashi Prabha Asthana, D.K. Print World, New Delhi.
8. Ajanta Murals – A Ghosh, Archeological Survey of India- New Delhi.
9. Art and Illusion- E.H. Gombrich, PHAIDON Press London.
10. Sedona – Rosenstiel's Publishers, 2005, Fine Art Publishers, London.
11. Silver- Rosenstil's Publishers, 2005, Fine Art Publishers, London.

B.Sc. (Home Science) 3rd Semester

APPLIED NUTRITION - I
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Objectives:

1. To elucidate the applied concepts of different areas of foods and nutrition.
2. Acquire knowledge about the nutritional needs and concerns of specific age groups/physiological conditions.

Instruction to the paper setter:

1. Each theory paper will be of three hours duration.
2. Questions paper will have four section and units. Paper setter will set a total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
3. Students will attempt one question from each unit and the compulsory question (Total of five questions).
4. All questions may carry equal marks, unless specified.

UNIT – I

1. Concept of nutrition transition.
2. Recommended Dietary Allowances:
   - Concept of minimum nutrient requirements and recommended dietary allowances

UNIT- II

3. Classification, digestion, absorption, RDA, deficiency and excess:
   - Carbohydrates - Monosaccharide, Disaccharides, Polysaccharides

4. Classification, digestion, absorption, RDA, deficiency and excess:
   - Proteins - complete, partially complete, incomplete
   - Concept of essential non essential amino acids

UNIT- III

5. Classification, digestion, absorption, RDA, deficiency and excess:
   - Fats - saturated, unsaturated
6. Recommended Dietary Allowances, deficiency and excess:
   - Vitamins- fat soluble- A,D,E,K

UNIT –IV

7. Recommended Dietary Allowances, deficiency and excess:
    - Vitamins - water soluble-Thiamine, Riboflavin, Niacin, Pyridoxine and C

8. Recommended Dietary Allowances, deficiency and excess:
    - Minerals- calcium, iron, iodine

RECOMMENDED READINGS:

- Guthrien, A. H .(1986): Introductory Nutrition, 6thEd., The C.V Mosby Company.
- Swaminathan, M (1991): Essentials of Food and Nutrition, vols. I and II. Ganesh and Co. Madras.
- Gopalan, C.et al., (1991): Nutritive Value of Indian Foods, Indian Council of Medical Research.
- Indian Council of Medical Research (1989): Nutient Requirements and Recommended Dietary Allowances for Indian, New Delhi.
- FAO/WHO/UNU: Technical Report Series, 724 (1985) Energy and Protein Requirements, Geneva.
- WHO Technical Reports Series for different Nutrients.
- Joshi S. (2011): Nutrition and Dietetics, 3rd edition, Tata McGraw Hill Education Pvt. Ltd.
- Manay N., ShadakSharaswamy M.(2008), Foods, Facts and Principles, 3rd Edition, New Age International (P) Ltd. Publication
- KhannaK.,Gupta S, Passi SJ, Seth R, Mahna R and Renu S (1997). Textbook of Nutrition and Dietetics, Elite Publishing House, New Delhi.
- Jim M, Stewart Truswell A. (2007). Essentials of human nutrition. New York; Oxford.
- Mahtab S Bamji. (2010). Textbook of human nutrition. Delhi : Oxford.
- Stipancik , Martha H.,(2006). Biochemical Physiological Molecular aspect of human nutrition. London : Elsevier.
- Babasahib and Desai. (2000). Handbook of nutrition and diet. New York.

B.Sc. (Home Science) 3rd Semester

APPLIED NUTRITION - I
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

1. Categorization of foods based on rich, moderate and poor sources of :
    - Energy
    - Proteins
    - Vitamin A
    - Vitamin B complex
    - Vitamin C
    - Iron
    - Iodine
    - Calcium
    - Fibre

2. Planning and preparation of dishes rich in:
    - Energy
    - Protein
    - Fibre
    - Calcium
    - Iron
    - Vitamin A
    - Vitamin C
    - Thiamine
    - Riboflavin
    - Niacin

B.Sc. (Home Science) 3rd Semester

Development in Infancy

(Theory)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to paper setters:

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

Objectives:

1. To develop awareness of important aspects of development during infancy.
2. To understand the influence and interaction of socio-cultural and environmental factors on development during infancy

Content:

Unit I

1. Cognitive development in Infancy- Sensory motor stage of Piaget.
2. Factors affecting cognitive development in infancy.

Unit II

3. Language development in Infancy – Pre speech forms of communication.
4. Factors affecting language development.

Unit III

5. Care of Infant in the family – Role of mother, father, siblings and grandparents.
6. Physical care of the infant - Feedings, Clothing and Sleeping.

Unit IV

7. Common emotional pattern in infancy
8. Common Play patterns of infancy.

References:

- Berk, L. E. (1996): Child Development, New Delhi: Prentice Hall.
- Bee, Helen (1995). The developing child, Harper Collins Publishers.
- Craig,G (1999):Human Development. NJ: Prentice Hall.
- Cole,M.&Cole,S.(1995):The Development of Children. NY: Freeman & Co.
- Dacey, J.S. & Travers, J.F. (2002). Human Development across the life span, McGraw Hill, New York.
- Gardiner, H.W., Mutter, J.D. &Kosmitzki initial (1998): Lives across Cultures, Boston: Allyn & Bacon.
- Papalia, Diane E. (1978). Human Development, N.Y.: McGraw Hills Book Company.
- Rice,F.P.(1965):Human Development: A life Span Perspective, NY: McGraw Hill.
- Santrock,J.W.(1997):Life Span Development.Tata McGraw Hill, New Delhi.
- Santrock, J.W. (2007): Life Span Development. Tata McGraw Hill, New Delhi.

B.Sc. (Home Science) 3rd Semester

Development in Infancy

(Practical)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Instructions for Paper Setter:

1. Each practical paper will be of 3 hours duration.
2. The question paper should cover the entire syllabus.

Contents:

1. Conduct a market survey related to items available for infants namely feeding, clothing and sleeping.
2. Prepare a folder related to common play activities parents indulge in with infants and lullabies they sing.
3. Make a toy to enhance any development of an infant and exhibit it in class.
4. Make a poster on any development of an infant and display it in the department.

References:

- Berk, L. E. (1996): Child Development, New Delhi: Prentice Hall.
- Bee, Helen (1995). The developing child, Harper Collins Publishers.
- Craig,G (1999):Human Development. NJ: Prentice Hall.
- Cole,M.& Cole,S.(1995):The Development of Children. NY: Freeman & Co.

B.Sc. Home Science- 3rd Semester
INTERIOR FURNISHINGS
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to the Examiner

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

Objectives

1. To understand the fundamentals of interior furnishings
2. To understand the different types of interior furnishings and decorations
3. To imbibe the information and guidance for decorating interiors with special reference to latest trends in the market
4. To develop practical skills required to become professional interior decorators

UNIT -I

7. Home furnishing – Meaning and importance, types of home furnishings
8. Floor Coverings-
   - Selection of floor coverings
   - Hard floor coverings- Tiles, Wood, linoleum, stone
   - Soft floor coverings – Rugs and Carpets – Types

UNIT-II

9. Selection of wall treatment, Types of wall treatments – paints, varnishes, wall papers, fabric, wood panels, tiles, mirror, cork

10. Accessories – selection of accessories, kinds of accessories

UNIT-III

11. Window treatment- Meaning & Importance
12. kinds of window treatment –
    - Hard window treatments- Blind, shutters, shades, screens
    - Soft window treatments- Curtains & Draperies

UNIT-IV

13. Top treatment to windows-
    - Hard top treatments – Cornices
    - Soft top treatment- Valance, swag, Jabot, Cascade
14. Selection criteria and fabric used for window treatment.

References

1. Rao. M. P. 2012 Interior Design - Principles and Practice, Standard Publisher Distributor, Delhi.
2. Seetharaman P. and Pannu P. 2012. Interior Design and Decoration. CBS Publishers and Distributors, New Delhi
3. The Educational Planning group Delhi. Home Managment 1987. Arya Publishing House, New Delhi
4. Varghese A.M; Ogale N.N and Srinivasan K. 2006. Home Managment. New Age International Pvt. Ltd Publishers, New Delhi.
5. Anna. H. Rutt ;Home Furnishing, John Wilay Eastern Pvt. Ltd. New York (1961)
6. Veena Gandotra; Meenakshi Shukala and Neerja Jaiswal. Introduction to Interior design & Decoration , Dominat publishers & Distributers

B.Sc. (Home Science) 3rd Semester
Interior Furnishings
(Practical)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

1. Flower Arrangement
   - Flower arrangements types – Fresh, foliage , dry arrangement, Ikebana
   - Basic tools and equipments used in flower arrangements, selection of containers and accessories
   - Elements and principles used for making flower arrangements
   - General tips for making flower arrangement
2. Portfolio on different kinds of window treatments for interiors and treating problem windows/challenging windows
3. Portfolio comprising of different furnishing materials available in the market and its cost
4. Creating a household accessory (lamp shade / table linen/ bed linen/ Cushion covers/ sculpture / Vases / Candle stand / Mirrors / Screens / Wall hanging
5. Display board setting on Home Interiors.

B.Sc. (Home Science) 3rd Semester
FABRIC CONSTRUCTION (THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Objectives:

1. To impart knowledge of fabric manufacture and fabric properties.
2. To enable students to understand fabric structures and to analyze them

Instruction for paper setters:

1. There will be total nine questions carrying equal marks.
2. Two questions will be set from each unit and one compulsory question carrying short answer type questions will be set from the whole syllabus.
3. Five questions will be attempted in all.

UNIT-I

I. Terminology- Yarn count, twist, crimp, fabric balance, fabric weight, selvedge, grain, warp, weft, course, wale, single jersey, double knit.

II. Introduction to Yarns
   a) Different types of spinning: Mechanical, Chemical (Dry, Wet, and Melt)
   b) Classification of Yarn: Simple, Novelty and Textured Yarns

UNIT-II

III. Introduction to Loom
   a) Basic Loom and its parts
   b) Different types of loom: Shuttle loom and Shuttle less loom.

UNIT-III

IV. Introduction to Weaving
   a) Classification of weaves
   b) Basic Weave: Plain, Twill and Satin
   c) Fancy Weave: Pile, Dobby, Leno, Swivel, Lappet

UNIT-IV

V. Basic fabric construction techniques:
   a) Knitting
   b) Bonding
   c) Felting
   d) Knotting

Recommended Readings:

1. "A Reader's Digest Step by Step guide- Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
2. Barker A. F. & Midgley E. "Analysis Woven Fabrics" Abhishek Publications, Chd, India(2007)
3. Dantyagi.S, "Fundamentals of Textiles and their Care," Orient Longman Ltd, New Delhi.
4. Corbman, "Textile fiber to Fabric"; MC Graw Hill
5. Murphy W.S. " Textile Weaving & Design" Abhishek Publications, Chandigarh, India(2007)
6. Collins & Brown " Complete Knitting- Techniques and Project" Creative Homeowner, NJ(2006)
7. Walters J. & Cosh S. " Crochet" Octopus Book Ltd., London(1980)
8. Tortora, p, "Understanding Textiles", Macmillan Publishing Co. Inc. New York, (1978).
9. Kathryn and Mc-Kelvey, "Fashion source book", 4th edition, New Delhi, Om(2005)

B.Sc. (Home Science) 3rd Semester
FABRIC CONSTRUCTION
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Objectives:
To enable the students to-

1. Identify yarns and weaves.
2. Make samples of knitting and crocheting.

Instructions to paper setter:

1. There will be three questions in all.
2. Project work should not be included in question paper.

1. Identification of Yarns.
2. Identification of Weaves.
3. Graphical representation of simple weaves
   a) Plain Weave
   b) Twill Weave
   c) Satin Weave
4. Construction of samples of the following
   i) Hand Knitting
      a) Stocking stitch
      b) Garter
      c) Rib
      d) Moss
      e) Cables
      f) Lace
      g) Fair-isle
5. Crocheting
   a) Single crochet
   b) Double crochet

Project Work: Make an article using any one of the fabric construction technique.

Recommended Readings:

1. "A Reader's Digest Step by Step guide- Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
2. Barker A. F. & Midgley E. "Analysis Woven Fabrics" Abhishek Publications, Chd, India(2007)
3. Dantyagi.S, "Fundamentals of Textiles and their Care," Orient Longman Ltd, New Delhi.
4. Corbman, "Textile fiber to Fabric"; MC Graw Hill
5. Murphy W.S. " Textile Weaving & Design" Abhishek Publications, Chandigarh, India(2007)
6. Collins & Brown " Complete Knitting- Techniques and Project" Creative Homeowner, NJ(2006)
7. Walters J. & Cosh S. " Crochet" Octopus Book Ltd., London(1980)
8. Tortora, p, "Understanding Textiles", Macmillan Publishing Co. Inc. New York, (1978).
9. Kathryn and Mc-Kelvey, "Fashion source book", 4th edition, New Delhi, Om(2005)

B.sc. (Home Science) 3rd Semester
APPLIED PHYSICS-I
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to Examiner

1. Total nine questions to be set. Two questions from each unit and one compulsory question covering the whole syllabus may be set in the form of objective type/ fill in the blanks/short questions/ short notes etc.
2. Total five questions to be attempted (one from each section and one compulsory question).
3. Each question carries 9 marks.
4. Internal choice can also be given.

Objective:

To provide knowledge regarding the applications of physics in day to day life.

CONTENTS

Unit-I

1. Matter, States of Matter – Solid, Liquid, Gas, Plasma (Definition and Characteristics).
2. Atoms. Elements, Molecules. Intermolecular forces, Types of intermolecular forces – Force of Adhesion & Force of Cohesion.
3. Molecular range, Sphere of Influence, Surface film and Surface tension (Definition only). Detailed Account of Molecular theory of Surface Tension.
4. Short note on Detergents and Surface Tension.
5. Common illustrations/ applications of surface tension.

Unit-II

6. Brief account of Capillary, Capillarity and Angle of contact.
7. Practical applications of Capillarity in everyday life.
8. Heat, General idea about Modes of Transfer Of Heat- Conduction, Convection, Radiation
9. Applications / Illustrations of transfer of heat in day to day life. Short note on Solar cooker

. Unit-III

10. Define – Periodic motion, Oscillatory motion, Vibration, Oscillation, Time period, Frequency, Amplitude, Wave motion and Wave length.
11. Types of Waves-Mechanical, Electromagnetic and Matter Waves (Definitions) Brief idea about types of Mechanical wave motion-Transverse and Longitudinal wave motion, Essential conditions for transverse and longitudinal waves to travel through a medium, Difference between transverse and longitudinal wave motion, Definitions of Crest, Trough, Compression. Rarefaction.
12. Characteristics of wave motion, Velocity-Frequency(v-n) relationship.
13. Simple numericals with direct substitution. (v-n-T).

Unit-IV

14. Simple idea about Superposition of waves, Superposition Principle and Stationary Waves.
15. Production of Transverse stationary waves in a stretched string, Laws of Transverse vibrations of a stretched string.
16. Define Free, forced & resonant vibrations with examples .
17. Short notes on Human voice organ, Sound Insulation, Hearing aids, Acoustics of Buildings.

B.Sc. (Home Science) 3rd Semester
APPLIED PHYSICS -I
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Instructions to Examiner

- Two practicals to be performed. One compulsory and one of student's choice (from different categories).
- Both the practicals carry equal marks.
- Separate marks for practical file and viva- voce.

Contents:

1) Measurement of diameter of a small spherical body using Vernier Callipers.
2) Measurement of room temperature and high temperatures of a liquid in °C and to convert the temperature to °F.
3) Measurement of temperature of human body in °F and to convert the temperature to °C.
4) To verify the first law of transverse vibrations in a stretched string using sonometer.
5) To verify the second law of transverse vibrations in a stretched string using sonometer.
6) To find velocity of sound at 0°C using first resonance position and by applying end correction.
7) To find velocity of sound at 0°C using two resonance positions.

B.Sc. (Home Science)3rd Semester
APPLIED CHEMISTRY -I
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to Examiners

- Total nine questions to be set out of which five to be attempted (two questions from each unit)
- One compulsory question covering the whole syllabus may be set in the form of objective/ fill in the blanks/ short notes etc.
- Each question carries 9marks.
- Internal choice can also be given.

Objective:

To make the students aware of the basics and applications of chemistry in every day life.

Unit-I

Essentials of Chemistry

1. Symbols formulae, valency and variable valency, elementary idea of impirical formula and molecular formula (no numerical) definition of atomic weight and molecular weight,Mole Concept.

2. Chemical equation and reaction: Parts, types, essential of chemical equation, balancing of chemical equation by hit and trial method, drawbacks of chemical equations and their removal, Exothermic and endothermic, catalytic and reversible reactions.

Unit-II

1. Chemical Bonding: Definition of chemical bond, cause of chemical, bonding , types of chemical bonds- ionic bond, covalent bond, coordinate bond(def & simple picture based on electron- dot picture) eg:O_2,HCl,Cl_2, CaO, NH_4^+,H_3O^+, MgF_2, CH_4,C_2H_4, C_2H_2, ,H_2O ,H_2,NH_3

2. Elementary idea about normality, formality, molarity, strength of solution, mole fraction and ppm, What are solutions.

Unit-III

1. Elementary idea about hard water (causes and types), heavy water with its uses.

2. Soaps & detergents. Their Cleansing action.

3. Fire extinguishers – Types & Uses.

Unit-IV

1. Properties and uses of Methane (CH_4)

2. Properties and uses of ethylene (C_2H_4)

3. Properties and uses of Acetylene (C_2H_2)

Suggested books:

1. Applied Chemistry for Home science and Allied science by Thancamma Jacob
2. NCERT books of +1 and +2.
3. Engineering books by Jain and Jain.
4. Modern approach to Chemistry Volume -1
5. Modern approach to Chemistry Volume -2

B.Sc. (Home Science)3rd Semester
APPLIED CHEMISTRY -I
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks :25**
Duration of Exam: 3hours **Paper :20**
Internal Assessment :05

1. Preparation of vanishing cream and cold cream.
2. Preparation of washing powder and liquid soap.
3. Preparation of antiseptic ointment (Sulphur, General and Boric)
4. To determine the normality and strength of given alkali solution.
5. To determine percentage purity of given sample of alkali solution.
6. To determine percentage composition of given sample of alkali mixture.

B.Sc. (Home Science) 3rd Semester

PHYSIOLOGY AND PROMOTIVE HEALTH - I
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Objectives:

1. To gain knowledge about health, hygiene, common diseases.
2. To study about environmental pollutants (air and water).
3. To understand basic functioning of various systems of human body.

Instruction to the paper setter:

5. Each theory paper will be of three hours duration.
6. Questions paper will have four section and units. Paper setter will set a total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
7. Students will attempt one question from each unit and the compulsory question (Total of five questions).
8. All questions may carry equal marks, unless specified.

UNIT- I

1. Blood:

- Composition of blood: Hemoglobin, plasma, platelets, leucocytes and erythrocytes.
- Erythropoiesis.

2. Cardiovascular System:

- Basic structure of heart, cardiac output
- Blood pressure and its measurement.
- Brief overview of cardiac cycle

UNIT- II

3. Respiratory System:
- Structure of respiratory system
- Mechanism of breathing: inspiration and expiration
- Lung volume and capacities

4. Digestive system:
- Structure
- Functions and digestion of food in the mouth, stomach, intestines and importance of salivary glands, stomach, pancreas and liver.

UNIT- III

5. Personal Hygiene:

- Need for personal hygiene and personal hygienic habits
- Personal sanitary practices
- Considerations for correct clothing
- Importance of rest, exercise and recreation.

6. Hygiene in Kitchen and Home:
- Lighting and ventilation

UNIT- IV

7. Concept of health, disease and its prevention.
- WHO definition of health
- Basic concept of disease
- Types of parasites and their modes of transmission

8. Concept of public health and disease prevention.
- Sanitation in fairs and festivals with basic methods of epidemic control in fairs and festivals.
- Waste management: Disposal of refuse and sewage.
- Public Toilets/Mobile public toilets

RECOMMENDED READINGS:

Sunetra Roday. Food Hygiene and Sanitation with case studies. 2nd Edition. Mc Graw Hill.2011Evelyn Pearce. Anatomy and Physiology for Nurses, Jaypee brothers, New Delhi 1987

Chaterjee. Human Physiology, Calcutta Medical Agency. 1988.

Guyton Arthm . C. Text Book of Medical Physiology, London W.B. Saunders Co. 1999

Yash Pal Bedi. Hygience and Public health. Atma ram and sons. 10th Edition. 1970

J.E.Park-Preventive and Social Medicine. Banarsidas Bhanot Publishers, Jabalpur(India), 15th Edition

Ganong WF. Review of Medical Physiology, 22nd ed. McGraw Hill. 2005

Ross and Wilson, Foundation of Anatomy and Physiology, 6th ed. Medical Division of Longman Group Ltd. 1987.

Jain, AK. Textbook of Physiology (5th ed). Avichal Publishing Company. Vol I and Vol II. 2012

B.Sc. (Home Science) 3rd Semester

PHYSICAL EDUCATION
(Practical)

Credit Hours: 2 /week **Grade: S/US**
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider annual assignment of the student, physical education practical file, take practical exam & viva voce based on syllabus for grading the students performance in the examination.

Objectives:

5. Wholesome development of an individual.
6. Knowledge of basic techniques involved in athletic events.
7. Practical knowledge of techniques and skills involved in various games out of syllabus.
8. Knowledge and benefit of yoga in day to day life.

UNIT–I

(a) Physical Education: Definition, its aims and objectives and Importance of Physical Education Programmes in College
Athletics: Brief knowledge of track and field events. Marking of Athletic Track

UNIT– II

Field Event: Jump- Long Jump
[a] Dimensions
[b] Techniques
[c] Fouls

UNIT– III

Anyone game from the following games:
[a] Badminton
[b] Kho- Kho
[c] Volleyball
[d] Yoga

UNIT – IV

[a] Brief knowledge of Common Wealth Games and current national records in Athletics
[b] Knowledge of prominent players of the games in syllabus

REFRENCES:

8. A Text Book of Physical Education and Sports by Atwal and Kansal.
9. Rule Book of Athletics by Amateur Athletic Federation of India.
10. Rule Book of Badminton by Badminton Federation of India.
11. Rules Book of Kho-Kho by Kho-Kho Federation of India.
12. Rule Book of Volley Ball by Volley Ball Federation of India.
13. Various search engines found on internet.

B.Sc. (Home Science) 3rd Semester

MUSIC (Vocal)
(Practical)

Credit Hours: 2 /week **Grade: S/US**
Duration of Exam: 3 hours

Instructions to paper setters:

The examiner shall consider music practical file practical based on syllabus and viva-voce for the grading the students performance..

Objectives:

- Introduction of Swara,raga,Taal, alankars
- To develop interest in classical music.

UNIT- I

Two fast khayals with Alap and Taans of the following Ragas

A) Bhimpalasi

B) Bhairav.

UNIT- II

One Lakshan geet in raag of prescribed syllabus.

UNIT- III

The following taals with Ekgun and Dugun with Bols on hand

A) Ektaal

B) Jhaptal

UNIT- IV

Life sketeches of musicians

A) Pandit Shiv Kumar Sharma

B) M.S. Subalakshmi

Recommended Readings:

1. Harish Chander Shrivastava (1993): Rag Prichaya Part – II, Sangeet Sadan Parkashan, 88, South Malaka, Allahabad.
2. Harish Chander Shrivastava (1993) : Rag Prichaya Part – III, Sangeet Sadan Parkashan, 134, South Malaka, Allahabad.
3. Pandit Vishnu Narayan Bharkande (1989): Hindustani Sangeet Padhtti Part II Sangeet Karyalaya, Hathras (UP).
4. Pandit Vishnu Narayan Bharkande (1988): Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
5. Lakshmi Narayan Garg: Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
6. Shri Prabhu Lal Garg Basant: Sangeet Karyalaya, Hathras (UP)
7. Search engines on internet.

B.Sc. (Home Science) 3rd semester
DANCE
(Practical)

Credit Hours: 2 /week **Grade: S/US**
Duration of Exam: 3 hours

Instructions to paper setters:

The examiner shall consider dance practical file, practical based on syllabus and viva-voce for the grading the students performance..

Objectives:

- Whole some development of individual.
- Introduction to laya and Taal.

UNIT- I

Teen Taal

A. Tora 4
B. Salami 1
C. Amad 1

UNIT- II

Chautal

A. Tatkar in Single and Dugun Laykaries
B. Tora 1
C. Amad 1

UNIT- III

1Gatnikas in Tentaal

UNIT- IV

Practical demonstration of 10 Asamyukta Hasta Mudra.

Recommended Readings

1. Kathak Nritya Shiksha part-I by PuruDadheish.
2. Kathak Nritya Shiksha Part-II, by Puru Dadheis

B.Sc. Home Science – 4th Semester

Sr. No.	Paper/ Subject	Credit Hours			Theory Marks			Practical Marks			
	Courses	T	P	Total	Paper	Int. Ass.	Total	Paper	Int. Ass.	Total	Total
1	Art in Everyday life	2	2	4	45	5	50	20	05	25	75
2	Applied Nutrition - II	2	2	4	45	5	50	20	05	25	75
3	Development in early childhood	2	2	4	45	5	50	20	05	25	75
4	Fundamentals of Housing	2	2	4	45	5	50	20	05	25	75
5	Apparel Construction	2	2	4	45	5	50	20	05	25	75
6	Applied Physics -II	2	2	4	45	5	50	20	05	25	75
7	Applied Chemistry -II	2	2	4	45	5	50	20	05	25	75
8	Physiology & Promotive health -II	2	-	2	45	5	50	-	-	-	50
9	Physical Education, Music & Dance	-	2	2	-	-	-	Satisfactory/ Unsatisfactory S/US			-
	TOTAL			**32**							**575**

B.Sc. (Home Science) 4th Semester

ART IN EVERYDAY LIFE
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instruction to the examiner:

1. Question paper will have four sections.
2. Examiner will set a total of nine questions comprising of two questions from each unit and one compulsory question of short answer type covering the whole syllabus.
3. Students will attempt one question from each unit and the compulsory question.
4. All questions may carry equal marks unless specified.

OBJECTIVES:-

To enables students-

a) To gain better understanding of the application of Art Principles in interiors.
b) To understand the elements of Art and Design as applied to daily life.
c) To gather information regarding technologies and materials used for interiors.

UNIT-I

a) Shadangas of Indian ART (six-limbs).
b) History of Aesthetics
c) Scope of Aesthetics

UNIT- II

Relation of art with other subjects-

a) Art and Beauty
b) Art and Intuition
c) Art and Religion
d) Art and Nature

UNIT- III

a) Appreciation of Art
b) How to understand and enjoy the visual arts.

UNIT- IV

a) How to create art object s for Homes.
b) The selection of art accessories for interior decoration.

B.Sc. (Home Science)4th Semester

ART IN EVERYDAY LIFE
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Instruction to the examiner:

- The examiner will set a total of three questions from the syllabus. Students will attempt any one question from the three questions set.

OBJECTIVES:-

To enables students-

a) To gain better understanding of the application of Art Principles in interiors
b) To understand the elements of Art and Design as applied to daily life
c) To gather information and understand and enjoy visual arts.

1. Creating compositions on various social and economic topics.
2. Creating posters on various social and economic topics
3. Block lettering, Roman and free hand brush letter writing.
4. Writing slogans on various topics.
5. To design book cover with illustrations, title and author's name etc.-Medium- pen and ink, poster colors, Size- 25 cm x 20 cm.
6. Designs for corner, border and the central patterns etc.
7. Creating murals, wall hangings and toys (stuffed and waste material) etc.
8. Creating a theme project which includes any seven objects for a room. (Bedsheets, Curtains, table covers, carpet and flowerpot etc.)

REFERENCES

12. Art in Everyday Life- Harriet Goldstein Mac Millan Co. New York.
13. Rendering with Pen & Ink- Robert W. Gill (Thames and Hudson Manual).
14. Colour Trends- Vol. I, Ethnic, Japanesque, High- Tech Colours, AIM Creative Products Pvt. Ltd.
15. Colour –A Guide to basic facts and concepts, John Wiley & Sons, New York.
16. A brief history of Indian Painting- Dr. L.C. Sharma, Publishing House Meerut.
17. A Hand Book of Indian Art, Sunil Khosa, Sundeep Prakashan Delhi.

18. Elements of Indian Art, S.P. Gupta, Shashi Prabha Asthana, D.K. Print World, New Delhi.
19. Ajanta Murals – A Ghosh, Archeological Survey of India- New Delhi.
20. Art and Illusion- E.H. Gombrich, PHAIDON Press London.
21. Sedona – Rosenstiel's Publishers, 2005, Fine Art Publishers, London.
22. Silver- Rosenstil's Publishers, 2005, Fine Art Publishers, London.

B.Sc. (Home Science) 4th Semester

APPLIED NUTRITION - II
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Objectives:

1. To elucidate the applied concepts of different areas of foods and nutrition.
2. Acquire knowledge about the nutritional needs and concerns of specific age groups/physiological conditions.

Instruction to the paper setter:

1. Each theory paper will be of three hours duration.
2. Questions paper will have four section and units. Paper setter will set a total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
3. Students will attempt one question from each unit and the compulsory question (Total of five questions).
4. All questions may carry equal marks, unless specified.

UNIT – I

1. Concept and components of body composition.
2. Water- functions, requirements and deficiency.
3. General methods of assessment of recommended dietary allowances.

UNIT – II

4. Concept of energy balance:
    - Positive, Negative. Homeostasis
    - Physiological fuel value(carbohydrates, protein, fat)

5. Concept of BMR, SDA/TEF:
    - Factors affecting BMR and energy expenditure

UNIT-III

6. Physiological characteristics, nutritional requirements and nutritional care in the following:
    - Infancy
    - Childhood

7. Physiological characteristics, nutritional requirements and nutritional care in the following:
    - Adolescence
    - Adulthood

UNIT- IV

8. Physiological characteristics, nutritional requirements and nutritional care in the following:
    - Pregnancy and lactation
    - Old Age

9. Diet Therapy:
    - Principles of diet therapy
    - Modification of normal diet
    - Nutritive modifications of diet.
    - Basic concept of enteral and parenteral nutrition

RECOMMENDED READINGS:

- Guthrien, A. H .(1986): Introductory Nutrition, 6thEd., The C.V Mosby Company.
- Swaminathan, M (1991): Essentials of Food and Nutrition, vols. I and II. Ganesh and Co. Madras.
- Gopalan, C.et al., (1991): Nutritive Value of Indian Foods, Indian Council of Medical Research.
- Indian Council of Medical Research (1989): Nutient Requirements and Recommended Dietary Allowances for Indian, New Delhi.
- FAO/WHO/UNU: Technical Report Series, 724 (1985) Energy and Protein Requirements, Geneva.
- WHO Technical Reports Series for different Nutrients.
- Joshi S. (2011): Nutrition and Dietetics, 3rd edition, Tata McGraw Hill Education Pvt. Ltd.
- Manay N., ShadakSharaswamy M.(2008), Foods, Facts and Principles, 3rd Edition, New Age International (P) Ltd. Publication
- KhannaK.,Gupta S, Passi SJ, Seth R, Mahna R and Renu S (1997). Textbook of Nutrition and Dietetics, Elite Publishing House, New Delhi.
- Jim M, Stewart Truswell A. (2007). Essentials of human nutrition. New York; Oxford.
- Mahtab S Bamji. (2010). Textbook of human nutrition. Delhi : Oxford.
- Stipancik , Martha H.,(2006). Biochemical Physiological Molecular aspect of human nutrition. London : Elsevier.
- Babasahib and Desai. (2000). Handbook of nutrition and diet. New York.

B.Sc. (Home Science) 4th Semester

APPLIED NUTRITION - II
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

1. Planning and preparation of following diets:
    - Weaning Foods
    - School going Child
    - Adolescents
    - Adult man and women
    - Pregnancy and lactations
    - Old Age

2. Therapeutic modification of diet on the basis of:
    - Consistency
    - Nutrient

3. Market survey and report presentation of therapeutic diets/foods/formulas available for:
    - Protein
    - Energy
    - Micronutrients- sodium, potassium, calcium, iron
    - Fibre

B.Sc. (Home Science) 4th Semester

Development in Early Childhood

(Theory)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to paper setters:

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

Objectives:

1. To develop awareness of important aspects of development during early childhood.
2. To understand the influence and interaction of socio-cultural and environmental factors on development during early childhood.

Content:

Unit I

1. Physical development during early childhood
2. Motor skills in early childhood.

Unit II

3. Cognitive development in early childhood – Piaget's Preoperational stage of cognitive development.
4. Factors affecting cognitive development in early childhood.

Unit III

5. Language Development in early childhood years.
6. Factors influencing language of young children.

Unit IV

7. Play – importance and types.
8. Common emotions of early childhood.

References:

- Berk, L. E. (1996): Child Development, New Delhi: Prentice Hall.
- Bee, Helen (1995). The developing child, Harper Collins Publishers.
- Craig,G (1999):Human Development. NJ: Prentice Hall.
- Cole,M.&Cole,S.(1995):The Development of Children. NY: Freeman & Co.
- Dacey, J.S. & Travers, J.F. (2002). Human Development across the life span, McGraw Hill, New York.
- Gardiner, H.W., Mutter, J .D. &Kosmitzki initial (1998): Lives across Cultures, Boston: Allyn & Bacon.
- Papalia, Diane E. (1978). Human Development, N.Y.: McGraw Hills Book Company.
- Rice,F.P.(1965):Human Development: A life Span Perspective, NY: McGraw Hill.
- Santrock,J.W.(1997):Life Span Development.Tata McGraw Hill, New Delhi.
- Santrock, J.W. (2007): Life Span Development. Tata McGraw Hill, New Delhi.

B.Sc. (Home Science) 4th Semester

Development in Ealy Childhood

(Practical)

Credit Hours: 2/week **Maximum Marks : 25**

Duration of Exam: 3hours **Paper : 20**

Internal Assessment : 05

Instructions for Paper Setter:

1. Each practical paper will be of 3 hours duration.
2. The question paper should cover the entire syllabus.

Contents:

1. Observe three girls and three boys in play situation and record the
   - Nature of play.
   - Difference in the choice of toys of girls and b/oys.
   - Common problems they have while playing.
2. Prepare a folder of activities you can do with a 4 years old to enhance his
   - Language development
   - Physical development
   - Cognitive development
3. Interview the mothers regarding their concerns related to parenting of young children.
4. Prepare a display for bulletin board related to any development of early childhood - Physical, Motor, Cognitive.

References:

- Berk, L. E. (1996): Child Development, New Delhi: Prentice Hall.
- Bee, Helen (1995). The developing child, Harper Collins Publishers.
- Craig,G (1999):Human Development. NJ: Prentice Hall.
- Cole,M.&Cole,S.(1995):The Development of Children. NY: Freeman & Co.

B.Sc. Home Science- 4th Semester
FUNDAMENTALS OF HOUSING
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to the Examiner

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

Objectives

1. To impart essential information for making a good house.
2. To give a comprehensive module in how best to plan and build home.
3. To develop practical skills in planning different rooms.

UNIT -I

1. Importance /needs of house-physiological needs, affectional needs, socio-economic needs, psychological needs
2. Site selection
   - Soil- Types of soil for housing
   - Location- Relationship with the road, the orientation, Effect of winds, the surrounding environment.
   - Characteristics of the plot - size, proportion, shape, types of houses , Urban byelaws

UNIT-II

3. General principles of Housing- aspect, prospect, grouping, roominess, flexibility, lighting, ventilation and sanitation.
4. Classification of house – Flats; studio apartment; condominium; villas; pent house
5. Economy in construction

UNIT-III

6. Need of planning homes, Open & closed plans, Planning aspects of Living Room, Drawing & Dining Room, Bedrooms.
7. Kitchen planning- its need, Type of kitchen plans, Work triangle, Standard measurement.

UNIT-IV

8. Landscape- Importance, Planning – Hard & Soft landscape, Design Process.
9. Dealing with external agencies- legal aspect & procedures involved in buying a land & construction of house.

References

1. Debjani Raychaudhuri Dutt Plan & Build Your Home , Pustak mahal , New delhi, Edition;2010
2. R.S. Deshpande Modern Ideal Homes for India , Poona United Book Corporation
3. R.S. Deshpande Build Your own Home, Poona United Book Corporation
4. Home Management by The educational Planning Group Delhi, Arya Publishing House
5. M. Pratap Rao landscape Design Standard publishers Distributors, Delhi

FUNDAMENTALS OF HOUSING
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

1. Estimating the cost of construction
2. a) Making room plans showing Furniture arrangement for different areas of the house- Drawing, Dinning and bed rooms.

   b)Planning colour scheme for Drawing room, Children bedroom, & Master bedroom.

3. Kitchen plans- one walled, the corridor, U-shaped, L- shaped, Peninsular.
4. Making a portfolio based on survey related to different housing finance agencies & making comparative chart for housing loans given by various companies/ Banks.

B.Sc. (Home Science) 4th Semester
APPAREL CONSTRUCTION
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Objectives:
To impart knowledge about-

1. Handling of special fabrics.
2. Garment details and suitability of different fabrics for different garments.

Instructions for paper setters:
There will be total nine questions carrying equal marks. Two questions will be set from each unit and one compulsory question carrying short answer type questions will be set from the whole syllabus. Five questions will be attempted in all.

UNIT-I

1. Suitability of different natural fabrics for different garments:
   a) Cotton
   b) Linen
   c) Wool
   d) Silk
2. Suitability of different man-made fabrics for different garments:

UNIT-II

3. Preparation of fabric before cutting
4. Different types of layout.
5. Handling of Special Fabrics and Knowledge of size of needles, threads and stitches according to the fabric.
   a) Crepe, Chiffon, Satin
   b) Knitted fabrics
   c) Net
   d) Beaded and Sequined fabric
   e) Fur, Corduroy, Velvet

UNIT-III

6. Garment details – Terminology , various types and suitability of the following to different garments:-
   a) Collars
   b) Sleeves
   c) Pockets
   d) Plackets

UNIT-IV

7. Garment Style:-
   a) Shirts
   b) Trousers
   c) Jackets and Coats
   d) One piece dresses

Recommended Readings:

1. "A Reader's Digest Step by Step guide- Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
2. McCall's, "Sewing in colour- Home dressmaking, Tailoring, Mending, soft furnishings, The Hamlyn Publishing group Ltd. (1963).
3. Armstrong, Joseph Helen, "Pattern Making for Fashion Design",Prentice Hall, New Jersey.
4. Doongaji.S and Deshpande .R, "Basic Processes and Clothing Construction", New Raj Book depot, New Delhi.
5. "The complete Book of sewing-A practical step by step guide to sewing techniques" Dorling Kindersley publication, (1996).
6. Aldrich W. " Metric Pattern Cutting for Children's and Babywear", Blackwell Science Ltd. U.K. (1999)
7. Lewis V.S. "Compartive clothing construction techniques", Surjeet Publication, Delhi. (1984)
8. Dantyagi.S, "Fundamentals of Textiles and their Care," Orient Longman Ltd, New Delhi.

B.Sc. (Home Science) 4th Semester
APPAREL CONSTRUCTION (PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Objectives:
To enable the students to
1. Draft and construct different sleevs and collars.
2. Make samples of plackets and pockets.

Instructions for paper setters:
Examiner is required to set two questions for adaptation and construction of any two samples from entire syllabus. Project work should not be included in question paper. Sloper of basic bodice block and sleeve block will be allowed.

1. Drafting of Child's basic bodice block and sleeve block.
2. Adaptation and Construction of following sleeves:
   a) Plain
   b) Puff
   c) Flare
   d) Cap
3. Adaptation and Construction of following collars:
   a) Baby
   b) Peter-Pan
   c) Mandarin
   d) Cape
4. Construction of samples of the following:
   i) Placket
      a) One piece
      b) Two piece
   ii) Pocket
      a) Patch
      b) Inseam

Project Work:
Drafting and Construction of
a) Panty
b) Yoked frock with Peter-Pan Collar and Puff Sleeve

Recommended Readings:

1. "A Reader's Digest Step by Step guide- Sewing and Knitting", Reader's Digest (Australia) Pty Ltd.
2. McCall's, "Sewing in colour- Home dressmaking, Tailoring, Mending, soft furnishings, The Hamlyn Publishing group Ltd. (1963).
3. Armstrong, Joseph Helen, "Pattern Making for Fashion Design",Prentice Hall, New Jersey.
4. Doongaji.S and Deshpande .R, "Basic Processes and Clothing Construction", New Raj Book depot, New Delhi.
5. "The complete Book of sewing-A practical step by step guide to sewing techniques" Dorling Kindersley publication, (1996).
6. Aldrich W. " Metric Pattern Cutting for Children's and Babywear", Blackwell Science Ltd. U.K. (1999)
7. Lewis V.S. "Compartive clothing construction techniques", Surjeet Publication, Delhi. (1984)
8. Dantyagi.S, "Fundamentals of Textiles and their Care," Orient Longman Ltd, New Delhi.

B.sc. (Home Science) 4th Semester
APPLIED PHYSICS-II
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to Examiner

1) Total nine questions to be set. Two questions from each unit and one compulsory question covering the whole syllabus may be set in the form of objective type/ fill in the blanks etc.
2) Total five questions to be attempted (one from each section and one compulsory question).
3) Each question carries 9 marks.
4) Internal choice can also be given.

Objective:

To provide knowledge regarding the applications of physics in day to day life.

CONTENTS

Unit-I

1. Photoelectric effect, Experimental study of photo electric effect.
2. Effect of intensity, potential and frequency on photoelectric current.
3. Laws of photoelectric emission.
4. Einstein's photoelectric equation and Explanation of laws of photoelectric emission on the basis of Einstein's equation.
5. Photo Electric Cell (phototube) and some of its applications.

Unit-II

6. LASERS- Introduction, Einstein's quantum theory of radiation-Spontaneous emission, Spontaneous absorption and Stimulated emission.
7. Common components of all Lasers, Lasing Action
8. Application/Uses of Lasers-Medical , Scientific, Industry and Commercial
9. Laser Fundamentals, Laser Hazards
10. MASERS-Introduction, Production of Masers.
11. Applications of Masers.

Unit-III

12. Brief account of Atomic Nucleus, Atomic Number, Mass Number, Nuclide, Nuclear charge, Nuclear size and Nuclear density.
13. Isotopes, Isobars and Isotones-Definition and examples. To calculate number of protons, neutrons, electrons, atomic number and mass number in a given element .Einstein's Mass-Energy relationship.
14. Nuclear forces, Characteristics of Nuclear forces.
15. Elementary idea about Radio Activity – Natural & Artificial, Definition of Half life and average life of a radioactive substance, Units of radioactivity .
16. Radioisotopes and their uses in Medicine, Industry, Agriculture. Carbon dating.

Unit-IV

17. Nuclear reactions- Nuclear Fission and Fusion, Difference between the two.
18. Brief idea about Controlled and Uncontrolled chain reactions. Conditions for self propagating Chain reaction and Neutron Reproduction Factor.
19. Nuclear Reactor – Principle, Construction and Working.
20. Some uses/ applications of Nuclear Reactor.
21. Short notes on Radiation hazards and Safety Measures.

B.sc. (Home Science) 4th Semester
APPLIED PHYSICS-II
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks : 25**
Duration of Exam: 3hours **Paper : 20**
Internal Assessment : 05

Instructions to Examiner

- Two practicals to be performed. One compulsory and one of student's choice (from different categories).
- Both the practicals carry equal marks.
- Separate marks for practical file and viva- voce.

Contents:

1) Measurement of area, volume and total surface area of a glass slab using Vernier Callipers.
2) Measurement of Internal diameter, depth and volume of a beaker using Vernier callipers .
3) Measurement of diameter of a metal wire using a screw gauge and find its volume.
4) Measurement of length and diameter of a rice grain using screw gauge.
5) To find resistance and power of a glowing bulb and to calculate energy consumed by it in given hours.
6) To verify Ohm's law.
7) To study a circuit breaker.

#Books Recommended(Theory & Practical)

1) A very M., Household Physics.
2) Duggal & Wadhawan, Principles of Physics (XI, XII).
3) Gomber & Gogia, Pradeeps Fundamental Physics (XI, XII).
4) Gupta S.K., Modern's ABC of Physics (XI, XII).
5) Khanna & Bedi, Textbooks of Sound.
6) Lal S., Fundamental Physics (XI, XII).
7) Mohindroo K.K., Basic Concepts of Physics.
8) Sachdeva & Duggal, Intermediate Physics.
9) Gupta S.C., New Fundamental Practical Physics.
10) Gupta S.K., ABC of Practical Physics (XI, XII).
11) Jaiswal J.N., Comprehensive Practical Physics (XI, XII).

B.Sc. (Home Science) 4th Semester
APPLIED CHEMISTRY -II
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Instructions to Examiners

- Total nine questions to be set out of which five to be attempted (two questions from each unit)
- One compulsory question covering the whole syllabus may be set in the form of objective/ fill in the blanks/ short notes etc.
- Each question carries 9marks.
- Internal choice can also be given.

Objective:

To make the students aware of the basics and applications of chemistry in every day life.

Unit- I

1. Alcohols- Properties and uses of ethyl alcohol, idea about methylated spirit, absolute alcohol and power alcohol.

2. Properties and uses of acetic acid.

Unit-II

1. Properties and uses of Benzene , Phenol.

2. Preparation and uses of Benzene diazonium chloride.

Unit-III

1. Cosmetics: Brief study and elementary idea about ingredients- cold cream, vanishing cream, lipstick, mascara, depilatories. Use of fluoride toothpaste and chemistry of cold cream.

2. Chemistry in medicine: Anti pyretics and Sulpha drugs.

3. Food Additives.

Unit-IV

1. Polymerization and Polymers- Definition and classification.

2. Polymers in textiles: Chemistry of synthetic fibers- Nylon, Polyester and Acrylic fibers.

3. Fertilizers: Nitrogen, Potassium and Phosphorus.

Suggested books:

6. Applied Chemistry for Home science and Allied science by Thancamma Jacob
7. NCERT books of +1 and +2.
8. Engineering books by Jain and Jain.
9. Modern approach to Chemistry Volume -1
10. Modern approach to Chemistry Volume -2

B.Sc. (Home Science) 4th Semester
APPLIED CHEMISTRY -II
(PRACTICAL)

Credit Hours: 2/week **Maximum Marks :25**
Duration of Exam: 3hours **Paper :20**
Internal Assessment :05

1. Elemental detection of organic compound- nitrogen, halogen and sulphur.
2. Determination of melting point and boiling point of organic compounds.
3. Determination of degree of hardness of tap water volumetrically.
4. Silver mirroring.
5. Qualitative analysis of sugar (reducing and non-reducing)

B.Sc. (Home Science) 4th Semester

PHYSIOLOGY AND PROMOTIVE HEALTH - II
(THEORY)

Credit Hours: 2/week **Maximum Marks : 50**
Duration of Exam: 3hours **Paper : 45**
Internal Assessment : 05

Objectives:

1. To gain knowledge about health, hygiene, common diseases.
2. To study about environmental pollutants (air and water).
3. To understand basic functioning of various systems of human body.

Instruction to the paper setter:

1. Each theory paper will be of three hours duration.
2. Questions paper will have four section and units. Paper setter will set a total of nine questions comprising of two questions from each section and one compulsory question of short answer type covering the whole syllabus.
3. Students will attempt one question from each unit and the compulsory question (Total of five questions).
4. All questions may carry equal marks, unless specified.

UNIT I

5. Excretory System:
    - Structure and function of kidney
      Formation of urine
6. Endocrine Glands:
    - Structure, hormones and functions of the following glands:

Pituitary, thyroid, parathyroid, adrenal, pineal and pancreas.

UNIT II

7. Reproductive System:
    - Structure and functions of male and female sex organs.
    - Ovarian and menstrual cycle.
    - Methods of contraception

8. Nervous System:
    - Structure of Neuron
    - Nerve Impulse.
    - Cerebrospinal fluid.
    - Cranial and Spinal Nerves
    - Autonomic nervous system.

UNIT III

9. Immune System:
    - Types of Immunity
    - Concept and importance of Immunization
    - Immunization schedule

10. Diseases: Cause, mode of spread, incubation period, symptoms and control of:

    Diseases spread by inhalation/droplet infection

    - Mumps
    - Measles
    - Pulmonary Tuberculosis
    - Chickenpox
    - Influenza

    Diseases caused by ingestion/oral-fecal route
    - Enteric Fever
    - Cholera
    - Dysentery
    - Diarrhoea

    Diseases caused by insects/vectors

    - Malaria
    - Plague

    Sexually transmitted disease:
    - AIDS

UNIT IV

11. Pest control:
    - Control and eradication of flies, cockroaches, rodents and other pests
    - Use of disinfectants for floors, working surfaces, kitchen equipment, dish washing.
    - Importance and hazards of aerosol sprays for disinfection

12. Water:
    - Contamination of water
    - Hazards of water pollution
    - Household and commercial methods of purification and water quality standards.

RECOMMENDED READINGS:

Sunetra Roday. Food Hygiene and Sanitation with case studies.2nd Edition. Mc GrawHill. 2011.

Evelyn Pearce. Anatomy and Physiology for Nurses, Jaypee brothers, New Delhi 1987.

Chaterjee. Human Physiology, Calcutta Medical Agency. 1988.

Guyton Arthm .C.Text Book of Medical Physiology, London W.B. Saunders Co.1999.

Yash Pal Bedi. Hygiene and public health. Atma ram and sons. 10th Edition. 1970.

J.E.Park- Preventive and Social Medicine. Banarsidas Bhanot Publishers, Jabalpur(India), 15th Edition.

Ganong WF. Review of Medical Physiology, 22nd ed. McGraw Hill. 2005.

Ross and Wilson. Foundation of Anatomy and Physiology, 6th ed. Medical Division of Longman Group Ltd. 1987.

Jain, A K. Textbook of Physiology (5thed.). Avichal Publishing Company. Vol I and Vol II. 2012

B.SC. (HOME SCIENCE) 4th Semester
Physical Education
(Practical)

Credit Hours: 2 /week **Grade: S/US**
Duration of Exam: 3 hours

Instruction to the Examiner:

The examiner shall consider annual assignment of the student, physical education practical file, take practical exam & viva voce based on syllabus for grading the students performance in the examination.

Objectives:

1. Wholesome development of an individual.
2. Knowledge of basic techniques involved in athletic events.
3. Practical knowledge of techniques, breathing pattern and do's and don'ts of various asanas.
4. Knowledge of Paralympics games, prominent player and Awards.

UNIT–I

1. Athletic meet – Meaning, Need and Importance
2. How to organize athletic meet at College level.
3. First Aid-meaning and its practical Application in day to day life and sports injuries

.

UNIT– II

Field Event : Jump- High Jump
[a] Dimensions and specification of equipment used
[b] Techniques
[c] Fouls

UNIT– III

Any two Asana out of the Following:
[a] Dhanurasana
[b] Chakrasana
[c] Vajrasana
[d] Matasayasana

UNIT - IV

[a] Brief knowledge of Paralympics.
[b]. Knowledge of prominent players of Paralympics games.
[c] Brief knowledge of Awards and Honors in Various Games

REFRENCES:

8. A Text Book of Physical Education and Sports by Atwal and Kansal.
9. Kaur ,Nirmaljit (2003). Essentials of Physical Education. Ludhiana: Kalyani Publishers.

10. Malik, Neeru and Malik, Rakesh (2005). Health and Physical Education. Gurusar Sadhar: GBD Publications.
11. Rule Book of Athletics by Amateur Athletic Federation of India.
12. Book of Rules of Games and Sports. National Council of YMCA of India.
13. Various search engines found on internet.

B.SC. (HOME SCIENCE)4th Semester
MUSIC (VOCAL)
Practical

Credit Hours: 2 /week **Grade: S/US**
Duration of Exam: 3 hours

Instructions to Examiner:

The examiner shall consider music practical file practical based on syllabus and viva-voce for the grading the students performance..

Objectives:

- Introduction of *Swara,raga,Taal, alankars*
- To develop interest in classical music.

UNIT- I

Two fast khayals with Alap and Taans of the following Ragas

A) Bihag

B) Malkauns.

UNIT- II

One Lakshan geet in any raag of prescribed syllabus

UNIT- III

The following taals with Ekgun and Dugun with Bols on hand

A) Tilwara

B) Deepchandi

UNIT- IV

Life sketeches of Musicians

A) Ustaad bade Gulam Ali Khan

B) Ustad Jakir Hussain

Recommended Readings:

1. Harish Chander Shrivastava (1993): Rag Prichaya Part – II, Sangeet Sadan Parkashan, 88, South Malaka, Allahabad.
2. Harish Chander Shrivastava (1993) : Rag Prichaya Part – III, Sangeet Sadan Parkashan, 134, South Malaka, Allahabad.
3. Pandit Vishnu Narayan Bharkande (1989): Hindustani Sangeet Padhtti Part II Sangeet Karyalaya, Hathras (UP).
4. Pandit Vishnu Narayan Bharkande (1988): Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).

5. Lakshmi Narayan Garg: Hindustani Sangeet Padhtti Part III Sangeet Karyalaya, Hathras (UP).
6. Shri Prabhu Lal Garg Basant: Sangeet Karyalaya, Hathras (UP)
7. Search engines on internet.

B.SC. (HOME SCIENCE)4th Semester
DANCE
(Practical)

Credit Hours: 2 /week **Grade: S/US**
Duration of Exam: 3 hours

Instructions to paper setters:

The examiner shall consider dance practical file, practical based on syllabus and viva-voce for the grading the students performance..

Objectives:

- Whole some development of individual.
- Introduction to *laya and Taal*.

UNIT- I

Teen Taal

A. Paran 1
B. ChakradarTora 1
C. ChakradarParan 1
D. Kavit 1

UNIT- II

Chautal

A. Paran 1
B. Kavit 1
C. ChakradarTora 1

UNIT- III

2 Gatnikar in Teen Taal

UNIT- IV

Practical demonstration of 10 Asamyukta and 10 Samyukta Hasta Mudra.

Recommended Readings:

1. Kathak Nritya Shiksha part-I by PuruDadheish.

2. Kathak Nritya Shiksha part-II by PuruDadheish.