

**CURRICULUM**  
**FOR**  
**Two Year Diploma**  
**in**  
**HOME SCIENCE**

For the State of Uttar Pradesh



**Prepared by:**

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**U. P., Kanpur-208002**

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## PREFACE

An important issue generally debated amongst the planners and educator's world over is how technical education can contribute to sustainable development of the societies struggling hard to come in the same bracket as that of the developed nations. The rapid industrialization and globalization has created an environment for free flow of information and technology through fast and efficient means. This has led to shrinking of the world, bringing people from different culture and environment together and giving rise to the concept of world turning into a global village. In India, a shift has taken place from the forgettable years of closed economy to knowledge based and open economy in the last few decades. In order to cope with the challenges of handling new technologies, materials and methods, we have to develop human resources having appropriate professional knowledge, skills and attitude. Technical education system is one of the significant components of the human resource development and has grown phenomenally during all these years. Now it is time to consolidate and infuse quality aspect through developing human resources, in the delivery system. Polytechnics play an important role in meeting the requirements of trained technical manpower for industries and field organizations. The initiatives being taken by the Technical Education, UP to revise the existing curricula of 12 diploma Programs as per the needs of the industry and making them NSQF compliant, are laudable.

In order to meet the requirements of future technical manpower, we will have to revamp our existing technical education system and one of the most important requirements is to develop outcome-based curricula of diploma Programs. The curricula for diploma Programs have been revised by adopting time-tested and nationally acclaimed scientific method, laying emphasis on the identification of learning outcomes of diploma Program.

The real success of the diploma Program depends upon its effective implementation. However, best the curriculum document is designed, if it is not implemented properly, the output will not be as expected. In addition to acquisition of appropriate physical resources, the availability of motivated, competent and qualified faculty is essential for effective implementation of the curricula.

It is expected of the polytechnics to carry out job market research on a continuous basis to identify the new skill requirements, reduce or remove outdated and redundant courses, develop innovative methods of course offering and thereby infuse the much needed dynamism in the system.

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## 1. SALIENT FEATURES OF DIPLOMA PROGRAMME IN HOME SCIENCE

- 1) Name of the Programme : Two Year Diploma Programme in Home Science
- 2) Duration of the Programme : Two years (Four Semesters)
- 3) Entry Qualification : Passed High School with 35% Marks
- 4) Intake : 60 (or as prescribed by the Board)
- 5) Pattern of the Programme : Semester Pattern
- 6) NSQF Level : Level – 5
- 7) Ratio between theory and Practical : 45 : 55 (Approx.)

### 8) **Industrial Training:**

Four weeks of industrial training is included after II semester exams. Total Marks allotted to industrial training will be 50.

### 9) **Student Centered Activities:**

A provision of 2-4 periods per week has been made for organizing Student Centered Activities for overall personality development of students. Such activities will comprise of co-curricular activities such as expert lectures, self-study, games, hobby classes like photography, painting, singing etc. seminars, declamation contests, educational field visits, NCC, NSS and other cultural activities, disaster management and safety etc.

### 10) **Project work**

A project work has been included in the curriculum to enable the student get familiarize with the practices and procedures being followed in the industries/practical work and provide an opportunity to work on some live projects in the industry/practical work.

## 2. EMPLOYMENT OPPORTUNITIES FOR DIPLOMA IN HOME SCIENCE

The diploma pass outs in Home Science are supposed to perform the following activities related with specific job positions.

### **Education:**

#### **As a teacher in**

- (i) Nursery primary and middle School (Mid Day Meal Planning).
- (ii) Save Our School (S. O. S.) Schemes.
- (iii) Deaf & Dumb School.
- (iv) Handicaped & Blind Care Centres.
- (v) Angan Bari.
- (vi) Orphanage.
- (vii) Food Lab, Analysis Lab of College and University
- (viii) Product Development Lab

### **Health:**

- (i) Primary Health Centres.
- (ii) Nursing Homes.
- (iii) Sick Rooms.
- (iv) Diabetics Department of Hospitals
- (v) Family Planning Centers.
- (vi) Block Development Offices.
- (vii) Physiotherapy.
- (viii) Occupational Therapy.

### **Enterprenurship:**

As a entrepreneur in the following fields.

- (i) Production of Achar, Murba, Jam, Jelly, Chips, Papar, Bari etc..
- (ii) Production of Cookery, Bakery and Confectionery items.
- (iii) Production of Paintings and other decorative items for interior decoration.
- (iv) Mass production fo ready made garments.
- (v) Production of fashion articles.
- (vi) Mass production of woolen pullovers (Jersey) sweater and hand gloves, jackets etc..

### **Free Lancing**

- (i) Mess contractor in Girls Hostels/Working Ladies Hostels.
- (ii) Writing articles in the Ladies Magazine.
- (iii) Advertisement.
- (iv) Modelling.
- (v) Consultancy.
- (vi) Sales Representative.

### 3. LEARNING OUTCOMES OF DIPLOMA COURSE IN HOME SCIENCE

After undergoing this programme, students will be able to:

1.	Environment and sustainability: critically evaluate impact of household and industrial practices on environment. Appreciate use of sustainable practices for improved physical, emotional, social, psychological environment at micro/macro level.
2.	Home Science and Society: apply knowledge and competencies developed as graduates to impart knowledge, identify, analyze and address family and societal issues to improve quality of life of individual, family and societal issues to improve quality of life of individual, family and society as a whole, also covering marginalized and vulnerable groups of society.
3.	Learning and Conceptual Understanding: have knowledge and holistic understanding of the core courses related to Home Science including Human Development, Foods and Nutrition, Clothing and Textiles, Home Management, Extension Education and Communication and basic courses associated with Social Sciences, Biological sciences, Physical sciences, Technology and Management.
4.	To develop knowledge of Child care and Mother craft
5.	To develop understanding of Health and Family planning schemes
6.	To assess, propose and apply various techniques related to drafting and construction of garment. To acquire the creative skill of developing designs for different garments. To understand different fabric and create innovative designs with different dyeing and printing methods. To adopt their artistic abilities to support a design carrier.
7.	To acquaint the students with various techniques of business management to acquire the knowledge of managerial and coordinating qualities.
8.	To impart knowledge in the field of entrepreneurship development.
9.	To impart knowledge and skill in the field of food production, food processing and interior decoration.
10.	To equip the students with the knowledge and skill in drawing and painting
11.	To develop knowledge in the field of house keeping and home economics.
12.	To aware the students in the field of software applications in computers
13.	To develop knowledge of huminites and social sciences.



#### 4. DERIVING CURRICULUM AREAS FROM LEARNING OUTCOMES OF THE PROGRAMME

The following curriculum areas/subjects have been derived from learning outcomes:

Sr. No.	Learning Outcomes	Curriculum Areas/Subjects
1.	Use appropriate practices for conservation of energy	– Environmental Studies
2.	Communicate effectively in English in oral and written form with others.	– Communication Skills – Student Centred Activities (SCA)
3.	Prepare detailed project proposal and report.	– Project Work
4.	Use computer and IT tools for creating document, making spread sheet and making presentation.	– Basics of Information Technology
5.	Calculate and interpret nutrient composition of foods.	– Food and Nutrition
6.	Apply scientific research, including microbiology, food science and food safety to functions of ingredients in food and process controls.	– Food and Nutrition
7.	Elements and Principles of Design. A good understanding of colour therapy, colour combination and colour psychology. Also use of different medium of paintings.	– Fundamental of Arts and Design
8.	Physiological And First Aid can help everyone—children, adolescents, adults, elders, families, and communities who have been exposed to a traumatic or emergency incident, including responders and support service providers.	– Physiology And First Aid
9.	Creating environments that are healthy, respectful, supportive and challenging for each child.	– Child Development
10.	Knowledge of basic garment construction, types of fibers and textile along with fabric ornamentation.	– Fundamental of Textile and Clothing
11.	Extension education for Home Science	– Extension Education
12.	Define what is household and household resource management, understand the duties and responsibilities of a home manager, identify the resources of the family understand what is resource management	– Home Management
13.	Understanding, critically assessing and knowing how to use and apply information sources related to nutrition, food, lifestyle and health.	– Diet Planning and Therapy

14.	To create learning contexts to enable, build and maintain caring, responsive relationships in partnerships with children, families and communities that value and respect social, cultural and linguistic diversity including Indigenous peoples' worldviews and Francophone identity.	– Early Childhood Education
15.	Basic knowledge of yarn and cloth manufacturing including weaving and knitting. Use of different dyes and dyeing processes to create unique fabrics.	– Textile Design
16.	Interior, Art Decoration, Light, Kitchen Management, Kitchen Equipment	– Interior Decoration and Kitchen Management
17.	Institutional Food Service Management, Space Planning, Care of Equipment	– Institutional Food Service Management
18.	Different Child Care Centers National and International	– Entrepreneurship in Child Care Service
19.	Designing drafting and fabrication of garment for different age group and occasions.	– Costume Design

**5. ABSTRACT OF THE CURRICULUM AREAS**

**A) General Studies**

1. Communication Skills-I
2. Communication Skills-II
3. Environmental Studies

**B) Basic Courses of Home Science**

4. Fundamental of Arts and Design
5. Food and Nutrition

**C) Applied Courses of Home Science**

6. Physiology and First Aid
7. Child Development
8. Fundamental of Textile and Clothing
9. Extension Lecturer
10. Basics of Information Technology
11. Home Management
12. Diet Planning and Therapy
13. Early Childhood Education
14. Textile Design
15. Interior Decoration and Kitchen Management
16. Institutional Food Service Management
17. Entrepreneurship in Child Care Services
18. Costume Design
19. Project

## 6. HORIZONTAL AND VERTICAL ORGANISATION OF THE SUBJECTS

Sr. No.	Subjects	Distribution in Periods as per week in various semesters			
		I	II	III	IV
1.	Communication Skills	6		6	
2.	Fundamental of Art & Design	20			
3.	Food and Nutrition	20			
4.	Physiology and First Aid.		11		
5.	Child Development		12		
6.	Fundamental of Textile & Clothing		12		
7.	Extension Education		11		
8.	Basics of Information Technology			6	
	<b>Any Two Group should be chosen from below four groups</b>				
9.	<b>Group-I</b> Home Management			17	
10.	<b>Group-II</b> Planning and Therapy			17	
11.	<b>Group-III</b> Early Childhood Education and Management			17	
12.	<b>Group-IV</b> Textile Design			17	
13.	Environmental Studies				5
14.	I- Project II- Field Exposure				7
15.	<b>Any Two Group should be chosen from below four groups</b>				
16.	<b>Group-I</b> Interior Decoration & Kitchen Management				17
17.	<b>Group-II</b> Institutional Food Service Management				17
18.	<b>Group-III</b> Entrepreneurship in child care Services				17
19.	<b>Group-IV</b> Costume Design				17
20.	<b>SCA</b>	2	2	2	2
31.	Total	48	48	48	48

**7. STUDY AND EVALUATION SCHEME FOR P. G. DIPLOMA PROGRAMME IN HOME SCIENCE**

**FIRST SEMESTER**

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
		L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
						Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
1.1	*Communication Skills-I	4	-	2	4	20	-	20	50	2 ½	-	-	50	70	
1.2	Fundamental of Arts and Design	8	-	12	8	20	40	60	50	2 ½	60	4	110	170	
1.3	Food and Nutrition	8	-	12	8	20	40	60	50	2 ½	60	4	110	170	
#Student Centered Activities (SCA)		-	-	2	1	-	30	30	-	-	-	-	-	30	
<b>Total</b>		<b>20</b>	<b>-</b>	<b>28</b>	<b>21</b>	<b>60</b>	<b>110</b>	<b>170</b>	<b>150</b>		<b>120</b>	<b>-</b>	<b>270</b>	<b>440</b>	

\* Common with other diploma programs

# Student Centered Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

- 4 weeks structured & supervised, branch specific, task oriented industrial/extension Edu. to be organized during summer vacation. After II Sem. Students will submit a report . There will be 50 marks for this exposure .These marks will be awarded by project examiner in the IV Semester ( Examination marks: 30, Sess. marks: 20).

## SECOND SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
		L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
						Pr	Tot	Th	Hrs	Pr	Hrs	Tot			
2.1	Physiology and First Aid	5	-	6	6	20	30	50	50	2 ½	60	3	110	160	
2.2	Child Development	5	-	7	6	20	30	50	50	2 ½	60	3	110	160	
2.3	Fundamental of Textile & Clothing	5	-	7	7	20	30	50	50	2 ½	60	4	110	160	
2.4	Extension Education	5	-	6	6	20	30	50	50	2 ½	60	3	110	160	
#Student Centered Activities (SCA)		-	-	2	1	-	30	30	-	-	-	-	-	30	
<b>Total</b>		<b>20</b>	<b>-</b>	<b>28</b>	<b>26</b>	<b>80</b>	<b>150</b>	<b>230</b>	<b>200</b>		<b>240</b>	<b>-</b>	<b>440</b>	<b>670</b>	

\* Common with other diploma programmes

# Student Centered Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

### THIRD SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
		L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
						Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
3.1	*Communication Skill-II	4	-	2	4	20	10	30	50	2 ½	20	3	70	100	
3.2	*Basics of Information Technology	-	-	6	2	-	40	40	-	-	60	3	60	100	
	<b>Any Two Group Chosen From Below Four Group</b>														
	<b>Group I</b>														
3.3	Home Management	7	-	10	7	20	30	50	50	2 ½	60	3	110	160	
	<b>Group II</b>														
3.4	Diet Planning and Therapy	7	-	10	7	20	30	50	50	2 ½	60	4	110	160	
	<b>Group III</b>														
3.5	Early Childhood Education	7	-	10	7	20	30	50	50	2 ½	60	3	110	160	
	<b>Group IV</b>														
3.6	Textile Design	7	-	10	7	20	30	50	50	2 ½	60	4	110	160	
	#Student Centered Activities (SCA)	-	-	2	1	-	30	30	-	-	-	-	-	30	
	<b>Total</b>	<b>18</b>	<b>-</b>	<b>30</b>	<b>21</b>	<b>60</b>	<b>140</b>	<b>200</b>	<b>150</b>	<b>-</b>	<b>200</b>	<b>-</b>	<b>350</b>	<b>550</b>	

\* Common with other diploma programmes

# Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.

FOURTH SEMESTER

Sr. No.	SUBJECTS	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
		L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
						Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
4.1	*Environmental Studies	3	-	2	3	20	10	30	50	2 ½	20	3	70	100	
4.2	I. Project	-	-	7	5	-	40	40	-	-	80	Viva	80	120	
	II. Field Exposure	-	-	-	4	-	20	20	-	-	30	Viva	30	50	
	<b>Any Two Group Chosen From Below Four Group</b>														
	<b>Group I</b>														
4.3	Interior Decoration and Kitchen Management	7	-	10	7	20	30	50	50	2 ½	60	3	110	160	
	<b>Group II</b>														
4.4	Institutional Food Service Management	7	-	10	7	20	30	50	50	2 ½	60	4	110	160	
	<b>Group III</b>														
4.5	Entrepreneurship in child Care services	7	-	10	7	20	30	50	50	2 ½	60	3	110	160	
	<b>Group IV</b>														
4.6	Costume Design	7	-	10	7	20	30	50	50	2 ½	60	4	110	160	
	#Student Centered Activities (SCA)	-	-	2	1	-	30	30	-	-	-	-	-	30	
	<b>Total</b>	<b>17</b>	<b>-</b>	<b>31</b>	<b>27</b>	<b>60</b>	<b>160</b>	<b>220</b>	<b>150</b>	<b>-</b>	<b>250</b>	<b>-</b>	<b>400</b>	<b>620</b>	

\* Common with other diploma programme

# Student Centred Activities will comprise of co-curricular activities like extension lectures, self study, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, disaster management and safety etc.



## 8. GUIDELINES FOR ASSESSMENT OF STUDENT CENTRED ACTIVITIES (SCA)

It was discussed and decided that the maximum marks for SCA should be 30 as it involves a lot of subjectivity in the evaluation. The marks may be distributed as follows:

- i. 10 Marks for general behavior and discipline  
(by HODs in consultation with all the teachers of the department)
- ii. 5 Marks for attendance as per following:  
(by HODs in consultation with all the teachers of the department)
  - a) 75 - 80% 2 Marks
  - b) 80 - 85% 4 Marks
  - c) Above 85% 5 Marks
- iii. 15 Marks maximum for Sports/NCC/Cultural/Co-curricular/ NSS activities as per following:  
(by In-charge Sports/NCC/Cultural/Co-curricular/NSS)
  - a) 15 - State/National Level participation
  - b) 10 - Participation in two of above activities
  - c) 5 - Inter-Polytechnic level participation

Note: There should be no marks for attendance in the internal sessional of different subjects

## First Semester

### 1.1 COMMUNICATION SKILLS – I

**L T P**  
**4 - 2**

#### RATIONALE

Knowledge of English Language plays an important role in career development. This subject aims at introducing basic concepts of communication besides laying emphasis on developing listening, speaking, reading and writing skills as parts of Communication Skill.

#### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- Understand the importance of effective communication
- Describe the process of communication
- Communicate effectively in different contexts
- Identify parts of speech
- Write correct sentences using appropriate vocabulary
- Reproduce and match words and sentences in a paragraph
- Write various types of paragraphs, notices for different purposes and composition on picture with appropriate format
- Read unseen texts with comprehension

#### DETAILED CONTENTS

- |   |                         |   |
|---|-------------------------|---|
| 1 | Basics of Communication | (13 periods)  |
|   | 1.1                     | Definition and process of communication   |
|   | 1.2                     | Types of communication - formal and informal, oral and written, verbal and non-verbal |
|   | 1.3                     | Communications barriers and how to overcome them                                      |
|   | 1.4                     | Barriers to Communication, Tools of Communication                                     |
| 2 | Application of Grammer  | (18 periods)  |
|   | 2.1                     | Parts of Speech (Noun, verb, adjective, adverb) and modals                            |
|   | 2.2                     | Sentences and its types   |
|   | 2.3                     | Tenses  |
|   | 2.4                     | Active and Passive Voice  |
|   | 2.5                     | Punctuation   |
|   | 2.6                     | Direct and Indirect Speech  |

- 3 Reading Skill (10 periods)  
Unseen passage for comprehension (one word substitution, prefixes, suffixes, antonyms, synonyms etc. based upon the passage to be covered under this topic)
- 4 Writing Skill (15 periods)
- 4.1 Picture composition  
4.2 Writing paragraph  
4.3 Notice writing

### **LIST OF PRACTICALS**

**Note:** Teaching Learning Process should be focused on the use of the language in writing reports and making presentations.

Topics such as Effective listening, effective note taking, group discussions and regular presentations by the students need to be taught in a project oriented manner where the learning happens as a byproduct.

### **Listening and Speaking Exercises**

1. Self and peer introduction
2. Newspaper reading
3. Just a minute session-Extempore
4. Greeting and starting a conversation
5. Leave taking
6. Thanking
7. Wishing well
8. Talking about likes and dislikes
9. Group Discussion
10. Listening Exercises.

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

**RECOMMENDED BOOKS**

1. Communicating Effectively in English, Book-I by Revathi Srinivas; Abhishek Publications, Chandigarh.
2. Communication Techniques and Skills by R. K. Chadha; DhanpatRai Publications, New Delhi.
3. High School English Grammar and Composition by Wren & Martin; S. Chand & Company Ltd., Delhi.
4. Excellent General English-R.B.Varshnay, R.K. Bansal, Mittal Book Depot, Malhotra
5. The Functional aspects of Communication Skills – Dr. P. Prasad, S.K. Katria & Sons, New Delhi
6. Q. Skills for success – Level & Margaret Books, Oxford University Press.
7. e-books/e-tools/relevant software to be used as recommended by AICTE/UBTE/NITTTR.

**Websites for Reference:**

1. <http://www.mindtools.com/> page 8.html – 99k
2. <http://www.letstalk.com.in>
3. <http://www.englishlearning.com>
4. <http://learnenglish.britishcouncil.org/en/>
5. <http://swayam.gov.in>

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	13	24
2	18	32
3	10	16
4	15	28
<b>Total</b>	<b>56</b>	<b>100</b>

## 1.2 FUNDAMENTAL OF ARTS AND DESIGN

L T P

8 - 12

### **Rational:**

Arts teaches one to be creative, to approach problems in an exciting opportunities, to challenge skills and helps in building confidence as well as a sense of individual identity. In this subject the student will know how to draw different types of lines, geometrical figures, color combination, showing tints and shades.

### **LEARNING OUTCOMES**

After undergoing the subject, the students will have knowledge about:

- 1- Material and Tools
- 2- Color and Color Psychology
- 3- Basic Theories of colour
- 4- Painting using different medium

### **DETAILED CONTENTS**

1. Introduction to art material and tools.
2. Elements of art - Line, Form, Colour, Texture, Space, Light and Design.
3. Principles of Art & design :- Harmony, Balance, Rhythm, Emphasis, Proportion, Simplicity, Positive and Negative Space, Contrast, Repetition.
4. Design :- Definition, Types of design - Structural, Decorative and abstract.
5. Colour & Colour Psychology :- Introduction to colour theory, Oswald and Pigment theory.  
Colour Schemes - Primary, Secondary, tertiary analogous, Triadic, Complimentary, Split complimentary, Tints and shades, Warm and cool, Monochromatic, Polychromatic, Neutral colour, Colour Psychology, Textures.

### **PRACTICALS**

1. Colour wheel, primary colour, secondary, sub secondary.
2. Make a composition of two figures using warm and cool colours.
3. Show tints and shades of the three primary colours.
4. Depict psychology of colour through collage.
5. Draw different kinds of lines on a sheet in 10 x 10 cmsquares.
6. Make compositions with lines shapes and forms.
7. Thick or thin lines, wavy lines, straight lines, horizontal, vertical and diagonal lines.

21

8. Illustrate all the elements and principles of art.
9. Still life sketching.
10. Structural, decorative and abstract designs. (5 Each)
11. Sketching:-
  - A. Drawing of objects, still life
  - B. Nature Study-Flowers, Leaves, Fruits, Trees, Butterflies.
  - C. Figure Sketching, Stick Figures, Fashion figures.
  - D. Introduction to perspective drawing.
  - E. Pencil sketching.
  - F. Model sketching.
12. Fabric Painting:-
  - A. Sofa Back
  - B. Cushion cover
  - C. Table Mats
13. Oil Painting:-
  - A. Oil painting on canvas -Figures and flowers.
  - B. Painting on Pots.

## **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

## **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

## **RECOMMENDED BOOKS**

1. A Brush with Indian Art: From Cave to Contemporary Paintings by Mamta Nainy
2. Dictionary of Indian Art and Artists by Pratima Sheh
3. Indian Art by Partha Mitter
4. Indian Art and Culture by Nitin Singhania
5. Looking Beyond: Graphics Of Satyajit Ray (2012)

## **Websites for Reference:**

<https://www.nga.gov/education/teachers/lessons-activities.html>

<https://www.metmuseum.org/toah/>

<https://smarthistory.org/>

### SUGGESTED DISTRIBUTION OF MARKS

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	22	18
2	22	18
3	22	20
4	23	22
5	23	22
<b>Total</b>	<b>100</b>	<b>100</b>

## 1.3 FOOD AND NUTRITION

L T P  
8 - 12

### Rationale

A human body needs a balanced diet. To know the nutritive value of balanced diet different foods and their nutritive value such as proteins, carbohydrates, fat, minerals, vitamins, calorific value etc. should be known. To cater the above needs the curriculum is designed.

### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1- Interpret and apply nutrition concepts to evaluate and improve the nutritional health of communities
- 2- Apply management principles to evaluate human, physical and fiscal resources in organizations
- 3- Interpret and apply nutrition concepts to evaluate and improve the nutritional health of individuals

### DETAILED CONTENTS:

1. Definition of food, food nutrition and food science.
2. Basic component of food as, Carbohydrate, Protein Fat, Vitamin and Minerals their function, sources & RDA, Deficiency Diseases of vitamins and minerals.
3. Balance diet for different stages in life.
4. Composition and nutritive value of cereal, pulse, fruits and vegetable milk and milk product.
5. Food preservation, food poisoning, food adulteration, food hygiene.
6. Therapeutic nutrition and importance, definition of dietetics.
7. Bakery and confectionary (sponge cake and biscuits).
8. Basic food group and their contribution in diet.

### LIST OR PRACTICALS

1. Preparation of Different Pickle: Mango, Chili, etc., Tomato soup and orange squash.
2. Preparation of Sponge cake, Chocolate cake and biscuit.
3. Preparation of at least one dish from each category -
  - a. Breakfast
  - b. Snacks
  - c. Appetisers - Soup and Salad
  - d. Dessert



- e. Regional Indian Dish-Vegetarian/Non-vegetarian
- f. Chinese/Continental Dish - Vegetarian/Non-vegetarian
- 4. Menu Planning, Standardize the measurement of serving sizes of Cereal, Pulse, Fruit, Vegetable, Milk, Milk Product, Flour.
- 5. Proper diet plan for different age group.
- 6. Therapeutic diet plan for different disease (Diabetes, Anemia, Over weight, Under Weight etc.)
- 7. Importance of cooking method of food its relevance in nutrition.
- 8. Importance of Sanitation and hygiene in food preparation, service and storage.
- 9. Visit of cafeteria and diabetes department of hospitals.
- 10. Organize a awareness camp in community ( slum area, rural area, etc)

## INSTRUCTIONAL STRATEGY

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises, community programme

## MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce, Camp Report, Visit Report and Presentation

## RECOMMENDED BOOKS

1. **Rujuta Diwekar:**  
 "Don't Lose Your Mind, Lose Your Weight"  
 "Indian Superfoods"  
 "Women and The Weight Loss Tamasha"  
 Dr. Shikha Sharma:  
 "Eat. Delete."
2. **Kavita Devgan:**  
 "Ultimate Grandmother Hacks: 50 Kickass Traditional Habits for a Fitter You"  
 "Don't Diet! 50 Habits of Thin People"
3. **Shubhra Krishan:**  
 "Essential Ayurveda: What It Is and What It Can Do for You"  
 "Radiant Body, Restful Mind: A Woman's Book of Comfort"
4. **Dr. Nandita Shah:**  
 "Reversing Diabetes in 21 Days"  
 "The Vegan Kitchen: Bollywood Style!"  
 "Escape to Health: How I Cured My Diabetes and You Can Too!"
5. **Kanchan Kabra:**  
 "Cooking with 1 Teaspoon of Oil"  
 "Microwave Cooking Made Easy"

- "The Chocolate Cookbook"
6. **Nita Mehta:**  
 "101 Diabetes Recipes"  
 "The Taste of Rajasthan: Royal Cooking of Rajasthan"  
 "Baking for Beginners"
8. **Diabetics By B. Srilakshmi**
9. **Advance Text Book on Food and Nutrition Volume 1 By M S Swaminathan**
10. **Fundamentals of Foods, Nutrition and Diet Therapy By S.R. Mudambi and M.V. Rajgopal, New Age International Publishers**
11. **Hand Book of Food and Nutrition By M S Swaminathan**
12. पोषण एवं मानव विकास साहित्य प्रकाशन आगरा ।
- 13 आहार विज्ञान एवं पोषण, डा० बृन्दा सिंह, पंचशील प्रकाशन, जयपुर।
- 14 आहार एवं पोषण विज्ञान, श्रीमती उषा मिश्रा एवं डा० अल्का अग्रवाल, साहित्य प्रकाशन आगरा
- 15 व्यवहारिक जीवन विज्ञान एवं मानव स्वास्थ्य, बी० के० बक्षी, विनोद पुस्तक मंदिर, आगरा

**Websites for Reference:**

<https://www.eatright.org/>

<http://www.fao.org/nutrition/en/>

<https://www.nin.res.in/>

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	15	15
2	15	10
3	15	15
4	15	15
5	12	10
6	12	15
7	15	10
8	13	10
<b>Total</b>	<b>112</b>	<b>100</b>

## II Semester

### 2.1 PHYSIOLOGY AND FIRST AID

L	T	P
5	-	6

#### Rationale:

The study of Physiology of human body is an important requirement of a student of diploma in Home Science. They may look and take care of the family and society and guide accordingly. They should be well aware of First Aid to be given to injured person. To take care into account the curriculum is designed as per need.

#### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1- Understand the human Physiology
- 2- Learn the functioning of various Organs of human body
- 3- Outlines and Principles of First Aid

#### DETAILED CONTENTS

##### (A) PHYSIOLOGY:

1. Definition and terminology related to physiology
2. Cell: Structure, Type and an Idea about tissue & organs
3. Elementary Physiology of following :  
Name of organs and functions of following -
  - Circulatory System
  - Reproductive System
  - Respiratory System
  - Digestive System
  - Excretory System
4. Elementary Knowledge about :-

- Endocrine System
  - Sense Organ
5. Immunity : Type of Immunity, Immunization Schedule.

(B) FIRST AID

- (1) Outlines and principles of first aid.
- (2) Cuts wounds and hemorrhage
- (3) Fracture
- (4) Strains and sprains
- (5) Shock
- (6) Artificial Respiration-CPR (Cardio Pulmonary Respiration)
- (7) Postures
- (8) Burns and scald
- (9) Heat stroke
- (10) Application of triangular, rolled bandages
- (11) Foreign body in the ear, nose, eye, throat, skin, poisoning
- (12) First Aid Kit.

PRACTICALS:

- (1) Physiology chart
- (2) Recording of temperature, Blood Pressure, Pulse and Oxygen Level
- (3) Pulse palpitation
- (4) First aid box
- (5) Application of triangular, rolled bandage
- (6) Practical based on theory

**INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

### MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### RECOMMENDED BOOKS

#### Physiology:

1. "Thinking, Fast and Slow" by Daniel Kahneman
2. "Man's Search for Meaning" by Viktor E. Frankl
3. "Influence: The Psychology of Persuasion" by Robert B. Cialdini
4. "Flow: The Psychology of Optimal Experience" by Mihaly Csikszentmihalyi
5. "The Power of Habit: Why We Do What We Do in Life and Business" by Charles Duhigg
6. "Emotional Intelligence: Why It Can Matter More Than IQ" by Daniel Goleman
7. "Quiet: The Power of Introverts in a World That Can't Stop Talking" by Susan Cain
8. "The Willpower Instinct: How Self-Control Works, Why It Matters, and What You Can Do to Get More of It" by Kelly McGonigal
9. "The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma" by Bessel van der Kolk
10. "Thinking in Systems: A Primer" by Donella H. Meadows

#### First Aid:

1. "First Aid Manual" by the American Red Cross
2. "First Aid for the USMLE Step 1" by Tao Le and Vikas Bhushan
3. "Wilderness Medicine: Beyond First Aid" by William W. Forgey
4. "First Aid, CPR, and AED: Advanced" by the American Academy of Orthopedic Surgeons (AAOS)
5. "Advanced First Aid, CPR, and AED" by the American Academy of Orthopedic Surgeons (AAOS)
6. "First Aid Fast for Babies and Children" by DK Publishing
7. "First Aid: A Pocket Guide" by John Furst
8. First Aid and Health By Dr. Jyoti Ram Shanker Tiwari and Dr. Sushma Yadav : Thakur Publication Pvt. Ltd.
9. प्राथमिक उपचार एवं स्वास्थ्य डा० ज्योति रामशंकर तिवारी, डा० सुषमा तिवारी, डा० एलक्कुवाना भाषकर राज, ज्याति मारुथे, ठाकुर पब्लिकेशन प्रा०लि०, लखनऊ ।
10. मानव शरीर एक क्रिया विज्ञान, डा० बृन्दा सिंह, पंचशील प्रकाशन, जयपुर।

11. शरीर सरंचना एवं क्रिया विज्ञान-डा० राजेश दीक्षित, भाषा भवन प्रकाशन, मथुरा।

**Websites for Reference:**

[www.apa.org](http://www.apa.org)

[www.psychologytoday.com](http://www.psychologytoday.com)

[www.redcross.org](http://www.redcross.org)

[www.webmd.com/first-aid](http://www.webmd.com/first-aid)

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	40	55
2	30	45
<b>Total</b>	<b>70</b>	<b>100</b>

## 2.2 CHILD DEVELOPMENT

L T P  
5 - 7

### Rationale:

Every woman is supposed to be a mother. The essential duties of a mother are not to be taught. Of course a mother knows better how to take care of her infants rather to teach her. In spite of this techniques of child psychology, child development, mother craft, care of infants, problems of child behavior, stages of development during infancy are taken into account.

### LEARNING OUTCOMES

After undergoing the subject, the students will have a good understanding and knowledge of :

1. Child characteristics and needs.
2. Multiple interacting influences on children's development and learning.
3. Creating environments that are healthy, respectful, supportive and challenging for each child.
4. Building family and community relationships.

### DETAILED CONTENTS

1. Introduction, Child Development, Basic concepts and importance, Scope of child development. Principle of ChildDevelopment.
2. Mother craft & Pre Natal Development -
  - (a) Fitness for motherhood
  - (b) How life begins.
  - (c) Signs of pregnancy.
  - (d) Stages of growth during prenatal period.
  - (e) Prenatal care, needs and care of mother during pregnancy- Personal hygiene, health, diet and clothing.
  - (f) Preparation for delivery, types of delivery, The birthprocess, Hazardous
  - (g) Postnatal Care- Care of mother after delivery, diet,rest and sleep.

3. Care of infant -
  - (a) Nutrition for the child - Breast and bottle feeding.
  - (b) Bathing ,Clothing & sleeping.
  - (c) Supplementary & Weaning foods.
  - (d) Immunization schedule.
4. Common ailments of children.
5. Development during infancy (0 - 2 yrs.)
  - (a) physical and motor development
6. Development during early childhood years (2-6 years)
  - A. Physical Development
  - B. Intellectual Development
  - C. Social development
  - D. Importance of Play
  - E. Emotional Development
7. Development during late childhood years (6-12 years)
  - A. Physical Development
  - B. Intellectual Development
  - C. Social development
8. Adolescence -
  - A. Changes during adolescence/Physical/Cognitive/Moral and Reasoning
  - B. Adolescent identity development and social influence on development.
9. Personality- Definition, Factors affecting personality.

### **PRACTICALS**

1. Visit to well baby clinics to observe new born babies and report preparation.



2. Visit to maternity wards and report preparation.
3. Observation of new born babies and premature babies and report preparation.
4. Demonstration of babies feed, bathing, dressing and bed making and report preparation.
5. Assessment of physical motor and cognitive abilities of schoolage children and report preparation.
6. Preparing resource file on different aspects of developments during adolescence.

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### **RECOMMENDED BOOKS**

1. Dr. Spock's Baby and Child Care by Dr. Benjamin Spock
2. Mindful Parenting: The Art of Raising Calm, Confident Children" by Nivedita Deshpande
- 3 "Parenting: The Art and Science of Nurturing" by Dr. Preeti Kapur: Dr. Preeti Kapur
- 4 "The Whole-Brain Child: 12 Revolutionary Strategies to Nurture Your Child's Developing Mind" by Dr. Tina Payne Bryson and Dr. Daniel J. Siegel
- 5 "Parenting in the Age of Sexposure: Raising the Digital Generation" by Dr. Debarati Halder
- 6 "Positive Parenting: The Essential Guide" by Dr. Chayanika Singh: Dr. Chayanika Singh
7. मानव विकास -डी०एन० श्रीवास्तव एवं प्रीति वर्मा |

### **Websites for Reference:**

[www.cdc.gov/ncbddd/childdevelopment/index.html](http://www.cdc.gov/ncbddd/childdevelopment/index.html)  
[www.zerotothree.org](http://www.zerotothree.org)  
[www.healthychildren.org](http://www.healthychildren.org)  
[www.childdevelopmentinfo.com](http://www.childdevelopmentinfo.com)  
[www.naeyc.org](http://www.naeyc.org)

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	10	10
2	12	12
3	10	10
4	12	12
5	10	10
6	12	12
7	12	12
8	12	12
9	10	10
<b>Total</b>	<b>70</b>	<b>100</b>

## 2.3 FUNDAMENTAL OF TEXTILE AND CLOTHING

L T P  
5 - 7

### Rationale:

A diploma holder of Home Science should be well aware of the basics of textile theory and the practical aspects of printing on fabric. The basics of garment construction and embroidery will also be covered.

### LEARNING OUTCOMES

After undergoing the subject, the students will have a good understanding and knowledge of:

- 1- Fiber Types and Properties
- 2- Fabric Construction
- 3- Textile and Clothing Manufacturing Processes
- 4- Textile Printing
- 5- Textile and Clothing Terminology
- 6- Finishing and Care of Fabrics
- 7- Sewing, Stitch, Embroidery of Fabrics

### DETAILED CONTENTS:

#### A. TEXTILE

##### 1. PERSONAL APPERANCE :

Function of clothes in our daily life. Factor influencing clothing and personality, Selection of various fabrics inrelation to personality, climate, occupation, cost and up keep. Family clothing and wardrobe planning.

##### 2. FIBRE SCIENCE :

Classification of fibres, Natural fibres : Plant fibres (Cotton, Linen); Animal fibres (Silk, Wool); Man made fibres : (Rayon), Synthetic Fibres : Nylon, Polyester); Source ,Identification and utilization of fibres.

##### 3. YARN CONSTRUCTION :

Types of yarns- Brief idea of their characteristics such as strength, twist and evenness

##### 4. TEXTILE PRINTING:

Different types of printing and its significance

**B. CLOTHING :**

1. Sewing tools and equipment, Manual, Automatic and computerized Sewing machines and its parts, Function and Maintenance, Machine defects and remedies.

2. STITCHES :

Basic Hand stitches and 6 basic Machine Stitches.

3. STITCHED GARMENT :

Types and elements of stitched garments- Necklines, collars, Yokes, Sleeves, Cuffs, Skirts.

4. EMBROIDERY :

Need, importance and 15 types of hand embroidery stitches.

5. STATE EMBROIDERIES :

Kantha, Phulkari, Chikankari, Sindhi, Gujrati, Kashmiri.

6. FINISHING & CARE OF FABRICS :

A. FINISHING:-

Finishing of fabrics i.e. mercerisation, glazing, bleaching, dyeing and printing, etc.

B. CARE OF FABRICS: (Laundrying)

Requirements:-

Water: Hardness in water, Difficulties in Laundry, methods of removal.

Soap: Soaps and Detergents.

Washing method: Rubbing and scrubbing, kneading and squeezing, suction washing, machine washing.

Stain removal: Methods of stain removal, uses of javellewater, KMNO<sub>4</sub>, Oxalic acid, H<sub>2</sub>O<sub>2</sub> bleaches.

Dry-cleaning method: Spot cleaning Dyeing: Dyes used in the home.

**LIST OF PRACTICALS**

1. Collection of different types of Yarn.
2. Printing (Only sample work) - Vegetables printing, Stencil,Block, Screen, Matchstick, Fibric painting, Free handpainting, Batik & Tie and Dye - Cotton and silk.
- 3 .A. Types of stitches- Hand and machine stitches.
- 3 .B. Elements of Stitched Garment –
  - i. Pleats, Tucks, Gathers, Darts
  - ii. Facing and Piping,
  - iii. Collars: Petter pan, Tennis, Shirt, Gown,
  - iv. Sleeves : Plain,Flared, Magyar
  - v. Skirts: Straight ,Umbrella , Paneled.
4. Embroidery Stitches - Stem, Chain, Double chain, Lasy daisy,Cross, Chevron, Feather, Fly, Herringbone, Button hole,Blanket, French knots, Bullion stitch, Satin, Long and short.
5. Applique, Patchwork, Quilting, Smoking (Any Two).
6. Removal of stains from samples and garments.
7. Washing, rinsing, stiffening, drying, folding, ironing and finishings of various fabrics and garments.

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### **RECOMMENDED BOOKS**

1. Costumes and Textiles of Royal India by Ritu Kumar
2. Indian Fashion Tradition, Innovation, Style by Ritu Kumar
- 3 The Indian Textile Sourcebook by Jasleen Dhamija
- 4 Handcrafted Indian Textiles: Tradition and Beyond by Jasleen Dhamija

- 5 Textbook of Fabric Science: Fundamentals to Finishing by Dr. Mukesh R. Jain  
6 वस्त्र विज्ञान एवं परिधान डा० प्रमिला वर्मा, विहार हिन्दी ग्रन्थ अकादमी, पटना।

**Websites for Reference:**

[www.textilelearner.net](http://www.textilelearner.net)  
[www.fashion-incubator.com](http://www.fashion-incubator.com)  
[www.fibre2fashion.com](http://www.fibre2fashion.com)  
[www.ncto.org](http://www.ncto.org)  
[www.textileinstitute.org](http://www.textileinstitute.org)

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
Part A	32	45
Part B	38	55
<b>Total</b>	<b>70</b>	<b>100</b>

## 2.4 EXTENTION EDUCATION

L T P  
5 - 6

### **RATIONAL-**

Students have unlimited potential for personal growth and development. The development may take place at any stage of their lives, if they are provided with adequate and appropriate learning opportunities.

### **LEARNING OUTCOMES**

After undergoing the subject, the students will be able to:

1. Identify and apply art and design elements, principles, and terminology in the creation and improvement of work.
2. Demonstrate effective use of media and techniques while creating works
3. Express themselves aesthetically and/or creatively while making works.
4. Demonstrate inventiveness through the use of problem-defining and problem-solving processes and skills.
5. Identify and apply sustainable art and design practices in their chosen media.
6. Demonstrate professionalism by managing time and media to meet deadlines and elevate the quality of works produced.
7. Use the larger metropolitan community as a creative and learning resource.
8. Identify and transfer professional skills to gain employment in their area of study.

### **A- EXTENTION EDUCATION**

1. Meaning and importance of Extension Education.
2. Principles of extension education, Philosophy, Aims and objectives of Extension education.
3. Role of Home Science in Extension Education.
4. Extension Teaching Methods :-
  - A. Individual Contact : Personal, Telephonic and other electronic media contact, Home/Official Visits.
  - B. Group Contact : Demonstration, Lecture, Meeting, Workshop, Seminar, Discussion- Group, Panel, Symposium, Audio Visual Aids.
  - C. Mass Contact : Poster, Chart, Folk Method, Television, Radio, News Paper, Exhibition and Internet.
5. Audio Visual Aids - Meaning, Classification, their importance with projected and non-projected aids.

6. Programme Planning - Meaning, Definition, objectives, steps of programme planning and meaning, definition and steps of evaluation.  
National and International Organizations : UNICEF, WHO, FAO, CARE, ICDS, ICMR. Current welfare programme (Women and Child Welfare Scheme i.e. SHG, Matritva Vandana Yojana, Mahila e-haat scheme, Ujjwala Yogana) of the Government and its evaluation.

### **LIST OF PRACTICALS**

1. Survey work will be done by student under the guidance of institute faculty to observe the environmental condition, life style and problems of family living in different areas such as Slum and Rural areas.
2. Preparation of different teaching aids. At least one practical should be chosen from each -Projected and Non-projected aids
  - 2.1 Non Projected Aids :-
    - A. Poster
    - B. Chart
    - C. Flash Card
    - D. Puppet
    - E. Flannel Graph
    - F. Model
    - G. Group Discussion
  - 2.2 Presentation Aids  
  
Slide with Power Point Presentation
3. Preparation of Radio/T.V. Talk.

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### **RECOMMENDED BOOKS**

1. "Extension Education and Communication: An Integrated Approach" by B. K. Pattnaik and D. K. Das



2. "Extension Education: Principles and Methods" by J. C. Dagar
- 3 "Principles of Extension Education" by A. K. Singh
- 4 "The Handbook of Extension Education" edited by G. P. Singh and R. K. Singh
- 5 "Extension Education: Philosophy, Principles, and Practices" by R. R. K. Sharma and K. R. Dhiman
- 6 प्रसार शिक्षा, डा० बृन्दा सिंह, पंचशील प्रकाशन, जयपुर।
- 7 प्रसार शिक्षा गीतापुष्प शा जॉयस शीला शा , अग्रवाल पब्लिकेशन, आगरा ।

**Websites for Reference:**

<https://extension.org/>

<https://www.g-fras.org/en/>

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	9	15
2	9	15
3	9	15
4	9	15
5	12	20
6	12	20
<b>Total</b>	<b>70</b>	<b>100</b>

### III Semester

#### 3.1 COMMUNICATION SKILLS – II

**L T P**  
**4 - 2**

#### RATIONALE

Knowledge of English Language plays an important role in career development. This subject aims at introducing basic concepts of communication besides laying emphasis on developing listening, speaking, reading and writing skills as parts of Communication Skill.

#### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- Frame correct sentences with illustrations
- Comprehend the language correctly
- Interpret the language correctly
- Use given material in new situations.
- Correspond effectively using various types of writings like letters, memos etc.
- Communicate effectively in English with appropriate body language making use of correct and appropriate vocabulary and grammar in an organised set up and social context.

#### DETAILED CONTENTS

1. Functional Grammar (16 periods)
  - 1.1 Prepositions
  - 1.2 Framing Questions
  - 1.3 Conjunctions
  - 1.4 Tenses
- 2 Reading (16 periods)
  - 2.1 Unseen Passage for Comprehension (Vocabulary enhancement - Prefixes, Suffixes, one word substitution, Synonym and Antonym) based upon the passage should be covered under this topic.
- 3 Writing Skill (24 periods)
  - 3.1. Correspondence
    - a) Business Letters- Floating Quotations, Placing Orders, Complaint Letters.
    - b) Official Letters- Letters to Government and other Offices

- 3.2. Memos, Circular, Office Orders
- 3.3. Agenda & Minutes of Meeting
- 3.4. Report Writing

## **LIST OF PRACTICALS**

**Note:** Teaching Learning Process should be focused on the use of the language in writing reports and making presentations.

Topics such as Effective listening, effective note taking, group discussions and regular presentations by the students need to be taught in a project oriented manner where the learning happens as a byproduct.

### **Speaking and Listening Skills**

1. Debate
2. Telephonic Conversation: general etiquette for making and receiving calls
3. Offering- Responding to offers.
4. Requesting – Responding to requests
5. Congratulating
6. Exploring sympathy and condolences
7. Asking Questions- Polite Responses
8. Apologizing, forgiving
9. Complaining
10. Warning
11. Asking and giving information
12. Getting and giving permission
13. Asking for and giving opinions

## **INSTRUCTIONAL STRATEGY**

Students should be encouraged to participate in role play and other student-centered activities in class rooms and actively participate in listening exercises

## **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests
- Mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

## **RECOMMENDED BOOKS**

1. Communicating Effectively in English, Book-I by Revathi Srinivas; Abhishek Publications, Chandigarh.
2. Communication Techniques and Skills by R. K. Chadha; Dhanpat Rai Publications, New Delhi.
3. High School English Grammar and Composition by Wren & Martin; S. Chand & Company Ltd., Delhi.
4. e-books/e-tools/relevant software to be used as recommended by AICTE/BTE/NITTTR, Chandigarh.

**Websites for Reference:**

1. <http://www.mindtools.com/> page 8.html – 99k
2. <http://www.letstalk.com.in>
3. <http://www.englishlearning.com>
4. <http://learnenglish.britishcouncil.org/en/>
5. <http://swayam.gov.in>

**SUGGESTED DISTRIBUTION OF MARKS**

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	16	28
2	16	28
3	24	44
<b>Total</b>	<b>56</b>	<b>100</b>

## 3.2 BASICS OF INFORMATION TECHNOLOGY

L T P  
- - 6

### RATIONALE

Information technology has great influence on all aspects of life. Primary purpose of using computer is to make the life easier. Almost all work places and living environment are being computerized. The subject introduces the fundamentals of computer system for using various hardware and software components. In order to prepare diploma holders to work in these environments, it is essential that they are exposed to various aspects of information technology such as understanding the concept of information technology and its scope; operating a computer; use of various tools using MS Office/Open Office/Libre Office using internet etc., form the broad competency profile of diploma holders. This exposure will enable the students to enter their professions with confidence, live in a harmonious way and contribute to the productivity.

### Note:

**Explanation of Introductory part should be demonstrated with practical work. Following topics may be explained in the laboratory along with the practical exercises. There will not be any theory examination.**

### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- Identify Computer Hardware Components, Network Components and Peripherals.
- Explain the role of an Operating System.
- Install System and Application Software.
- Explain the function of the system components including Processor, Motherboard and Input-output devices.
- Use Word Processing Software to prepare document.
- Use Spreadsheet Software to create workbooks and automate calculation.
- Use Presentation Software to create interactive presentation.
- Perform fundamental tasks common to most application software including print, scan, save, edit, cut, copy, paste, format, spell and grammar check.
- Find and evaluate information on the Web.
- Install Antivirus.
- Safeguard against Online Frauds, threats and crimes.
- Use online office tools(Google suits)

### TOPICS TO BE EXPLAINED THROUGH DEMONSTRATION

1. Introduction to Computers and Peripherals.

Components of Computer, Types of Computer, CPU, RAM, ROM, Hard disk, USB, Flash drive, CD, DVD, Blue ray, Keyboard, Mouse, Monitor, LCD, Printer, Plotter, Scanner, Modem, Sound Cards, Speakers, CMOS battery, Sharing of Printers.

2. Operation System and Application Software

System Software, Application Software, Virtualization Software, Utility Software, MS Office/Open Office/Libreoffice, Working with window, Desktop components, Menu bars, creating shortcut of program. Installation of Application softwares, Antivirus and Drivers.

3. Word Processing, Spreadsheet and Presentation

Usage and creation of word document, spreadsheets and presentation, Google Suits (Google drive, google sheet, google doc. Google presentation)

4. Internet

Basics of Networking – LAN, WAN, Wi-Fi technologies, Concept of IP Addrsses, DNS, Search Engines, e-mail, Browsing and cyber laws.

### LIST OF PRACTICAL EXERCISES

1. Identify various components, peripherals of computer and list their functions.
2. Installation of various application software and peripheral drivers
3. Installation of operating system (windows/linux/others)
4. Creation and Management (Rename, delete, search of file and folders)
5. Installation of Antivirus and remove viruses
6. Scanning and printing documents
7. Browsing, Downloading, Information using Internet
8. E-Mail ID creation, comparing, sending and receiving e-mail. Attaching a file with e-mail message.
9. Word Processing (MS Office/Open Office)
  - a) File Management:
    - Opening, creating and saving a document, locating files, copying contents in some different file(s), protecting files, giving password protection for a file
  - b) Page set up:
    - Setting margins, tab setting, ruler, indenting
  - c) Editing a document:
    - Entering text, cut, copy, paste using tool- bars
  - d) Formatting a document:
    - Using different fonts, changing font size and colour, changing the appearance through bold/italic/underlined, highlighting a text, changing case, using subscript and superscript, using different underline methods
    - Aligning of text in a document, justification of document, inserting bullets and numbering

- Formatting paragraph, inserting page breaks and column breaks, line spacing
  - Use of headers, footers: Inserting footnote, end note, use of comments, autotext
  - Inserting date, time, special symbols, importing graphic images, drawing tools
- e) Tables and Borders:
- Creating a table, formatting cells, use of different border styles, shading in tables, merging of cells, partition of cells, inserting and deleting a row in a table
  - Print preview, zoom, page set up, printing options
  - Using find, replace options
- f) Using Tools like:
- Spell checker, help, use of macros, mail merge, thesaurus word content and statistics, printing envelopes and labels
  - Using shapes and drawing toolbar,
  - Working with more than one window .

#### 10. Spread Sheet Processing (MS Office/Open Office/Libre Office)

- a) Starting excel, open worksheet, enter, edit, data, formulae to calculate values, format data, save worksheet, switching between different spread sheets
- b) Menu commands:  
Create, format charts, organise, manage data, solving problem by analyzing data. Programming with Excel Work Sheet, getting information while working
- c) Work books:  
Managing workbooks (create, open, close, save), working in work books, selecting the cells, choosing commands, data entry techniques, formula creation and links, controlling calculations  
Editing a worksheet, copying, moving cells, pasting, inserting, deletion cells, rows, columns, find and replace text, numbers of cells, formatting worksheet, conditional formatting
- d) Creating a chart:  
Working with chart types, changing data in chart, formatting a chart, use chart to analyze data  
Using a list to organize data, sorting and filtering data in list
- e) Retrieve data with query:  
Create a pivot table, customizing a pivot table. Statistical analysis of data
- f) Exchange data with other application:  
Embedding objects, linking to other applications, import, export document.

#### 11. PowerPoint Presentation (MS Office/Open Office/Libre office)

- a) Introduction to PowerPoint
- How to start PowerPoint
  - Working environment: concept of toolbars, slide layout & templates.
  - Opening a new/existing presentation
  - Different views for viewing slides in a presentation: normal, slide sorter.
- b) Addition, deletion and saving of slides

- c) Insertion of multimedia elements
  - Adding text boxes
  - Adding/importing pictures
  - Adding movies and sound
  - Adding tables and charts etc.
  - Adding organizational chart
  - Editing objects
  - Working with Clip Art
- d) Formatting slides
  - Using slide master
  - Text formatting
  - Changing slide layout
  - Changing slide colour scheme
  - Changing background
  - Applying design template

## 12. Google Suits

Using Google drive, Google shut, Google docs, Google slides.

### **INSTRUCTIONAL STRATEGY**

Since this subject is practice oriented, the teacher should demonstrate the capabilities of computers to students while doing practical exercises. The students should be made familiar with computer parts, peripherals, connections and proficient in making use of MS Office/Open Office/Libre office/Google Suit in addition to working on internet. The student should be made capable of working on computers independently.

### **MEANS OF ASSESSMENT**

- Class Tests/Quiz
- Software Installation and Use
- Viva-Voce
- Presentation

### **RECOMMENDED BOOKS**

1. Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd., New Delhi
2. Information Technology for Management by Henery Lucas, Tata McGraw Hills, New Delhi
3. Computers Fundamentals Architecture and Organisation by B Ram, revised Edition, New Age International Publishers, New Delhi
4. Computers Today by SK Basandara, Galgotia publication Pvt Ltd. Daryaganj, New Delhi.
5. Internet for Every One by Alexis Leon and Mathews Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
6. A First Course in Computer by Sanjay Saxena; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi



7. Computer Fundamentals by PK Sinha; BPB Publication, New Delhi
8. Fundamentals of Information Technology by Leon and Leon; Vikas Publishing House Pvt. Ltd., Jungpura, New Delhi
9. On Your Marks - Net...Set...Go... Surviving in an e-world by Anushka Wirasinha, Prentice Hall of India Pvt. Ltd., New Delhi
10. Fundamentals of Information Technology by Vipin Arora, Eagle Parkashan, Jalandhar

Online Resources

1. [www.tutorialspoint.com](http://www.tutorialspoint.com)
2. [www.sf.net](http://www.sf.net)
3. [Gsuite.google.com](http://Gsuite.google.com)
4. [Spoken-tutorial.org](http://Spoken-tutorial.org)
5. [Swayam.gov.in](http://Swayam.gov.in)

## **GROUP-I**

### **3.3 HOME MANAGEMENT**

L	T	P
7	-	10

#### **Rationale:**

To manage and decorate a house is the essential part of a Home Science student. To get acquainted the knowledge of the same the topic of the subject are decided. It is hoped that the student will be benefited and full fill the knowledge needed.

#### **LEARNING OUTCOMES**

After undergoing the subject, the students will be able to:

1. Define what is household and household resource management
2. Understand the duties and responsibilities of a home manager
3. Identify the resources of the family
4. Understand what is resource management
5. Understand Family Money Management

#### **DETAILED CONTENTS:**

1. UNIT-I:
  - A. Home management : Definition, Concepts and importance.
  - B. Factor motivating management : Goal, Values and Standards
  - C. Management Process : Steps and factors in Decision Making-Planning organising, Controlling and Evaluation.
  - D. Resources : Types, Importance, Characteristics, Factorseffecting family life cycle.
  - E. Work Simplification, Time and Energy Management
  - F. MUNDEL's Classes of change
2. UNIT-II :
  - A. Family money management
    - i. income and expenditure
    - ii. Budget and family account.
    - iii. Savings and investment.
3. UNIT-III :

- A. The needs of housing.
- B. Factors affecting housing.
- C. Principles of housing - Orientation, grouping, functionalism, circulation, flexibility, premisses and privacy.
- D. Furniture arrangement-Selection and care of different types of furnitures, space saving multi functional furniture.

### **LIST OF PRACTICALS**

1. Making personal and family budget- Family financial record keeping, bank withdrawals, deposits, draft, etc. Function of debit and credit card.
2. Visit to saving and insurance institutions.
3. Making of room/house plans for different income levels. Planning efficient work areas and storage facilities.
4. Arrangement of furniture for different income groups.
5. Drawing floor plan/rooms for different income group.

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### **RECOMMENDED BOOKS**

1. "Mrs Funnybones" by Twinkle Khanna
2. "Domestic Vastu" by Sunita Kohli: Sunita Kohli
3. "The Life-Changing Magic of Tidying Up" by Marie Kondo: Marie Kondo
4. "Home Comforts: The Art and Science of Keeping House" by Cheryl Mendelson
- 5 गृह प्रबन्ध-बी0डी0 हरपलानी, साहित्य प्रकाशन, आगरा।
- 6 गृह प्रबन्ध- मंजू पाटनी, जे0पी0 शौरी, स्टार पब्लिकेशन, आगरा।
- 7 गृह प्रबन्ध साधन व्यवस्था एवं आन्त्रिक सज्जा-रीना खनूजा, विनोद पुस्तक मंदिर, आगरा।

### **Websites for Reference:**

[www.thespruce.com](http://www.thespruce.com)

[www.bhg.com](http://www.bhg.com)  
[www.realsimple.com](http://www.realsimple.com)  
[www.thehomeedit.com](http://www.thehomeedit.com)  
[www.realsimple.com](http://www.realsimple.com)

### SUGGESTED DISTRIBUTION OF MARKS

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	32	30
2	32	30
3	34	40
<b>Total</b>	<b>98</b>	<b>100</b>

## Group-II

### 3.4 DIET PLANNING AND THERAPY

L T P  
7 - 10

#### Rationale:

A varied and balanced diet is essential to staying in good health. Although variety can be achieved by combining food from different food groups and of different geographical origin and seasonality, a balanced diet involves the consumption of that variety in proportions defined by dietary recommendations. These may vary from one country to another, as illustrated in the diverse food pyramids.

#### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

1. Understanding the factors that contribute to the development of these diseases.
2. Learning about the standard medical treatments available for each disease.
3. Understanding the factors that contribute to the development of these diseases.
4. Learning about the standard medical treatments available for each disease.
5. Familiarizing oneself with various feeding methods used for patients with different conditions.
6. Understanding the indications, benefits, and limitations of each feeding method.
7. Learning about the techniques and equipment involved in administering different types of feeding methods.
8. Identifying the appropriate feeding method based on patient needs and medical conditions.
9. Learning outcomes for "Various types of diets - Liquid, solid, semi-solid/liquid, balanced diet":
10. Distinguishing between different types of diets based on their consistency and composition.
11. Understanding the indications and applications of liquid, solid, semi-solid/liquid diets in various clinical settings.
12. Learning about the nutritional considerations and modifications associated with each type of diet.
13. Developing an understanding of the concept of a balanced diet and its significance in maintaining good health.

#### DETAILED CONTENTS:

1. Introduction of diet therapy scope and importance.
2. Different disease (Fever, Gastrointestinal disease, Cardiovas, Culur, Diabetes, Kidney diseases, Blood pressure)their ateology factor, sign and symptoms of disease and their diet plan as per disease).
3. Different type of feeding method of patients.
4. Various types of diets- Liquid, Solid, Semi solid/liquid,Balance diet.

## LIST OF PRACTICALS

1. Diet planning for patients of different diseases suffering From diseases according to socio economic status(LIG,MIG,HIG).
2. Preparation of various types of diets : Normal diet, Therapeutic diet (For Any Two disease) .
3. Table chart of exchange list of foods.

## INSTRUCTIONAL STRATEGY

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

## MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

## RECOMMENDED BOOKS

1. Dietetics: Practice and Future Trends" by Esther A. Winterfeldt and Margaret L. Bogle
2. Nutrition and Diet Therapy: Principles and Practice" by Susan G. Dudek
- 3 The Great Indian Diet" by Shilpa Shetty Kundra and Luke Coutinho
- 4 Indian Dietetics" by Indrila Datta and Kavita Kumari
- 5 Nutrition and Dietetics: A Practical Approach" by V. Chandalia, S. V. Chandalia, and Nandita Shah

## Websites for Reference:

[www.eatright.org](http://www.eatright.org)  
[www.mayoclinic.org](http://www.mayoclinic.org)  
[www.niddk.nih.gov](http://www.niddk.nih.gov)  
[www.heart.org](http://www.heart.org)  
[www.webmd.com](http://www.webmd.com)

## SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	25	30
2	25	30
3	25	25
4	23	15
<b>Total</b>	<b>98</b>	<b>100</b>

## GROUP-III

### 3.5 EARLY CHILDHOOD EDUCATION AND MANAGEMENT

L T P

7 - 10

#### Rationale:

A rational approach to the topic of applying theories in early childhood education and the various types of ECE programs would involve considering evidence-based practices and aligning them with the developmental needs of young children.

#### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

1. Learners will gain knowledge about different theories in education and child development, such as Piaget's theory of cognitive development, Vygotsky's sociocultural theory, and Erikson's psychosocial theory. They will understand the key concepts, principles, and assumptions of these theories and their relevance to early childhood education.
2. Critical thinking and reflection: Learners will develop critical thinking skills by analyzing and interpreting historical information about ECE programs. They will reflect on the successes, failures, and implications of past policies and practices. They will also explore the implications of historical developments for current and future ECE initiatives, considering the needs and aspirations of children, families, and society as a whole.
3. By achieving these learning outcomes, learners will be better equipped to apply theories effectively in early childhood education and understand the historical context that shapes ECE programs in India and abroad.
4. Understanding socio-cultural influences: Learners will develop an understanding of the socio-cultural factors that influenced the historical development of ECE programs. They will learn about the impact of political, economic, social, and cultural contexts on the priorities, investments, and practices in early childhood education in different countries, including India.

#### DETAILED CONTENTS:

1. Application of theories (Education and Development) in earlychildhood education; various types of ECE programmes.
2. Brief historical perspective of ECE programme in India and abroad.

## **LIST OR PRACTICALS**

1. Observation and recording of early childhood programmes.
2. Planning on yearly, monthly, weekly, daily basis.
3. Individual and shared lesson plan, activity plan and flowchart.
4. Preparation and collection of educational material.
5. Implementation of prepared plan.
6. Conducting pre and post session.
7. Arranging and equipping the classroom-different corners.
8. Carry out large and small groups activities.
9. Supervision of transition throughout the day; Feedback of plans and modification.
10. Working with parents; professional behaviors and ethics; Executive support role in the centers.
11. Working on strategies to help children with mild behavioral problems.

Above practical's to be conducted with co-operation and collaboration of any Nursery School.

## **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

## **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

## **RECOMMENDED BOOKS**

1. "Early Childhood Education: Theory and Practice" by Sunita Agarwal
2. "Early Childhood Care and Education: Theory and Practice" by Neena Dash



3. "Understanding Early Childhood Education and Care in India" by Neerja Sharma
4. "Theories of Early Childhood Education: Developmental, Socio-Cultural, and Critical Perspectives" by Debjani Ganguly and Krishna Kumar
5. "Constructivism in Early Childhood Education: Indian Perspectives" by Rekha Sharma and Usha Goswami

**Foreign Writers:**

6. "Theories of Childhood: An Introduction to Dewey, Montessori, Erikson, Piaget & Vygotsky" by Carol Garhart Mooney
7. "Theories of Developmental Psychology" by Patricia H. Miller
8. "Early Childhood Education Today" by George S. Morrison
9. "Foundations of Early Childhood Education: Teaching Children in a Diverse Society" by Janet Gonzalez-Mena
10. "Theories of Human Development: A Comparative Approach" by Michael Green and Meghna Bhatnagar

**Websites for Reference:**

[www.naeyc.org](http://www.naeyc.org)  
[www.earlychildhoodaustralia.org.au](http://www.earlychildhoodaustralia.org.au)  
[www.ncte-india.org](http://www.ncte-india.org)  
[www.unesco.org/ecce](http://www.unesco.org/ecce)  
[www.nipccd.nic.in](http://www.nipccd.nic.in)  
[www.nuepa.org](http://www.nuepa.org)  
[www.unicef.org/ecde-online-resources](http://www.unicef.org/ecde-online-resources)

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	50	52
2	48	48
<b>Total</b>	<b>98</b>	<b>100</b>

## GROUP-IV

### 3.6 TEXTILE DESIGN

L T P  
7 - 10

#### Rational :

By covering these topics, learners gain a comprehensive understanding of textile production techniques, design principles, and the fusion of different design styles. This knowledge forms a solid foundation for further exploration and specialization in the field of textile design and production.

#### LEARNING OUTCOMES

After undergoing the subject, the students will be able to:

- 1- Understand the fundamental principles of weaving and its significance in textile production.
- 2- Identify and describe various types of knitted fabrics and their uses.
- 3- Apply appropriate dyeing techniques to achieve desired color effects on textiles.
- 4- Identify and describe various printing methods used, Understand the equipment and materials required for each printing method. Demonstrate knowledge of the step-by-step process involved in each printing technique in textile design.
- 5- Understand how color and weave interactions influence the visual appearance of patterns.
- 6- knowledge and skills necessary to understand and apply various techniques in textile production and design, fostering their creativity and expertise in the field.

#### DETAILED CONTENTS:

1. Weaving : Principles, Loom and its parts, basic weaves,
- 2 Knitting- principles and classification.
3. Introduction to dyeing classification of dyes. Methods of dyeing.
4. Introduction to printing Methods of printing.
5. Development of pattern by colour and weave effect.
6. Construction of motif suitable for printing and weaving.
7. Elements and principles of preparing decorative designs for woven and printed fabrics for various uses. Basis of textile design like diamond ogee, curved line half drop, reverse etc. Ways of modifying colours in textiles.
8. Fusion of Design : Fusion of Indian Traditional Design with Western Designs.

## LIST OF PRACTICALS

1. Weaving samples of basic weaves.
2. Preparing samples of handloom  
Hand knitted techniques : Plain, Purl, Rib, Tuck stitch and multi coloured stitch.
3. Tie and Dye.
4. Batik printing.
5. Screen  
printing.
6. Block printing.
7. Stencil printing.
8. Macrame knit.
9. Nail weaving.
10. Canvas work.
11. Development of pattern by colour and weave effect.
12. Construction of motif suitable for printing and weaving.
13. Designs based on theory topic No. 7.
14. Visit to printing unit, Handloom Centers.

## INSTRUCTIONAL STRATEGY

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

## MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

## RECOMMENDED BOOKS

1. "The Key to Weaving" by Mary E. Black (Foreign)
2. "Indian Weaving: Techniques, Symbols, and Structures" by Usha Thakkar (Indian)
3. "The Principles of Knitting" by June Hemmons Hiatt (Foreign)
- 4 "Knitting: Techniques and Projects" by Nirmala Nair (Indian)
5. Woven Shibori" by Catherine Ellis (Foreign)
- 6"Designing Woven Fabrics: An Introduction to Woven Textiles" by Janet Phillips (Indian)
- 7.The Surface Designer's Handbook" by Holly Brackmann (Foreign)
- 8."Pattern Drafting and Grading: Advanced Textbook" by Harsha Dehejia (Indian)
- 9.Textiles: The Art of Mankind" by Mary Schoeser (Foreign)
- 10."The Fabric of India" by Rosemary Crill (Indian)
- 11."Textiles of India: A Living History" by Jasleen Dhamija (Foreign)
- 12."Indian Textiles: Past and Present" by G. H. R. Tillotson (Indian)

**Websites for Reference:**

<http://www.handweaving.net/>

<https://www.knitty.com/>

<https://textiledesignlab.com/>

<http://www.thedesignersstudio.co.in/>

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	10	10
2	15	15
3	10	10
4	15	15
5	10	10
6	15	15
7	10	10
8	13	15
<b>Total</b>	<b>98</b>	<b>100</b>

## IV SEMESTER

### 4.1 ENVIRONMENTAL STUDIES

**L T P**  
**3 - 2**

#### RATIONALE

A diploma holder must have knowledge of different types of pollution caused due to industries and constructional activities so that he may help in balancing the ecosystem and controlling pollution by various control measures. He should also be aware of environmental laws related to the control of pollution. He should know how to manage the waste. Energy conservation is the need of hour. He should know the concept of energy management and its conservation.

#### LEARNING OUTCOMES

After undergoing the subject, the student will be able to:

- Comprehend the importance of ecosystem and sustainable
- Demonstrate interdisciplinary nature of environmental issues
- Identify different types of environmental pollution and control measures.
- Take corrective measures for the abatement of pollution.
- Explain environmental legislation acts.
- Define energy management, energy conservation and energy efficiency
- Demonstrate positive attitude towards judicious use of energy and environmental protection
- Practice energy efficient techniques in day-to-day life and industrial processes.
- Adopt cleaner productive technologies
- Identify the role of non-conventional energy resources in environmental protection.
- Analyze the impact of human activities on the environment

#### DETAILED CONTENTS

1. Introduction (04 Periods)
  - 1.1 Basics of ecology, eco system- concept, and sustainable development, Resources renewable and non-renewable.
2. Air Pollution (04 Periods)
  - 2.1 Source of air pollution. Effect of air pollution on human health, economy, plant, animals. Air pollution control methods.
3. Water Pollution (08 Periods)
  - 3.1 Impurities in water, Cause of water pollution, Source of water pollution. Effect of water pollution on human health, Concept of dissolved O<sub>2</sub>, BOD, COD. Prevention of water pollution- Water treatment processes, Sewage treatment. Water quality standard.

4. Soil Pollution (06 Periods)
- 4.1 Sources of soil pollution
  - 4.2 Types of Solid waste- House hold, Hospital, From Agriculture, Biomedical, Animal and human, excreta, sediments and E-waste
  - 4.3 Effect of Solid waste
  - 4.4 Disposal of Solid Waste- Solid Waste Management
5. Noise pollution (06 Periods)
- Source of noise pollution, Unit of noise, Effect of noise pollution, Acceptable noise level, Different method of minimize noise pollution.
6. Environmental Legislation (08 Periods)
- Introduction to Water (Prevention and Control of Pollution) Act 1974, Introduction to Air (Prevention and Control of Pollution) Act 1981 and Environmental Protection Act 1986, Role and Function of State Pollution Control Board and National Green Tribunal (NGT), Environmental Impact Assessment (EIA).
7. Impact of Energy Usage on Environment (06 Periods)
- Global Warming, Green House Effect, Depletion of Ozone Layer, Acid Rain. Eco-friendly Material, Recycling of Material, Concept of Green Buildings.

### LIST OF PRACTICALS

1. Determination of pH of drinking water
2. Determination of TDS in drinking water
3. Determination of TSS in drinking water
4. Determination of hardness in drinking water
5. Determination of oil & grease in drinking water
6. Determination of alkalinity in drinking water
7. Determination of acidity in drinking water
8. Determination of organic/inorganic solid in drinking water
9. Determination of pH of soil
10. Determination of N&P (Nitrogen & Phosphorus) of soil
11. To measure the noise level in classroom and industry.
12. To segregate the various types of solid waste in a locality.
13. To study the waste management plan of different solid waste
14. To study the effect of melting of floating ice in water due to global warming

## INSTRUCTIONAL STRATEGY

In addition to theoretical instructions, different activities pertaining to Environmental Studies like expert lectures, seminars, visits to green house, effluent treatment plant of any industry, rain water harvesting plant etc. may also be organized.

## MEANS OF ASSESSMENT

- Assignments and quiz/class tests,
- Mid-term and end-term written tests

## RECOMMENDED BOOKS

1. Environmental and Pollution Awareness by Sharma BR; Satya Prakashan, New Delhi.
2. Environmental Protection Law and Policy in India by Thakur Kailash; Deep and Deep Publications, New Delhi.
3. Environmental Pollution by Dr. RK Khitoliya; S Chand Publishing, New Delhi
4. Environmental Science by Deswal and Deswal; Dhanpat Rai and Co. (P) Ltd. Delhi.
5. Engineering Chemistry by Jain and Jain; Dhanpat Rai and Co. (P) Ltd. Delhi.
6. Environmental Studies by Erach Bharucha; University Press (India) Private Ltd., Hyderabad.
7. Environmental Engineering and Management by Suresh K Dhamija; S K Kataria and Sons, New Delhi.
8. E-books/e-tools/relevant software to be used as recommended by AICTE/UBTE/NITTTR, Chandigarh.

## Websites for Reference:

<http://swayam.gov.in>

## SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Periods)	Marks Allotted (%)
1	04	10
2	04	10
3	08	20
4	06	14
5	06	14
6	08	20
7	06	12
<b>Total</b>	<b>42</b>	<b>100</b>

## 4.2 PROJECT

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### RATIONALE

The objective of this project is to provide a comprehensive understanding of home science and its practical applications. It explores various dimensions of home science, emphasizing the importance of incorporating its principles into daily life. By the end of this project, readers will gain insights into effective home management, healthy cooking, sustainable practices, and creating nurturing spaces.

### LEARNING OUTCOMES

- Development of research skills
- Enhancement of critical thinking and problem-solving abilities
- Understanding the interdisciplinary nature of home science
- Knowledge of nutrition and healthy cooking practices
- Proficiency in clothing and textile management
- Enhanced family relationships and child development understanding
- Effective home management and organization skills
- Appreciation for interior design and home décor principles

### DETAILED CONTENTS OF PROJECT

Each student will be assigned two (2) specific task, One each from the chosen two groups by the student such that at least one task will be from one group and other one from the second group.

The project task should be based on the topic covered in any specific subject of that group, taking help from the list of practical's of that subject.

Students should be asked to survey the application area of that subject by herself/himself and choose the task. Guidance should be provided by the teacher is choosing the task for project.

### Outline of The Project About Below Topic:

#### I. Introduction to Home Science

- A. Definition and scope
- B. Evolution and significance of home science



C. Interdisciplinary nature of home science

## **II. Nutrition and Food Science**

- A. Importance of a balanced diet
- B. Nutritional requirements for different age groups
- C. Meal planning and preparation
- D. Food safety and hygiene practices
- E. Culinary techniques and innovative cooking methods

## **III. Clothing and Textiles**

- A. Fabric selection and care
- B. Basic sewing techniques and garment construction
- C. Wardrobe planning and organization
- D. Sustainable fashion choices
- E. Textile preservation and maintenance

## **IV. Family Relationships and Child Development**

- A. Effective communication within the family
- B. Parenting skills and child development stages
- C. Nurturing emotional intelligence
- D. Conflict resolution and problem-solving strategies
- E. Creating a supportive family environment

## **V. Home Management and Organization**

- A. Time management and prioritization
- B. Budgeting and financial planning
- C. Household chores and cleaning routines
- D. Efficient storage solutions and space utilization
- E. Home maintenance and safety measures

## **VI. Interior Design and Home Décor**

- A. Principles of interior design
- B. Creating functional and aesthetically pleasing spaces
- C. Furniture selection and arrangement

- D. Color psychology and mood enhancement
- E. Incorporating sustainability and eco-friendly practices

### **INSTRUCTIONAL STRATEGY**

1. **Research and Study Materials:** Provide learners with a variety of resources such as textbooks, articles, online resources, and videos related to home science. Encourage them to explore these materials to gain a comprehensive understanding of the subject.
2. **Project-based Learning:** Design the project as a hands-on, experiential learning opportunity. Encourage learners to actively engage in practical activities such as meal planning and preparation, sewing and garment construction, organizing and decorating spaces, and implementing sustainable practices.
3. **Collaborative Learning:** Encourage learners to work in groups or pairs to foster collaboration and peer-to-peer learning. Assign specific tasks or subtopics to each group, and encourage them to share their findings and experiences with the rest of the class.
4. **Demonstration and Practical Workshops:** Organize demonstrations and practical workshops where learners can observe and participate in activities related to home science. This can include cooking demonstrations, sewing workshops, or home organization sessions. Provide clear instructions and guidance during these activities.
5. **Continuous Support and Guidance:** Provide continuous support and guidance to learners throughout the project. Encourage open communication and address any questions or challenges they may encounter. Create a positive and inclusive learning environment where learners feel comfortable sharing their experiences and seeking assistance

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests
- Mid-term and end-term written tests

### 4.3 INTERIOR DECORATION AND KITCHEN MANAGEMENT

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#### **Rationale:**

Interior decoration focuses on maximizing the use of available space. This involves careful planning and arrangement of furniture, fixtures, and accessories to optimize functionality and comfort. Kitchen management involves designing the layout and organization of the kitchen to facilitate efficient workflow. This includes placing essential appliances, workstations, and storage areas in logical proximity, minimizing unnecessary movements during food preparation.

#### **LEARNING OUTCOMES**

After undergoing the subject, the students will be able to:

- 1-Understand and apply design principles such as balance, proportion, color theory, and spatial relationships to create visually appealing and harmonious interior spaces.
- 2- Develop a critical eye for aesthetics and develop the ability to analyze and evaluate interior designs, identifying elements of style, cultural influences, and trends.
- 3- Develop skills in designing efficient kitchen layouts, organizing workstations, and implementing processes to maximize productivity and minimize time and effort during food preparation.

#### **DETAILED CONTENTS:**

##### **I. Unit I :Interior Decoration :**

1. Art of Decoration:-
  - A. Illusion - Graphical, Geometrical, By Colour, Optical.
  - B. Flower Arrangement and Flower vase decoration
  - C. Accessories - Interior accessories - Wall Painting, Murals, Relief Painting, Sculptures, Plant and Planters, Ethnic and Traditional Ornaments, Holders, Pottery and other hand made objects.
  - D. Wall Decoration - Paint- Types of Paint and their finishes, Painting, Types of Curtain and Draperies -their selection of colours and pattern as per interior of room, types of valances to enhance curtain decoration, Types of tapestries and method of application and their maintenance.
2. Lighting - Types of lighting - Up lights, Down lights, Pendants, Cove lighting, Conceal lights, Bracket Light. Creating different moods through lighting.

3. Floor Covering - Types of floor covering - Carpet, Rugs, Linoleum, PVC, Quartz, Wooden, etc. Methods of cleaning, Care and Maintenance of floor covering, Rangoli, Alpana.

## **II. Unit II :Kitchen Management :**

1. Kitchen Layout- different types e.g. L-shape, U-shape.
2. Kitchen organization.
3. Modern apparatus and equipment of kitchen
4. Maintenance and care of kitchen equipment.

### **List of Practicals**

#### **A. Interior Decoration**

1. Flower Arrangement and Bouquets & and Floor Decoration (Rangoli Alpana).
2. Care and arrangement of furniture for different purpose.
3. Placement of accessories for interior enrichment with the use of different types of curtains/Draperies/Tapestries.
4. Dressing of Furniture - Cushion on Chair and Sofa, Seat Cover, Upholstery, Table Cover - Plastic, Linen, Jute, BedCovers and accessories, Blanket preparation on bed, etc.
5. Drawing of lighting plan for various activities and areas.
6. Effect of architectural and decorative lighting.
7. To draw a geometric/graphical illusion.

#### **B. Kitchen Management**

1. Drawing of kitchen layout with wall elevation using allaccessories.
2. Planning of all kitchen equipment.
3. Care of kitchen equipment.

4. Study of modern apparatus of kitchen.

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### **RECOMMENDED BOOKS**

#### **Books on Interior Decoration:**

- 1."The Indian Home: Interiors in India" by Sunil Sethi
- 2."Indian Interiors" by Sunil Sethi and Sunandini Banerjee
- 3."The Indian Family Kitchen: Classic Dishes for a New Generation" by Anjali Pathak
- 4."The Great Indian Kitchen" by Sadia Dehlvi
- 5."The Indian Kitchen: Secrets of Indian Home Cooking" by Monisha Bharadwaj
- 6."Indian Style: The Art of Handmade Textiles and Interiors" by Mandy Sacher

#### **Books on Kitchen Management:**

- 1."Kitchen Confidential: Adventures in the Culinary Underbelly" by Anthony Bourdain
- 2."Kitchen Management for Institutions" by S. M. Shamsuddin

#### **Websites for Reference:**

[www.houzz.com](http://www.houzz.com)

[www.architecturaldigest.com](http://www.architecturaldigest.com)

### **SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	50	60
2	48	40
<b>Total</b>	<b>98</b>	<b>100</b>

**Rationale:**

Institutional food service management refers to the management and operation of food service facilities in various institutions such as schools, hospitals, corporate offices, prisons, and military bases. It involves planning, organizing, and overseeing the production, distribution, and service of meals to meet the dietary needs and preferences of the individuals within the institution.

**LEARNING OUTCOMES**

After undergoing the subject, the students will be able to:

- 1- Understanding Food Service Operations
- 2- Food Safety and Sanitation
- 3- Nutrition and Dietary Requirements
- 4- Understanding Space Planning and Organization
- 5- Develop knowledge and skill in financial management
- 6- Develop knowledge, skill, Purchasing, Care and Maintenance of equipment's
- 7- Understanding of food safety practices

**DETAILED CONTENTS**

1. **INSTITUTIONAL FOOD MANAGEMENT:**  
Development of food service institutions, Approaches of management, Management philosophy, principal and functions, Tools of management, Management of resource.
2. **SPACE PLANNING AND ORGANIZATION:**  
Kitchen space, Storage spaces, Service areas.
3. **EQUIPMENT:**  
Purchase, Care and Maintenance of equipment.
4. **FOOD MANAGEMENT:**  
Food purchasing, Inventory management, Menu planning, Food production, Food service.
5. **FINANCIAL MANAGEMENT:**  
Financial management, Cost budgeting and accounting.
6. **PERSONAL MANAGEMENT:**  
Staff employment, Staff training and development

7. **HYGIENE SANITATION AND SAFETY:**  
Hygiene and sanitation, Safety and Security.

**LIST OF PRACTICALS**

Practical will be manage according to theory.

**INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

**MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

**RECOMMENDED BOOKS**

1. Foodservice Management: Principles and Practices by June Payne-Palacio and Monica Thei
2. Institutional Food Service Operations and Management by Chandni Singh
- 3 Food and Beverage Management by Sudhir Andrews
- 4 Managing Institutional Food Service by Karl Goodsell and James W. Neal
- 5 Nutrition and Food Service Management" by Dorothy F. West and E. Edgerton Jones

**Websites for Reference:**

- <https://schoolnutrition.org/>
- <https://www.foodservicedirector.com/>
- <https://www.nacufs.org/>
- <https://www.food-management.com/>

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	14	15
2	14	15
3	12	10
4	12	10
5	16	20
6	16	20
7	14	10
<b>Total</b>	<b>98</b>	<b>100</b>

GROUP-III

**4.5 ENTREPRENURSHIP IN CHILD CARE SERVICE**

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**Rationale:**

Entrepreneurship in child care services is a viable and important area of business. It offers opportunities for individuals to provide valuable services to families and contribute to the development and well-being of children. Here are some rational considerations when starting an entrepreneurship venture in child care services:

**LEARNING OUTCOMES**

After undergoing the subject, the students will be able to:

- 1- Understanding Infrastructure By studying child care institutions,
- 2- Awareness of Activities: Child care institutions engage in a wide range of activities
- 3- Understanding the infrastructure, objectives, and activities of child care institutions will provide you with a comprehensive understanding of their role in supporting children's development and well-being
- 4- Awareness of Diverse Child Care Approaches: Studying child care services at the national and international level exposes you to a wide range of approaches and philosophies.
- 5- Knowledge of Cultural and Contextual Factors: Exploring child care services at the national and international level will expose you to the influence of cultural and contextual factors.
- 6- Idea Generation and Opportunity Identification: By studying the steps towards entrepreneurship
- 7- Legal and Regulatory Compliance

**DETAILED CONTENTS:**

1. Basic information about child care institution their infrastructure objectives and activities -
  - A. Day care centers
  - B. Creches
  - C. Bal Bhavan
  - D. Orphanages
  - E. Remand Homes
  - F. Aganwadi & Balwadi
  - G. Child Guidance Clinics
2. Different child care services at National and International level their objectives and programmes.
  - A. UNICEF
  - B. ICDS



- C. CARE
- 3. Basic steps towards entrepreneurship
  - A. Knowledge about funding agencies
  - B. Legal and regulatory processing
  - C. Record keeping.

### **LIST OF PRACTICALS**

1. Visit to various child care institutions.
2. Preparing a detailed report of the visit on the following guidelines.
3. Location and building.
4. Staff and their salaries.
  - a. Budget and funding agencies.
  - b. Activities being undertaken.
  - c. Record keeping
  - d. Evaluation

### **INSTRUCTIONAL STRATEGY**

Student should be encouraged to participate in role play and other student centered activities in class room and actively participate in listening exercises

### **MEANS OF ASSESSMENT**

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

### **RECOMMENDED BOOKS**

1. "Behind the Beautiful Forevers: Life, Death, and Hope in a Mumbai Undercity" by Katherine Boo
2. "Do We Not Bleed?: Reflections of a 21st-Century Indian" by Mehr Tarar
3. "The House That Spoke" by Zuni Chopra
4. "Geetanjali and Other Stories" by Rabindranath Tagore
5. "Child Rights in India: Law, Policy, and Practice" by Asha Bajpai
6. "Child Protection in Development" by Devendra Kumar
7. "Child Protection in India: Law, Policy, and Programs" edited by Asha Bajpai
8. "Child Welfare and Development: A Comprehensive Guide to the Welfare of Children" by Pramila Balasundaram
9. "Child Protection and Welfare Services: Policies and Practice" edited by Pramod Kumar Mishra

### **Websites for Reference:**

<https://www.nafcc.org/>

<https://www.childcareaware.org/providers/>

<https://www.sba.gov/>

<https://www.entrepreneur.com/>

### SUGGESTED DISTRIBUTION OF MARKS

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	35	35
2	35	35
3	28	30
<b>Total</b>	<b>98</b>	<b>100</b>

**Rationale:**

Costume design plays a crucial role in developing and portraying a character. The costumes chosen for each character can reflect their personality, social status, occupation, historical context, and cultural background. Through costumes, the designer helps visually define the characters and enhance their believability.

**LEARNING OUTCOMES**

After undergoing the subject, the students will be able to:

1. Have Complete knowledge and skills in costume construction techniques, including pattern making, draping, sewing, and fabric manipulation. They should be able to understand and apply principles of fit, proportion, and garment construction.
2. Acquire skills in creating original costume designs that are visually compelling and appropriate for specific characters, productions, or contexts. This includes developing proficiency in sketching, rendering, and presenting design concepts.
3. Gain an understanding of the practical aspects of costume design, including budgeting, sourcing materials, and managing costume departments for theater, film, or other productions.

**DETAILED CONTENTS:****1. CLASSIFICATION OF GARMENTS AND MEASUREMENTS :**

- Garment classification for men and women (for different agegroups), Fabric selection for garments and properties, Eight head theory of human anatomy, Measurements and its importance, Method of taking important body measurements for gents and ladies garments.
2. Clothing requirements (Men and Women both) for Children, adolescent, Adults and Senior citizens.
3. Wardrobe planning, Clothing awareness and symbolism, Socialization and self-concept.
4. Anthropometric measurements.
5. Basic pattern making- Patterning importance of paper patterns, types of paper patterns, Principles of patterndrafting, Study of pattern making of top and bottom garments, Grading - Study of grading of various components of top and bottom garments (Two examples of men and women both), Maker planning - Computer Aided Pattern Making and Grading system.

## 6. SEWING TECHNOLOGY:

Stitch, Classification of stitch, Seam, Different types of seams, Sewing aids/tools, Parts of sewing machine, Study of various types of sewing machines such as Lock Stitch, Chain Stitch, Over lock, Flat Lock, Button Holding, Buttoning and computer Controlled Sewing Machines. Timing Diagram for Lockstitch, Trimmings, Selection of Needle and Sewing thread. Study construction of top and Bottom and Garments, Individual and Group Production System.

### LIST OF PRACTICALS

1. Drafting, draping and flat pattern making.
2. Cutting and stitching of different garments.
3. Demonstration layout of different fabrics.
4. Designing and construction of ten garments of different age group using different construction and decorative features.
5. Pattern grading.
6. Visit to apparel manufacturing unit.

## INSTRUCTIONAL STRATEGY

Student should be encouraged to participate in role play and other student centred activities in class room and actively participate in listening exercises

## MEANS OF ASSESSMENT

- Assignments and quiz/class tests, mid-semester and end-semester written tests
- Actual practical work, exercises and viva-voce
- Presentation and viva-voce

## RECOMMENDED BOOKS

1. Costumes and Textiles of Royal India by Ritu Kumar:
2. The Sari: Styles, Patterns, History, Techniques by Linda Lynton
3. Traditional Indian Costumes and Textiles by Eiluned Edwards
4. Indian Textiles: Past and Present" by G.N. Pant: G.N. Pant's
5. Indian Costumes in the Collection of the Calico Museum of Textiles by B.N. Goswamy: B.N. Goswamy's
6. वस्त्र विज्ञान-बेला भार्गव, यूनिवर्सिटी बुक हाउस प्रा० लि०ए जयपुर।
7. फैशन टेक्नालाजी-गायत्री वर्मा, एशयन पब्लिशर्स, प्रथम तल, अंसारी रोड, दरियागंज, नई दिल्ली।

**Websites for Reference:**

<https://costumedesignersguild.com/>

<http://www.costumes.org/>

<https://costumecollection.org/>

<https://costumesocietyamerica.com/>

<https://www.pinterest.com/>

**SUGGESTED DISTRIBUTION OF MARKS**

<b>Topic No.</b>	<b>Time Allotted (Periods)</b>	<b>Marks Allotted (%)</b>
1	18	20
2	16	15
3	16	15
4	15	15
5	15	15
6	18	20
<b>Total</b>	<b>98</b>	<b>100</b>

## RESOURCE REQUIREMENT

### 10.1 PHYSICAL RESOURCES (A)

S.No	NAME OF POST	QUALIFICATION
1	Head of Department	Post Graduate Degree in Home Science with specialization in Child Development/ Food & Nutrition/Clothing and Textile/Family Resource Management/ Extension Education
2	Lecturer Home Science	Post Graduate Degree in Home Science with specialization in Child development
3	Lecturer Home Science	Post Graduate Degree in Home Science with specialisation in Food & Nutrition.
4.	Lecturer Home Science	Post Graduate Degree in Home Science with specialisation in Clothing & Textile.
5.	Lecturer Home Science	Post Graduate Degree in Home Science with specialisation in Home Resource Management
6	Computer Programmer	Bachelor Degree with Physics or Mathematics, Knowledge of operating computer system & Diploma in Electronics. <b>OR</b> B.Sc. with Mathematics & Physics with 3 yrs Experience in Computer Operation. <b>OR</b> Diploma in Electronics Engg. with 4 yrs Experience in concerned field.
7	Lab Assistant	Diploma In Home Science with 2 Years Experience OR Graduate in Home Science

**(B) Space requirement**

Norms and standards laid down by All India Council for Technical Education (AICTE) are to be followed to work out space requirement in respect of class rooms, tutorial rooms, drawing halls, laboratories, space required for faculty, student amenities and residential area for staff and students.

**(C) Equipment requirement:**

Following Laboratories are required for Diploma Programme in HOME SCIENCE

- Communication Laboratory
- Energy Conservation Lab
- Basics of Information Technology/Computer Laboratory
- Fundamental of Arts and Design Laboratory
- Food and Nutrition Laboratory
- Psychology and First Aid Laboratory
- Child Development Laboratory
- Fundamental of Textile and Clothing Laboratory
- Home Management Laboratory
- Diet Planning and Therapy Laboratory
- Early Childhood Education Laboratory
- Textile Design Laboratory
- Interior Decoration and Kitchen Management Laboratory
- Institutional Food Service Management Laboratory
- Entrepreneurship in Child Care Service Laboratory
- Costume Design Laboratory

## EQUIPMENT REQUIREMENT FOR HOME SCIENCE

Sr. No.	Description	Qty	Total Price (Rs)
<b>COMMUNICATION LABORATORY</b>			
1.	Stools	40	10,000
2.	Display Board/Screen	2	6,000
3.	Sound recording and playing system	1	6,000
4.	Audio cassettes	60	2,000
5.	Overhead Projector	1	5,000
6.	Transparencies slides	100	500
7.	TV, VCR and camera for video recording	1 each	20,000
8.	English spoken course	1	2,000
9.	A Quiz room equipped with two way audio system, back projection system and slide projector	1	30,000
10.	Miscellaneous	LS	1,500
<b>BASICS OF IT LABORATORY/COMPUTER LABORATORY</b>			
1.	Computer System with latest configuration	30	8,00,000
2.	Printer (MFP)	1	25,000
3.	Printer (Laser)	1	35,000
4.	Plotter	1	75,000
5.	Digitiser	1	50,000
6.	Antivirus Software	LS	10,000
7.	Internet Facility on Computers	LS	2,00,000
8.	AutoCAD/Solid Works/Unigraphics/Pro-C (any one software)	30 user	5,00,000
9.	LCD Projector	1	35,000
10.	UPS	60	1,20,000
11.	Software (latest windows, latest MS Office)	1	1,00,000
12.	Scanner	1	10,000
13.	Miscellaneous	LS	5,000
<b>ENVIRONMENT ENGINEERING LABORATORY</b>			
1.	pH Meter	01	500
2.	Turbidity Meter	01	5000
3.	Oven with Temperature Controller and Forced Air Circulation Type	01	20000
4.	B.O.D. Incubator	01	25000



5.	Water Analysis Kit	01	5000
6.	High Volume Sampler	01	40000
7.	Electrical Balance for weighing upto 1/10 of milligram (capacity)	01	1000
<b>Sr. No.</b>	<b>Description</b>	<b>Qty</b>	<b>Total Price (Rs)</b>
<b>PSYCHOLOGY AND FIRST AID LABORATORY</b>			
1.	First aid cupboard & box	1	2000.00
2.	Thermometer	4	100.00
3.	Bandages		100.00
4.	Sets of Chart, Models of physiology	2 set	400.00
5.	Cot & Bed Wooden with newar mattress & bed sheets, pillow, Pillow cases, towels, blankets.	2 set	10,000.00
<b>ART AND DESIGN LABORATORY</b>			
<b>A.</b>	<b>Art &amp; Design Lab</b>		
<b>B.</b>	<b>Interior Decoration Studio</b>		
<b>C.</b>	<b>Home Management Lab</b>		
1.	Drawing boards and Easle board half imperial size	15	3000.00
2.	Brushes and colour mixing plate	2 set	200.00
3.	Paint/Colours	2 set	500.00
4.	Steel Almirah	1	3000.00
5.	Vases & Flower Pots	6	500.00
6.	Decorative materials- wall hangings, pictures, paintings, Sculpture, Pottery, Plant & Planters, Hand Made Object		25000.00
7.	Steel almirah	1	3000.00
8.	Pin holders	12	500.00
10.	Furnitures of Different Types		100000.00
11.	Dressing of Furniture		10000.00
12.	Curtains, Draperies, Tapestries		25000.00
13.	Different Types of Lighting		25000.00
14.	Floor Covering		25000.00
15.	House hold equipments	1 set	25000.00
16.	Vaccum Cleaner	1 set	5000.00
17.	Heater Electric	2	200.00
18.	Iron of different types - Steam, Electric	1 each	1000.00
19.	Different types of Brooms, Squeezes, Brushes, mops	1 set	500.00
20.	Geyser	1	5000.00
<b>KITCHEN AND FOOD LABORATORY</b>			
<b>A.</b>	<b>Kitchen Management Lab</b>		

<b>B.</b>	<b>Food &amp; Nutrition Lab</b>		
<b>C.</b>	<b>Institutional Food Service Lab</b>		
1.	Steel Almirah	3	10000.00
2.	Glass almirah	3	10000.00
3.	Electric Oven	2	15000.00
4.	Pressure Cooker of different sizes(5 lit, 3lit, 1 lit.)	1 each	10000.00
5.	Idli vessel	1	1000.00
<b>Sr. No.</b>	<b>Description</b>	<b>Qty</b>	<b>Total Price (Rs)</b>
6.	Electric Toaster	1	1000.00
7.	Mixer, grinder and juicer (Electric)	2	8000.00
8.	Refrigerator	2	20,000.00
9.	Cooking range (gas)	2	10000.00
10.	Microwave Oven	2	20000.00
11.	Micro range/ cooking range	1	5000.00
12.	Gas oven cum cooling range	10	10,000.00
13.	Electric table oven	5	10000.00
14.	Gas with cylinder (1+2), stove 4 burner - super flame/hot line	3	3000.00
15.	Egg beater electric	2	1000.00
16.	Utensil, mould cake tins and trays, bucket	1 set	3000.00
17.	Icing bags	6	1500.00
18.	Swiss roll tray	1	500.00
19.	Cream horns mould		500.00
20.	Ice cream tins	3	600.00
21.	Weighing machine - Balance weighing scale needle type	1	500.00
22.	Thermos, jars, Containers, Ice Buckets, Thermal jars.	1 each	1000.00
23.	Biscuit cutter	1 set	200.00
24.	Food Processor	1 set	8000.00
25.	Service Trolley	1	3000.00
26.	Utensils & Tawa of different sizes	3 set	15000.00
27.	Steel dinner set	2	4000.00
28.	Cutlery set	2	1000.00
29.	Weighing scale	2	1000.00
30.	Egg cutter	2	100.00
31.	Different types of knives and cutter		100.00
32.	Chopping board	2	100.00
33.	Nonstick cook wears	5	5000.00
34.	Bucket and tubs for water storage	2	2000.00

35.	Waste bin (covered with lid)	2	100.00
36.	China dinner set	1	5000.00
37.	Trays for serving	2	500.00
38.	Table cloth, table mats, napkins		1000.00
39.	Crusher	2	2000.00
40.	Containers of all sizes, pearl pet, steel or aluminum or plastic		2000.00
41.	Different types of Jugs & Glass Set		5000.00
42.	Different types of Dessert Set		5000.00
43.	Payment & Token Counter	1	15000.00
44.	Food Service Counter	1	20000.00
45.	Table with 4 Chair	4 Set	20000.00
<b>Sr. No.</b>	<b>Description</b>	<b>Qty</b>	<b>Total Price (Rs)</b>
46.	Kitchen Sink	1 Set	5000.00
47.	Utensil Stand	1 Set	2000.00
<b>Item No. 43,44,45 is meant for Institutional Food Service Management</b>			
<b>TEXTILE AND CLOTHING LABORATORY</b>			
<b>A.</b>	<b>Textile &amp; Clothing Lab</b>		
<b>B.</b>	<b>Textile Design Lab</b>		
<b>C.</b>	<b>Costume Design Lab</b>		
<b>D.</b>	<b>Laundry</b>		
1.	Sewing machine with foot motor operated/hand operated	15	30,000.00
2.	Fashion makers Simple & Computerized	2 each	210000.00
3.	Knitting machine	5	25,000.00
4.	Cutting table	4	10000.00
5.	Ironing board	4	10000.00
6.	Scissors tailors	4	1000.00
7.	Iron electric	4	4000.00
8.	Tailoring scales, measuring tape		100.00
9.	Steel almirah	4	20000.00
10.	Washing machine	1	10000.00
11.	Dye bath	6	3000.00
12.	Steam iron	2	5000.00
13.	Microscope Student Model	15	45,000.00
14.	Iron tub, Iron trays for soap making	2 each	1000.00
15.	Gas with gas cylinder	1	2000.00
16.	Glass almirah	3	20000.00
17.	Stain remover machine	1	5000.00
18.	Spirit lamp	15	1000.00
19.	Soap dish	15	100.00

20.	Weighing machine (5 Kg capacity)	1	500.00
21.	Bucket & mugs (2+1)	3	500.00
22.	Steel Large Bhagonas	4	500.00
23.	Blocks	5 sets	500.00
24.	Frame For Batik	30	600.00
25.	Screen Tables	2	2000.00
26.	Frame for Screen Printing	5	500.00
27.	Colour mixing machine	1	2000.00
28.	Steel Stand (For Hanging Cloths)	5	5000.00
29.	Batik Tubs (Enamel 25 liters)	4	4000.00
30.	Stove	15	3000.00
31.	Aluminum Frying Pan Thick	15	1000.00
32.	Batik Brushes	30	300.00
33.	Wooden Spoon	10	100.00
34.	Drums for storing water of 100 ltr. capacity	2	600.00

## **11. EVALUATION STRATEGY**

### **11.1 INTRODUCTION**

Evaluation plays an important role in the teaching-learning process. The major objective of any teaching-learning endeavour is to ensure the quality of the product which can be assessed through learner's evaluation.

The purpose of student evaluation is to determine the extent to which the general and the specific objectives of curriculum have been achieved. Student evaluation is also important from the point of view of ascertaining the quality of instructional processes and to get feedback for curriculum improvement. It helps the teachers in determining the level of appropriateness of teaching experiences provided to learners to meet their individual and professional needs. Evaluation also helps in diagnosing learning difficulties of the students. Evaluation is of two types: Formative and Summative (Internal and External Evaluation)

#### **(e) Formative Evaluation**

It is an on-going evaluation process. Its purpose is to provide continuous and comprehensive feedback to students and teachers concerning teaching-learning process. It provides corrective steps to be taken to account for curricular as well as co-curricular aspects.

#### **Summative Evaluation**

It is carried out at the end of a unit of instruction like topic, subject, semester or year. The main purpose of summative evaluation is to measure achievement for assigning course grades, certification of students and ascertaining accountability of instructional process. The student evaluation has to be done in a comprehensive and systematic manner since any mistake or lacuna is likely to affect the future of students.

In the present educational scenario in India, where summative evaluation plays an important role in educational process, there is a need to improve the standard of summative evaluation with a view to bring validity and reliability in the end-term examination system for achieving objectivity and efficiency in evaluation.

### **11.2 STUDENTS' EVALUATION AREAS**

The student evaluation is carried out for the following areas:

- Theory
- Practical Work (Laboratory, Workshop, Field Exercises)
- Project Work

- Professional Industrial Training
- A. Theory**

Evaluation in theory aims at assessing students' understanding of concepts, principles and procedures related to a course/subject, and their ability to apply learnt principles and solve problems. The formative evaluation for theory subjects may be caused through sessional /class-tests, home-assignments, tutorial-work, seminars, and group discussions etc. For end-term evaluation of theory, the question paper may comprise of three sections.

***Section-I***

It should contain objective type items e.g. multiple choice, matching and completion type. Total weightage to Section-1 should be of the order of 20 percent of the total marks and no choice should be given in this section. The objective type items should be used to evaluate students' performance in knowledge, comprehension and at the most application domains only.

**Section-II**

It should contain short answer/completion items. The weightage to this section should be of the order of 40 percent of the total marks. Again, no choice should be given in section-II

**Section-III**

It may contain two to three essay type questions. Total weightage to this section should be of the order of 40 percent of the total marks. Some built-in, internal choice of about 50 percent of the questions set, can be given in this section

**Table II : Suggested Weightage to be given to different ability levels**

<b>Abilities</b>	<b>Weightage to be assigned</b>
Knowledge	10-30 percent
Comprehension	40-60 percent
Application	20-30 percent
Higher than application i.e. Analysis, Synthesis and Evaluation	Upto 10 percent

**B. Practical Work**

Evaluation of students performance in practical work (Laboratory experiments, Workshop practicals /field exercises) aims at assessing students ability to apply or practice learnt concepts, principles and

procedures, manipulative skills, ability to observe and record, ability to interpret and draw conclusions and work related attitudes. Formative and summative evaluation may comprise of weightages to performance on task, quality of product, general behaviour and it should be followed by viva-voce.

### **C. Project Work**

The purpose of evaluation of project work is to assess students ability to apply, in an integrated manner, learnt knowledge and skills in solving real life problems, manipulative skills, ability to observe, record, creativity and communication skills. The formative and summative evaluation may comprise of weightage to nature of project, quality of product, quality of report and quality of presentation followed by viva-voce.

### **D. Professional Industrial Training**

Evaluation of professional industrial training report and viva-voce/ presentation aims at assessing students' understanding of materials, industrial processes, practices in the industry/field and their ability to engage in activities related to problem-solving in industrial setting as well as understanding of application of learnt knowledge and skills in real life situation. The formative and summative evaluation may comprise of weightages to performance in testing, general behaviour, quality of report and presentation during viva-voce.

## 12. RECOMMENDATIONS FOR EFFECTIVE CURRICULUM IMPLEMENTATION

This curriculum document is a Plan of Action and has been prepared based on exhaustive exercise of curriculum planning and design. The representative sample comprising selected senior personnel (lecturers and HODs) from various institutions and experts from industry/field have been involved in curriculum design process.

The document so prepared is now ready for its implementation. It is the faculty of polytechnics who have to play a vital role in planning instructional experiences for the courses in four different environments viz. class-room, laboratory, library and field and execute them in right perspective. It is emphasized that a proper mix of different teaching methods in all these places of instruction only can bring the changes in stipulated students behaviour as in the curriculum document. It is important for the teachers to understand curriculum document holistically and further be aware of intricacies of teaching-learning process (T-L) for achieving curriculum objectives. Given below are certain suggestions which may help the teachers in planning and designing learning experiences effectively. These are indicative in nature and teachers using their creativity can further develop/refine them. The designers of the programme suggest every teacher to read them carefully, comprehend and start using them.

### (A) Broad Suggestions:

1. Curriculum implementation takes place at programme, course and class-room level respectively and synchronization among them is required for its success. The first step towards achieving synchronization is to read curriculum document holistically and understand its rationale and philosophy.
2. An academic plan needs to be prepared and made available to all polytechnics well in advance. The Principals have a great role to play in its dissemination and, percolation upto grass-root level. Polytechnics, in turn are supposed to prepare institutional academic plan.
3. HOD of every Programme Department along with HODs and in-charge of other departments are required to prepare academic plan at department level referring to institutional academic plan.
4. All lecturers/Senior lecturers are required to prepare course level and class level lesson plans referring departmental academic plan.

### (B) Course Level Suggestions

Teachers are educational managers at class room level and their success in achieving course level objectives lies in using course plan and their judicious execution which is very important for the success of programme by achieving its objectives.

Polytechnic teachers are required to plan various instructional experiences viz. theory



lecture, expert lectures, lab/workshop practicals, guided library exercises, field visits, study tours, camps etc. In addition, they have to carry out progressive assessment of theory, assignments, library, practicals and field experiences. Teachers are also required to do all these activities within a stipulated period of time. It is essential for them to use the given time judiciously by planning all above activities properly and ensure execution of the plan effectively.

Following is the gist of suggestions for subject teachers to carry out T-L process effectively:

1. Teachers are required to prepare a course plan, taking into account departmental academic plan, number of weeks available and courses to be taught.
2. Teachers are required to prepare lesson plan for every theory class. This plan may comprise of contents to be covered, learning material for execution of a lesson plan. They may follow steps for preparing lesson plan e.g. drawing attention, state instructional objectives, help in recalling pre-requisite knowledge, deliver planned subject content, check desired learning outcomes and reinforce learning etc.
3. Teachers are required to plan for expert lectures from field/industry. Necessary steps are to plan in advance, identify field experts, make correspondence to invite them, take necessary budgetary approval etc.
4. Teachers are required to plan for guided library exercises by identification of course specific experience requirement, setting time, assessment, etc. The assignments and seminars can be thought of as terminal outcome of library experiences.
5. Concept and content based field visits may be planned and executed for such content of course which is abstract in nature and no other requisite resources are readily available in institute to impart them effectively.
6. There is a dire need for planning practical experiences in right perspective. These slots in a course are the avenues to use problem based learning/activity learning/ experiential learning approach effectively. The development of lab instruction sheets for the course is a good beginning to provide lab experiences effectively.
7. Planning of progressive assessment encompasses periodical assessment in a semester, preparation of proper quality question paper, assessment of answer sheets immediately and giving constructive feed back to every student
8. The student centered activities may be used to develop generic skills like task management, problem solving, managing self, collaborating with others etc.
9. Where ever possible, it is essential to use activity based learning rather than relying on delivery based conventional teaching all the time.

10. Teachers may take initiative in establishing liaison with industries and field organizations for imparting field experiences to their students.
11. Students be made aware about issues related to ecology and environment, safety, concern for wastage of energy and other resources etc.
12. Students may be given relevant and well thought out project assignments, which are purposeful and develop practical skills. This will help students in developing creativity and confidence for their gainful employment.
13. A Project bank may be developed by the concerned department of the polytechnics in consultation with related Industry, research institutes and other relevant field organizations in the state.

### **13. LIST OF EXPERTS**

List of experts who have contributed in the development of the curriculum in Review and Revision for the Two year (Four Semester) Diploma in Home Science at I.R.D.T., U.P., Kanpur on 20 July 2023 are listed below :

1. Dr. Ranju Kushwaha, Associate Professor, Juhari Devi P. G. College, Kanpur
2. Dr. Nirmala Singh, Professor, Jwala Devi Vidhya Mandir P.G. College, Kanpur
3. Dr. Seema Sonker, H.O.D. (Food Science & Nutrition) C.S.A. University, Kanpur
4. Dr. Ritu Pandey, Assistant Professor, Textile and Clothing Dept., C.S.A. University, Kanpur
5. Dr. Mukta Garg, Incharge Dean, College of Home Science, C.S.A. University, Kanpur
6. Dr. Ruchi Mittal, Director, Ruchi Institute, Prayagraj
7. Dr. Alka Tripathi, Assistant Professor, Dept. of Home Science, D.G.P.G. College, Kanpur
8. Shri Vikas Kulshreshtha, Assistant Professor, I.R.D.T., Kanpur