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FYUGP

## **HOME SCIENCE HONOURS/ RESEARCH**

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FOR UNDER GRADUATE COURSES UNDER N.P.UNIVERSITY



Upgraded & Implemented from 3rd Semester of Academic Session 2022-26  
& From 1st Semester of Session 2023-27 Onwards

**THIS SYLLABUS FOLLOWS RANCHI UNIVERSITY**

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**Students are Instructed to Refer Syllabus of Allied/ Opted Subjects from R.U. Website**

Upgraded & Implemented from 3<sup>rd</sup> Sem. of Session 2022-26 & 1<sup>st</sup> Sem. of Session 2023-27 onwards

## HIGHLIGHTS OF REGULATIONS OF FYUGP

### PROGRAMME DURATION

- The Full-time, Regular UG programme for a regular student shall be for a period of four years with multiple entry and multiple exit options.
- The session shall commence from **1<sup>st</sup> of July**.

### ELIGIBILITY

- The selection for admission will be primarily based on availability of seats in the Major subject and marks imposed by the institution. Merit point for selection will be based on marks obtained in Major subject at Class 12 (or equivalent level) or the aggregate marks of Class 12 (or equivalent level) if Marks of the Major subject is not available. Reservation norms of The Government of Jharkhand must be followed as amended in times.
- UG Degree Programmes with Double Major shall be provided only to those students who secure a minimum of overall 75% marks (7.5 CGPA) or higher.
- Other eligibility criteria including those for multiple entry will be in light of the UGC Guidelines for Multiple Entry and Exit in Academic Programmes offered in Higher Education Institutions.

### ADMISSION PROCEDURE

- The reservation policy of the Government of Jharkhand shall apply in admission and the benefit of the same shall be given to the candidates belonging to the State of Jharkhand only. The candidates of other states in the reserved category shall be treated as General category candidates. Other relaxations or reservations shall be applicable as per the prevailing guidelines of the University for FYUGP.

### VALIDITY OF REGISTRATION

- Validity of a registration for FYUGP will be for maximum for Seven years from the date of registration.

### ACADEMIC CALENDAR

- An Academic Calendar will be prepared by the university to maintain uniformity in the CBCS of the UG Honours Programmes, UG Programmes, semesters and courses in the college run under the university (Constituent/Affiliated).
- **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
- **Semester:** The Odd Semester is scheduled from **July to December** and the Even Semester is from **January to June**. Each week has a minimum of 40 working hours spread over 6 days.
- Each semester will include – Admission, course work, conduct of examination and declaration of results including semester break.
- In order to undergo 8 weeks' summer internship/ apprenticeship during the summer camp, the Academic Calendar may be scheduled for academic activities as below:
  - a) Odd Semester: **From first Monday of August to third Saturday of December**
  - b) Even Semester: **From first Monday of January to third Saturday of May**
- An academic year comprising 180 working days in the least is divided into two semesters, each semester having at least 90 working days. With six working days in a week, this would mean that each semester will have  $90/ 6 = 15$  teaching/ working weeks. Each working week will have 40 hours of instructional time.
- Each year the University shall draw out a calendar of academic and associated activities, which shall be

strictly adhered to. The same is non-negotiable. Further, the Department will make all reasonable endeavors to deliver the programmes of study and other educational services as mentioned in its Information Brochure and website. However, circumstances may change prompting the Department to reserve the right to change the content and delivery of courses, discontinue or combine courses and introduce or withdraw areas of specialization.

### PROGRAMME OVERVIEW/ SCHEME OF THE PROGRAMME

- Undergraduate degree programmes of either 3 or 4-year duration, with multiple entries and exit points and re-entry options within this period, with appropriate certifications such as:
  - UG Certificate after completing 1 year (2 semesters) of study in the chosen fields of study provided they complete one vocational course of 4 credits during the summer vacation of the first year or internship/ Apprenticeship in addition to 6 credits from skill-based courses earned during first and second semester.,
  - UG Diploma after 2 years (4 semesters) of study diploma provided they complete one vocational course of 4 credits or internship/ Apprenticeship/ skill based vocational courses offered during first year or second year summer term in addition to 9 credits from skill-based courses earned during first, second, and third semester,
  - Bachelor's Degree after a 3-year (6 semesters) programme of study,
  - Bachelor's Degree (Honours) after a 4-year (8 semesters) programme of study.
  - Bachelor Degree (Honours with Research) after a 4-year (8 semesters) programme of study to the students undertaking 12 credit Research component in fourth year of FYUGP.

### CREDIT OF COURSES

The term 'credit' refers to the weightage given to a course, usually in terms of the number of instructional hours per week assigned to it. The workload relating to a course is measured in terms of credit hours. It determines the number of hours of instruction required per week over the duration of a semester (minimum 15 weeks).

- a) One hour of teaching/ lecture or two hours of laboratory /practical work will be assigned per class/interaction.  
**One credit for Theory** = 15 Hours of Teaching i.e., 15 Credit Hours  
**One credit for Practicum** = 30 Hours of Practical work i.e., 30 Credit Hours
- b) For credit determination, instruction is divided into three major components:  
**Hours (L)** – Classroom Hours of one-hour duration.  
**Tutorials (T)** – Special, elaborate instructions on specific topics of one-hour duration  
**Practical (P)** – Laboratory or field exercises in which the student has to do experiments or other practical work of two-hour duration.

### CALCULATION OF MARKS FOR THE PURPOSE OF RESULT

- Student's final marks and the result will be based on the marks obtained in Semester Internal Examination and End Semester Examination organized taken together.
- Passing in a subject will depend on the collective marks obtained in Semester internal and End Semester University Examination both. However, students must pass in Theory and Practical Examinations separately.

## PROMOTION CRITERIA

### First degree programme with single major:

- i. The Requisite Marks obtained by a student in a particular subject will be the criteria for promotion to the next Semester.
- ii. No student will be detained in odd Semesters (I, III, V & VII).
- iii. To get promotion from Semester-II to Semester-III a student will be required to pass in at least 75% of Courses in an academic year, a student has to pass in minimum 9 papers out of the total 12 papers.
- iv. To get promotion from Semester-IV to Semester-V (taken together of Semester I, II, III & IV) a student has to pass in minimum 18 papers out of the total 24 papers.
- v. To get promotion from Semester-VI to Semester-VII (taken all together of Semester I, II, III, IV, V & VI) a student has to pass in minimum 26 papers out of the total 34 papers.
- vi. However, it will be necessary to procure pass marks in each of the paper before completion of the course.

### First degree programme with dual major:

- vii. Above criterions are applicable as well on the students pursuing dual degree programmes however first degree programme will remain independent of the performance of the student in dual major courses.
- viii. To get eligible for taking ESE, a student will be required to pass in at least 75% of Courses in an academic year.
- ix. A student has to pass in minimum 3 papers out of the total 4 papers.
- x. It will be a necessity to clear all papers of second major programme in second attempt in succeeding session, failing which the provision of dual major will be withdrawn and the student will be entitled for single first degree programme.

## PUBLICATION OF RESULT

- The result of the examination shall be notified by the Controller of Examinations of the University in different newspapers and also on University website.
- If a student is found indulged in any kind of malpractice/ unfair means during examination, the examination taken by the student for the semester will be cancelled. The candidate has to reappear in all the papers of the session with the students of next coming session and his one year will be detained. However, marks secured by the candidate in all previous semesters will remain unaffected.
- There shall be no Supplementary or Re-examination for any subject. Students who have failed in any subject in an even semester may appear in the subsequent even semester examination for clearing the backlog. Similarly, the students who have failed in any subject in an odd semester may appear in the subsequent odd semester examination for clearing the backlog.

Regulation related with any concern not mentioned above shall be guided by the Regulations of the University for FYUGP.

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## COURSE STRUCTURE FOR FYUGP 'HONOURS/ RESEARCH'

**Table 1: Credit Framework for Four Year Undergraduate Programme (FYUGP) under State Universities of Jharkhand [Total Credits = 160]**

Level of Courses	Semester	MJ; Discipline Specific Courses – Core or Major (80)	MN; Minor from discipline (16)	MN; Minor from vocational (16)	MDC; Multidisciplinary Courses [Life sciences, Physical Sciences, Mathematical and Computer Sciences, Data Analysis, Social Sciences, Humanities, etc.] (9)	AEC; Ability Enhancement Courses (Modern Indian Language and English) (8)	SEC; Skill Enhancement Courses (9)	VAC; Value Added Courses (6)	IAP; Internship/ Dissertation (4)	RC; Research Courses (12)	AMJ; Advanced Courses in lieu of Research (12)	Credits	Double Major (DMJ)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
100-199: Foundation or Introductory courses	I	4	4		3	2	3	4				20	4+4
	II	4+4		4	3	2	3					20	4+4
<b>Exit Point: Undergraduate Certificate provided with Summer Internship/ Project (4 credits)</b>													
200-299: Intermediate-level courses	III	4+4	4		3	2	3					20	4+4
	IV	4+4+4		4		2		2				20	4+4
<b>Exit Point: Undergraduate Diploma provided with Summer Internship in 1<sup>st</sup> or 2<sup>nd</sup> year/ Project (4 credits)</b>													
300-399: Higher-level courses	V	4+4+4	4						4			20	4+4
	VI	4+4+4+4		4								20	4+4
<b>Exit Point: Bachelor's Degree</b>													
400-499: Advanced courses	VII	4+4+4+4	4									20	4+4
	VIII	4		4						12	4+4+4	20	4+4
<b>Exit Point: Bachelor's Degree with Hons. /Hons. with Research</b>													
												160	224

Note: Honours students not undertaking research will do 3 courses for 12 credits in lieu of a Research project / Dissertation.

Upgraded & Implemented from 3<sup>rd</sup> Sem. of Session 2022-26 & 1<sup>st</sup> Sem. of Session 2023-27 Onwards

COURSES OF STUDY FOR FOUR YEAR UNDERGRADUATE PROGRAMME **2022 onwards****Table 2: Semester wise Course Code and Credit Points for Single Major:**

Semester	Common, Introductory, Major, Minor, Vocational & Internship Courses		Credits
	Code	Papers	
<b>I</b>	AEC-1	Language and Communication Skills (MIL 1 - Hindi/ English)	2
	VAC-1	Value Added Course-1	4
	SEC-1	Skill Enhancement Course-1	3
	MDC-1	Multi-disciplinary Course-1	3
	MN-1A	Minor from Discipline-1	4
	MJ-1	Major paper 1 (Disciplinary/Interdisciplinary Major)	4
<b>II</b>	AEC-2	Language and Communication Skills (MIL 2 - English/ Hindi)	2
	SEC-2	Skill Enhancement Course-2	3
	MDC-2	Multi-disciplinary Course-2	3
	MN-2A	Minor from Vocational Studies/Discipline-2	4
	MJ-2	Major paper 2 (Disciplinary/Interdisciplinary Major)	4
	MJ-3	Major paper 3 (Disciplinary/Interdisciplinary Major)	4
<b>III</b>	AEC-3	Language and Communication Skills (Language Elective 1 - Modern Indian language including TRL)	2
	SEC-3	Skill Enhancement Course-3	3
	MDC-3	Multi-disciplinary Course-3	3
	MN-1B	Minor from Discipline-1	4
	MJ-4	Major paper 4 (Disciplinary/Interdisciplinary Major)	4
	MJ-5	Major paper 5 (Disciplinary/Interdisciplinary Major)	4
<b>IV</b>	AEC-3	Language and Communication Skills (Language Elective - Modern Indian language including TRL)	2
	VAC-2	Value Added Course-2	2

	MN-2B	Minor from Vocational Studies/Discipline-2	4
	MJ-6	Major paper 6 (Disciplinary/Interdisciplinary Major)	4
	MJ-7	Major paper 7 (Disciplinary/Interdisciplinary Major)	4
	MJ-8	Major paper 8 (Disciplinary/Interdisciplinary Major)	4
V	MN-1C	Minor from Discipline-1	4
	MJ-9	Major paper 9 (Disciplinary/Interdisciplinary Major)	4
	MJ-10	Major paper 10 (Disciplinary/Interdisciplinary Major)	4
	MJ-11	Major paper 11 (Disciplinary/Interdisciplinary Major)	4
	IAP	Internship/Apprenticeship/Field Work/Dissertation/Project	4
VI	MN-2C	Minor from Vocational Studies/Discipline-2	4
	MJ-12	Major paper 12 (Disciplinary/Interdisciplinary Major)	4
	MJ-13	Major paper 13 (Disciplinary/Interdisciplinary Major)	4
	MJ-14	Major paper 14 (Disciplinary/Interdisciplinary Major)	4
	MJ-15	Major paper 15 (Disciplinary/Interdisciplinary Major)	4
VII	MN-1D	Minor from Discipline-1	4
	MJ-16	Major paper 16 (Disciplinary/Interdisciplinary Major)	4
	MJ-17	Major paper 17 (Disciplinary/Interdisciplinary Major)	4
	MJ-18	Major paper 18 (Disciplinary/Interdisciplinary Major)	4
	MJ-19	Major paper 19 (Disciplinary/Interdisciplinary Major)	4
VIII	MN-2D	Minor from Vocational Studies/Discipline-2	4
	MJ-20	Major paper 20 (Disciplinary/Interdisciplinary Major)	4
	RC/ AMJ-1 AMJ-2 AMJ-3	Research Internship/Field Work/Dissertation OR Advanced Major paper-1 (Disciplinary/Interdisciplinary Major) Advanced Major paper-2 (Disciplinary/Interdisciplinary Major) Advanced Major paper-3 (Disciplinary/Interdisciplinary Major)	12/ 4 4 4
		<b>Total Credit</b>	<b>160</b>

**NUMBER OF CREDITS BY TYPE OF COURSE**

The hallmark of the new curriculum framework is the flexibility for the students to learn courses of their choice across various branches of undergraduate programmes. This requires that all departments prescribe a certain specified number of credits for each course and common instruction hours (slot time).

**Table 3: Overall Course Credit Points for Single Major**

<b>Courses</b>	<b>Nature of Courses</b>	<b>3 yr UG Credits</b>	<b>4 yr UG Credits</b>
Major	Core courses	60	80
Minor	i. Discipline/ Interdisciplinary courses and ii. Vocational Courses	24	32
Multidisciplinary	3 Courses	9	9
AEC	Language courses	8	8
SEC	<b>Courses to be developed by the University</b>	9	9
Value Added Courses	Understanding India, Environmental Studies, Digital Education, Health & wellness, Summer Internship/ Apprenticeship/ Community outreach activities, etc.	6	6
Internship (In any summer vacation for Exit points or in Semester-V)		4	4
Research/ Dissertation/ Advanced Major Courses	Research Institutions/ 3 Courses		12
	<b>Total Credits =</b>	<b>120</b>	<b>160</b>

**Table 4: Overall Course Code and Additional Credit Points for Double Major**

<b>Courses</b>	<b>Nature of Courses</b>	<b>3 yr UG Credits</b>	<b>4 yr UG Credits</b>
Major 1	Core courses	60	80
Major 2	Core courses	48	64
Minor	i. Discipline/ Interdisciplinary courses and ii. Vocational Courses	24	32
Multidisciplinary	3 Courses	9	9
AEC	Language courses	8	8
SEC	<b>Courses to be developed by the University</b>	9	9
Value Added Courses	Understanding India, Environmental Studies, Digital Education, Health & wellness, Summer Internship/ Apprenticeship/ Community outreach activities, etc.	6	6
Internship (In any summer vacation for Exit points or in Semester-V)		4	4
Research/ Dissertation/ Advanced Major Courses	Research Institutions/ 3 Courses		12
	<b>Total Credits =</b>	<b>168</b>	<b>224</b>

**Table 5: Semester wise Course Code and Additional Credit Points for Double Major:**

Semester	Double Major Courses		Credits
	Code	Papers	
<b>I</b>	DMJ-1	Double Major paper-1 (Disciplinary/Interdisciplinary Major)	4
	DMJ-2	Double Major paper-2 (Disciplinary/Interdisciplinary Major)	4
<b>II</b>	DMJ-3	Double Major paper-3 (Disciplinary/Interdisciplinary Major)	4
	DMJ-4	Double Major paper-4 (Disciplinary/Interdisciplinary Major)	4
<b>III</b>	DMJ-5	Double Major paper-5 (Disciplinary/Interdisciplinary Major)	4
	DMJ-6	Double Major paper-6 (Disciplinary/Interdisciplinary Major)	4
<b>IV</b>	DMJ-7	Double Major paper-7 (Disciplinary/Interdisciplinary Major)	4
	DMJ-8	Double Major paper-8 (Disciplinary/Interdisciplinary Major)	4
<b>V</b>	DMJ-9	Double Major paper-9 (Disciplinary/Interdisciplinary Major)	4
	DMJ-10	Double Major paper-10 (Disciplinary/Interdisciplinary Major)	4
<b>VI</b>	DMJ-11	Double Major paper-11 (Disciplinary/Interdisciplinary Major)	4
	DMJ-12	Double Major paper-12 (Disciplinary/Interdisciplinary Major)	4
<b>VII</b>	DMJ-13	Double Major paper-13 (Disciplinary/Interdisciplinary Major)	4
	DMJ-14	Double Major paper-14 (Disciplinary/Interdisciplinary Major)	4
<b>VIII</b>	DMJ-15	Double Major paper-15 (Disciplinary/Interdisciplinary Major)	4
	DMJ-16	Double Major paper-16 (Disciplinary/Interdisciplinary Major)	4
		<b>Total Credit</b>	<b>64</b>

**Abbreviations:**

AEC	Ability Enhancement Courses
SEC	Skill Enhancement Courses
IAP	Internship/Apprenticeship/ Project
MDC	Multidisciplinary Courses
MJ	Major Disciplinary/Interdisciplinary Courses
DMJ	Double Major Disciplinary/Interdisciplinary Courses
MN	Minor Disciplinary/Interdisciplinary Courses
AMJ	Advanced Major Disciplinary/Interdisciplinary Courses
RC	Research Courses

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## AIMS OF BACHELOR'S DEGREE PROGRAMME IN HOME SCIENCE

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**The aim of bachelor's degree programme in Home Science is intended to provide:**

1. **Basic Concept:** The fundamental concepts and philosophical foundation of each course need to be discussed.
2. **Understanding Landscape:** An understanding of landscape at different levels needs to be discussed and understood for a thorough knowledge of spatial dimensions.
3. **Understanding Ecosystem Structure and Potential:** To comprehend the dynamic dimensions of human and ecosystem relationships.
4. **Human Perception and Behaviour:** Learning human perception and behaviour to acquire the geographical knowledge evolved over time, is essential to improve decision making process.
5. **Identification of Critical Problems and Issues:** Detection and identification of the critical problems and spatial issues are essential for sustainable development.
6. The aims of the Home Science are also to:
  - a. Enable students with knowledge, skills, attitudes and values to do community work in all areas of Home Science
  - b. Ensure global competitiveness and excellence in theory and research.
  - c. Prepare the students for master's program in their respective specialisation.
  - d. Train the students to take science from lab to community to improve quality of life of people.
  - e. Demonstrate systematic, extensive and coherent knowledge in one of the five disciplines of Home Science Namely Food and Nutrition, Human Development and Childhood Studies, Development Communication and Extension, Resource Management and Design Application, and Fabric and Apparel Science.
  - f. Ensure basic understanding of all five areas to be able to work in national development programs with multi-disciplinary acumen.
  - g. Demonstrate skill in profession, community outreach, policy and research in their specialization area.
  - h. Demonstrate community and laboratory-based data collection, analysis and interpretation.
  - i. Enhance communication skills for research findings and critique of life processes in community education.
  - j. Demonstrate subject related skills for employment opportunities.

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## PROGRAM LEARNING OUTCOMES

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**The programme learning outcomes relating to Honours/Research Degree in Home Science:**

1. Understand and appreciate the role of interdisciplinary sciences in the development and well-being of individuals, families and communities
2. Understand the sciences and technologies that enhance the quality of life of people
3. Acquire professional and entrepreneurial skills for economic empowerment of self in particular, and community in general
4. Develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development
5. Take science from the laboratory to the people and enhance quality of life.
6. It is also suggested that after the completion of FYUGP Hons./Research, students should be able to demonstrate the knowledge obtained in such way so that they can explore the employability options and service to the society.

## SEMESTER WISE COURSES IN HOME SCIENCE MAJOR-1 FOR FYUGP

**2022 onwards****Table 7: Semester wise Examination Structure in Discipline Courses:**

Semester	Courses		Examination Structure			
	Code	Papers	Credits	Mid Semester Theory (F.M.)	End Semester Theory (F.M.)	End Semester Practical/ Viva (F.M.)
<b>I</b>	MJ-1	Basics of Food Science and Nutrition	4	25	75	---
<b>II</b>	MJ-2	Fundamentals of Human Development	4	25	75	---
	MJ-3	<b>Practical-I</b>	4	---	---	100
<b>III</b>	MJ-4	Introduction to Textiles	4	25	75	---
	MJ-5	<b>Practical-II</b>	4	---	---	100
<b>IV</b>	MJ-6	Early Childhood Care and Education	4	25	75	---
	MJ-7	Fundamentals of Clothing Construction	4	25	75	---
	MJ-8	<b>Practical-III</b>	4	---	---	100
<b>V</b>	MJ-9	Resource Management Concept and Context	4	25	75	---
	MJ-10	Communication and Extension	4	25	75	---
	MJ-11	<b>Practical-IV</b>	4	---	---	100
<b>VI</b>	MJ-12	Family Finance and Consumer Behaviour	4	25	75	---
	MJ-13	Family Meal Management	4	25	75	---
	MJ-14	Communication Model in Extension	4	25	75	---
	MJ-15	<b>Practical-V</b>	4	---	---	100
<b>VII</b>	MJ-16	Public Health Nutrition	4	25	75	---
	MJ-17	A. Dietetics B. Childhood and Adolescence C. Fashion Marketing and Merchandising	4	25	75	---
	MJ-18	A. Nutrition for Health and Physical Fitness B. Adulthood and Aging C. Apparel Construction	4	25	75	---
	MJ-19	<b>Practical-VI- A, B, C</b>	4	---	---	100
	MJ-20	Statistics	4	25	75	---
<b>VIII</b>	AMJ-1	A. Food Safety, Sanitation and Hygiene B. Interpersonal Relationship and Family Dynamics C. Textile Design and Illustration	4	25	75	---
	AMJ-2	A. Food Service Management B. Gender, Society and Human Development C. Dyeing, Printing and Finishing of Textiles	4	25	75	---
	AMJ-3	<b>Practical-VII- A, B, C</b>	4	---	---	100
	or RC-1	Research Methodology	4	25	75	---
	RC-2	Project Dissertation/ Research Internship/ Field Work	8	---	---	200
			<b>Total Credit</b>	<b>92</b>		

**Table 8: Semester wise Course Code and Credit Points for Skill Enhancement Courses:**

Semester	Skill Enhancement Courses		Examination Structure			
	Code	Papers	Credits	Mid Semester Theory (F.M.)	End Semester Theory (F.M.)	End Semester Practical/ Viva (F.M.)
<b>I</b>	SEC-1	Health Care, Dietetics, Maternal & Child Nutrition	3	---	75	---
<b>II</b>	SEC-2	Techniques of Food Preservation	3	---	75	---
<b>III</b>	SEC-3	Elementary Computer Application Softwares	3	---	75	---
		<b>Total Credit</b>	<b>9</b>			

**Table 9: Semester wise Course Code and Credit Points for Minor Courses:**

Semester	Minor Courses		Examination Structure			
	Code	Papers	Credits	Mid Semester Theory (F.M.)	End Semester Theory (F.M.)	End Semester Practical/ Viva (F.M.)
<b>I</b>	MN-1A	Introductory Home Science	4	15	60	25
<b>III</b>	MN-1B	Nutrition: A Lifespan Approach	4	15	60	25
<b>V</b>	MN-1C	Current Concerns in Public Health Nutrition	4	15	60	25
<b>VII</b>	MN-1D	Care and Well-being in Human Development	4	15	60	25
		<b>Total Credit</b>	<b>16</b>			

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## INSTRUCTION TO QUESTION SETTER

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### **SEMESTER INTERNAL EXAMINATION (SIE):**

There will be Only One Semester Internal Examination in Major, Minor and Research Courses, which will be organized at college/institution level. However, Only One End semester evaluation in other courses will be done either at College/ Institution or University level depending upon the nature of course in the curriculum.

#### **A. (SIE 10+5=15 marks):**

There will be two group of questions. **Question No.1 will be very short answer type in Group A** consisting of five questions of 1 mark each. **Group B will contain descriptive type** two questions of five marks each, out of which any one to answer.

The Semester Internal Examination shall have two components. (a) One Semester Internal Assessment Test (SIA) of 10 Marks, (b) Class Attendance Score (CAS) of 5 marks.

#### **B. (SIE 20+5=25 marks):**

There will be two group of questions. **Group A is compulsory** which will contain two questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No.2 will be short answer type** of 5 marks. **Group B will contain descriptive type** two questions of ten marks each, out of which any one to answer.

The Semester Internal Examination shall have two components. (a) One Semester Internal Assessment Test (SIA) of 20 Marks, (b) Class Attendance Score (CAS) of 5 marks.

#### **Conversion of Attendance into score may be as follows:**

Attendance Upto 45%, 1mark; 45<Attd.<55, 2 marks; 55<Attd.<65, 3 marks; 65<Attd.<75, 4 marks; 75<Attd, 5 marks.

### **END SEMESTER UNIVERSITY EXAMINATION (ESE):**

#### **A. (ESE 60 marks):**

There will be two group of questions. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No.2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer.

#### **B. (ESE 75 marks):**

There will be two group of questions. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of five questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **C. (ESE 100 marks):**

There will be two group of questions. **Group A is compulsory** which will contain three questions. **Question No.1 will be very short answer type** consisting of ten questions of 1 mark each. **Question No. 2 & 3 will be short answer type** of 5 marks. Group B will contain descriptive type six questions of twenty marks each, out of which any four are to answer.

**FORMAT OF QUESTION PAPER FOR SEMESTER INTERNAL EXAMINATION****Question format for 10 Marks:**

<b>F.M. =10</b>	<b>Subject/ Code</b>	<b>Time=1Hr.</b>	<b>Exam Year</b>
<b>General Instructions:</b>			
i. <b>Group A</b> carries very short answer type compulsory questions. ii. <b>Answer 1 out of 2</b> subjective/ descriptive questions given in <b>Group B</b> . iii. Answer in your own words as far as practicable. iv. Answer all sub parts of a question at one place. v. Numbers in right indicate full marks of the question.			
	<b>Group A</b>		
1.		[5x1=5]	
i.	.....		
ii.	.....		
iii.	.....		
iv.	.....		
v.	.....		
	<b>Group B</b>		
2.	.....	[5]	
3.	.....	[5]	
<b>Note:</b> There may be subdivisions in each question asked in Theory Examination.			

**Question format for 20 Marks:**

<b>F.M. =20</b>	<b>Subject/ Code</b>	<b>Time=1Hr.</b>	<b>Exam Year</b>
<b>General Instructions:</b>			
i. <b>Group A</b> carries very short answer type compulsory questions. ii. <b>Answer 1 out of 2</b> subjective/ descriptive questions given in <b>Group B</b> . iii. Answer in your own words as far as practicable. iv. Answer all sub parts of a question at one place. v. Numbers in right indicate full marks of the question.			
	<b>Group A</b>		
1.		[5x1=5]	
i.	.....		
ii.	.....		
iii.	.....		
iv.	.....		
v.	.....		
2.	.....	[5]	
	<b>Group B</b>		
3.	.....	[10]	
4.	.....	[10]	
<b>Note:</b> There may be subdivisions in each question asked in Theory Examination.			

**FORMAT OF QUESTION PAPER FOR END SEMESTER UNIVERSITY EXAMINATION**  
**Question format for 50 Marks:**

<b>Subject/ Code</b>	<b>F.M. =50</b>	<b>Time=3Hrs.</b>	<b>Exam Year</b>
<b>General Instructions:</b>			
i. <b>Group A</b> carries very short answer type <b>compulsory</b> questions. ii. <b>Answer 3 out of 5</b> subjective/ descriptive questions given in <b>Group B</b> . iii. Answer in your own words as far as practicable. iv. Answer all sub parts of a question at one place. v. Numbers in right indicate full marks of the question.			
<b>Group A</b>			
1.	i. ....		[5x1=5]
	ii. ....		
	iii. ....		
	iv. ....		
	v. ....		
<b>Group B</b>			
2.	.....	[15]	
3.	.....	[15]	
4.	.....	[15]	
5.	.....	[15]	
6.	.....	[15]	
<b>Note:</b> There may be subdivisions in each question asked in Theory Examination.			

**Question format for 60 Marks:**

<b>Subject/ Code</b>	<b>F.M. =60</b>	<b>Time=3Hrs.</b>	<b>Exam Year</b>
<b>General Instructions:</b>			
i. <b>Group A</b> carries very short answer type <b>compulsory</b> questions. ii. <b>Answer 3 out of 5</b> subjective/ descriptive questions given in <b>Group B</b> . iii. Answer in your own words as far as practicable. iv. Answer all sub parts of a question at one place. v. Numbers in right indicate full marks of the question.			
<b>Group A</b>			
1.	i. ....	[5x1=5]	
	ii. ....		
	iii. ....		
	iv. ....		
	v. ....		
2.	.....	[5]	
3.	.....	[5]	
<b>Group B</b>			
4.	.....	[15]	
5.	.....	[15]	
6.	.....	[15]	
7.	.....	[15]	
8.	.....	[15]	
<b>Note:</b> There may be subdivisions in each question asked in Theory Examination.			

Question format for 75 Marks:

<b>F.M. = 75</b>	<b>Subject/ Code</b>	<b>Time=3Hrs.</b>	<b>Exam Year</b>
<b>General Instructions:</b>			
i. <b>Group A</b> carries very short answer type <b>compulsory</b> questions. ii. <b>Answer 4 out of 6</b> subjective/ descriptive questions given in <b>Group B</b> . iii. Answer in your own words as far as practicable. iv. Answer all sub parts of a question at one place. v. Numbers in right indicate full marks of the question.			
<b>Group A</b>			
1.	i. ....		[5x1=5]
	ii. ....		
	iii. ....		
	iv. ....		
	v. ....		
2.	.....	[5]	
3.	.....	[5]	
<b>Group B</b>			
4.	.....	[15]	
5.	.....	[15]	
6.	.....	[15]	
7.	.....	[15]	
8.	.....	[15]	
9.	.....	[15]	
<b>Note:</b> There may be subdivisions in each question asked in Theory Examination.			

Question format for 100 Marks:

<b>F.M. = 100</b>	<b>Subject/ Code</b>	<b>Time=3Hrs.</b>	<b>Exam Year</b>
<b>General Instructions:</b>			
i. <b>Group A</b> carries very short answer type <b>compulsory</b> questions. ii. <b>Answer 4 out of 6</b> subjective/ descriptive questions given in <b>Group B</b> . iii. Answer in your own words as far as practicable. iv. Answer all sub parts of a question at one place. v. Numbers in right indicate full marks of the question.			
<b>Group A</b>			
1.	i. ....	vi. ....	[10x1=10]
	ii. ....	vii. ....	
	iii. ....	viii. ....	
	iv. ....	ix. ....	
2.	v. ....	x. ....	[5]
3.	.....		[5]
<b>Group B</b>			
4.	.....	[20]	
5.	.....	[20]	
6.	.....	[20]	
7.	.....	[20]	
8.	.....	[20]	
9.	.....	[20]	
<b>Note:</b> There may be subdivisions in each question asked in Theory Examination.			

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## SEMESTER I

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**I. MAJOR COURSE –MJ 1:  
BASICS OF FOOD SCIENCE AND NUTRITION**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

**Course Description**

The course “Basics of Food Science and Nutrition” aims at developing the basic understanding of food and nutrition; it's the effect on human health and newer advances in food technology. This course encompasses the physiological, biochemical and social aspects of food and discusses the relationship between metabolites and human health. Moreover, the Course is focused on the advances in the most emerging area of Applied Science of Nutraceuticals (where food is the medicine) and provides a detailed insight into understanding the composition, molecular interaction and bio mechanisms of food metabolites. The knowledge and skills to utilize food and nutrients are as the powerful tools for physical, mental and social well-being.

**Learning Objectives:**

1. Study the different methods of cooking foods
2. Obtain knowledge of different food groups, their composition and nutrients present in the foods.
3. Understand the vital link between foods, nutrition and health
4. Gain knowledge on functions, requirements and effects of deficiency of nutrients

**Learning Outcome:**

A successful completion of this course will enable students to

1. Summarize and critically discuss and understand both fundamental and applied aspects of Food Science and nutrition and Food Production
2. Able to explain functions of specific nutrients in maintaining health
3. Identifying nutrient specific force and apply the principles from the various factors of foods and related disciplines to solve practical as well as Real world problems
4. Use current information Technologies to locate and apply evidence-based guidelines and protocol and get imported with critical thinking to take leadership roles in the field of health, diet special nutritional needs and nutritional counselling.

**Course Content**

**Unit-I. Introduction of Food Groups, Food Pyramid and Cooking Methods (12 Lectures)**

Definition and Terms used in Food Science and Nutrition. Health, Food, Nutrition, Nutrients: Macronutrients (Carbohydrates, Proteins and lipids) and Micronutrients (Vitamins and Minerals), and Malnutrition. Various classifications of Foods and Food Groups.

Definition, Classification and Functions of Foods, Basic Food Groups and Need for Grouping Foods and Application of Food Groups in Planning Adequate/Balanced Diets Culinary terms and Methods of Cooking

An Overview of culinary terms

Different Modes of heat transfer like Radiation, Conduction and Convection

Moist heat methods like Boiling, Simmering, Poaching, Steaming, Pressure cooking

Dry heat methods: Air as medium of cooking: Grilling, broiling, roasting, Baking,

Fat as medium of cooking: Sautéing, Shallow fat frying, Deep fat frying

Combined (Moist and dry) Methods: Braising, Stewing

Other cooking methods: -Microwave cooking and Solar cooking.

Advantages and Disadvantages of Cooking methods

**Unit-II. Nutritional Significance of Different Food Groups**

(12 Lectures)

Basic Concepts, classification, Composition, nutritive value and Role in Cookery

Cereals and Cereal Products-

Types of cereals: wheat, rice, millets,

Cereal Products-Flaked rice, puffed rice, wheat flour.

Principles and properties of Cereals and its utility: Germination (Amylase Rich Foods- ARF), Fermentation, Parboiling, Gelatinization, Dextrinization, Gluten formation)

Pulses and Legumes,

Fruits and Vegetables,

Salt, Sugar and Jaggery,

Nuts, oils and Oil seeds

Milk and Milk Products including Fortified milk & its importance

Eggs-Basic structure of an egg and biological value, Quality evaluation and grading of eggs Meat, poultry and fish

Spices & Condiments – their importance and functional properties

### **Unit III- Macronutrients**

**(12 Lectures)**

Definition, Classification, Dietary Sources, Functions, Recommended Dietary Allowances, Clinical signs and symptoms of Deficiency diseases and Excess of Energy, Carbohydrates, Proteins, Lipids, Water

### **Unit IV- Minerals**

**(12 Lectures)**

Definition, Classification, Distribution of minerals in the body.

Functions, sources, requirements and effects of deficiencies of Minerals: Calcium, Phosphorus, Iron, Iodine, Zinc, Fluorine, Copper, Magnesium, Sodium, Potassium, Selenium.

### **Unit V- Vitamins**

**(12 Lectures)**

Classifications, functions, sources, Clinical signs and symptoms of deficiency, requirements of Fat Soluble Vitamins - A, D, E and K

Water Soluble, Vitamins-B Complex Vitamins- Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyanocobalamin and Vitamin C

### **Recommended Readings:**

1. Maney S (2008). Foods, Facts and Principles, 3<sup>rd</sup> Edition Published by Wiley Eastern, New Delhi.
2. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi.
3. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4<sup>th</sup> Edition, Orient Black Swan Ltd, Mumbai.
4. Srilakshmi, B. (2017) Nutrition Science, New Age International (P) Ltd., New Delhi,
5. Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
6. Sunetra Roday (2017). Food Science and Nutrition, Oxford University Press, New Delhi.
7. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad

**II. SKILL ENHANCEMENT COURSE- SEC 1:  
HEALTH CARE, DIETETICS, MATERNAL & CHILD NUTRITION**

<b>Marks: 75 (ESE: 3Hrs) = 75</b>	<b>Pass Marks: Th (ESE) = 30</b>
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(Credits: Theory-03) **45 Hours**

**Course Objectives:**

To make students understand

1. The concept and importance of health care
2. The importance of maternal and child nutrition for overall development
3. Importance of diet in maintaining good health of mother and child

**Course Outcome**

Students will have

1. Understanding of maintaining good health
2. Knowledge and practice for maintaining good health and maternal and child nutrition

**Course Contents:**

**Unit-I: Health Care & Dietetics**

**(09 Lectures)**

Concept of Health and Dimensions of Health, Health and Hygiene, Introduction, Causes, Symptoms and Prevention for cardiovascular disease, Diabetes, Fever and Under Nutrition., Diet Plan for cardiovascular Patient, Diabetes, Fever, Anaemia.

**Unit-II: Nutritional needs during pregnancy**

**(09 Lectures)**

Nutritional needs during pregnancy, common disorders of pregnancy (Anaemia, HIV Infection) Maternal health and Nutritional Status,

**Unit-III: Nursing mothers and infants**

**(09 Lectures)**

Nutritional need of nursing mothers and infants.

**Unit-IV: Infant and child mortality**

**(09 Lectures)**

Breast feeding, weaning and complementary feeding. Child health and morbidity, neonatal, infant and child mortality.

**Unit-V: Nutrition policies**

**(09 Lectures)**

Overview of maternal and child nutrition policies

**Suggested Readings:**

1. Wadhwa A and Sharma S, Nutrition in the Community.
2. Bansji M S, Textbook of Human Nutrition
3. Wadhwa A and Sharma S (2003), Nutrition in the Community- A Textbook, Elite Publishing House Pvt. Ltd. New Delhi
4. National Guidelines on Infant and Young Child Feeding (2006). Ministry of Women and Child Development, Government of India.

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## SEMESTER II

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**I. MAJOR COURSE- MJ 2:  
FUNDAMENTALS OF HUMAN DEVELOPMENT**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100	Pass Marks: Th (SIE + ESE) = 40
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(Credits: Theory-04) **60 Hours**

**Course Description**

The course introduces students to the concept of human development. It then moves on to discuss the various schools of thought that gave rise to different theoretical frameworks to understand human development. It explains basic developmental principles and factors like heredity and environment which influence growth and development. It deals with development during different stages of life span, starting from conception to old age. It further discusses the principles of working with human beings and methods of studying human development.

**Learning Objectives**

1. Develop an understanding about the need and importance of studying human growth and development across life span
2. Learn about the biological and environmental factors that affect development
3. Learn about the characteristics, needs and developmental tasks of different stages in the human life cycle
4. Understand the different theoretical frameworks fundamental to HDFS
5. Learn about the classic human development theories
6. Develop professional attitude for working with human beings across life span

**Learning Outcomes**

1. Explain the need and importance of studying human growth and development across life span.
2. Identify the biological and environmental factors affecting human development.
3. Describe the characteristics, needs and developmental tasks of different stages in the human life cycle
4. Explain the broad theoretical perspectives and frameworks of HDFS

**Course Content**

**Unit I Theoretical Frameworks and Theories**

**(12 Lectures)**

- Theoretical Frameworks
- Biological-maturational
- Environmental learning
- Constructivist
- Culture-contextual

Overview of theories of human development

- Freud's theory of psychosexual development
- Erikson's theory of psychosocial development
- Piaget's theory of cognitive development
- Learning theories- Skinner

Indian Thinkers (selected) on Child Development

- Mahatma Gandhi
- Rabindranath Tagore
- Gijubhai Badeka and Tarabai Modak

**Unit II: Introduction to Human Development**

**(10 Lectures)**

- Definition, History
- Scope and importance of Human Development in contemporary society
- Domains, Stages and Contexts of development,
- Principles of Growth and Development,

**Unit III: Prenatal Development and Birth Process****(10 Lectures)**

Reproductive health

Conception, Pregnancy, Prenatal Development – stages, factors affecting, diagnostics techniques, Birth Process

Stages of birth

Types of delivery (natural, c-section, breech, home vs. assisted delivery)

Capacities and Immediate care of newborn, adjustments made by newborn, types of feeding - natural and artificial, weaning, infant and mother mortality and morbidity, immunization schedule.

**Unit IV: Stages in the Human Life Cycle: An Overview****(14 Lectures)**

Characteristics, needs and developmental tasks of individuals in relation to physical, cognitive, socio-emotional domains of development in the following life stages:

Neonate (birth-1 month)

Infancy (1 month-2 years)

Early childhood (2-6 years)

Middle childhood (6-11 years)

Adolescence (12-18 years)

Emerging and Young adulthood (18-35 years), diversity of roles and relationships

Middle age / mature adulthood (35-60 years)

Late adulthood / Old age (60 years and above)- Parenting and Grand Parenting

**UNIT V: Professional Skills for Working with Human Beings****(14 Lectures)**

Research Methods:

Case study, interview, naturalistic observation, laboratory

observation,

experimental methods, cross sectional and longitudinal and sequential studies.

Ethics of research with human subjects – written consent, privacy,

no harm, no plagiarism, debriefing

Self-awareness and contextual sensitivity

Building professional attitudes

Understanding development in different contexts and circumstances

Developing contextual sensitivity and preparation for field experiences

Personal and Professional issues involved in a career as HDFS professional (Identify entry level jobs, career path and job tasks/requirements)

**Recommended Readings:**

1. Berk, L.E. (2005). *Child development* (5th ed.). New Delhi: Prentice Hall.
2. Bhangaokar, R., & Kapadia, S. (in press). Human Development Research in India: A historical overview. In G. Misra (Ed.), *Hundred years of Psychology in India*. New Delhi: Springer.
3. Feldman, R., & Babu, N. (2009). *Discovering the life span*. New Delhi: Pearson
4. Kakar, S. (1998). *The inner world. Psychoanalytic study of childhood and society in India*.
5. Delhi: Oxford University Press.
6. Kapadia, S. (2011). Psychology and human development in India. Country paper. *International Society for the Study of Behavioural Development Bulletin Number 2, Serial No. 60, pp.37-42*.
7. Keenan, T., Evans, S., & Crowley, K. (2016). *An introduction to child development*. Sage.
8. Lightfoot, C., Cole, M., & Cole, S. (2012). *The development of children*
9. (7<sup>th</sup>ed.). New York: Worth Publishers.
10. Santrock, J. (2017). *A topical approach to life span development* (9th ed.). New NY.: McGraw-Hill Higher Education.
11. Singh, A. (2015). *Foundations of Human Development: A life span approach*. ND: Orient Black Swan.
12. Walsh, B.A., Deflorio, L., Burnham, M.M., & Weiser, D.A. (2017). *Introduction to Human Development and Family Studies*. NY: Routledge

**II. MAJOR COURSE- MJ 3:  
PRACTICALS-I:**

**Marks: Pr (ESE: 3Hrs) =100**

**Pass Marks: Pr (ESE) = 40**

**(Credits: Practicals-04) 120 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:**

**Part A**

1. Market survey of locally available food items like cereals, pulses, fruits and vegetables, milk and milk products, fats and oils, nuts and oilseeds, sugar and jaggery, meat, fish, and poultry and miscellaneous food items like biscuits, jams, jellies, ketchup etc. and their cost
2. Classify foods on the basis of nutrients: -Protein, Iron, Calcium, Vitamin A, Vitamin C
3. Controlling techniques: Weights and measures - standard and household measures for raw and cooked foods
4. Weights and Measures, Determination of Edible Portion of Foods, preparing market order & table setting
5. Food Preparation, understanding the principals involved, nutritional quality and portion size of 5-7 commonly consumed recipes in each food group
  - a. Cereals: rice, pulao, Roti, chapathi, paratha, poori, pastas etc
  - b. Pulses: Whole, dehusked- Dal, sambar, kootu, Chole, Rajmah, etc
  - c. Vegetables: Dry preparations, Curries
  - d. Milk and milk products: Kheer, Custard,
  - e. Meat, fish and poultry preparations
  - f. Egg preparations- Boiled, poached, fried, scrambled, omelettes, egg pudding

**Part B**

1. Preparation of an album on developmental milestones of children.
2. Visit to maternity ward and ante-natal clinics.
3. Visit to an Anganwadi
4. Plotting growth monitoring chart and interpretation.
5. Observation of motor activities of a toddler.
6. Visit to an old age home
7. Carry out case studies to know more about the different life stages, e.g., school going children, adolescents, middle adults.
8. Observations of infant child rearing practices in families from different social classes.
9. Interviews of adolescent girls and boys to understand their life style and behaviour based on gender and socio-economic status

**Recommended Readings**

1. Maney S (2008). Foods, Facts and Principles, 3<sup>rd</sup> Edition Published by Wiley Eastern, New Delhi.
2. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi.
3. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4<sup>th</sup> Edition, Orient Black Swan Ltd, Mumbai.
4. Srilakshmi, B. (2017) Nutrition Science, New Age International (P) Ltd., New Delhi,
5. Keenan, T., Evans, S., & Crowley, K. (2016). *An introduction to child development*. Sage.
6. Lightfoot, C., Cole, M., & Cole, S. (2012). *The development of children* (7<sup>th</sup>ed.). New York: Worth Publishers.
7. Santrock, J. (2017). *A topical approach to life span development* (9th ed.). New NY.: McGraw-Hill Higher Education.
8. Singh, A. (2015). Foundations of Human Development: A life span approach. ND: Orient Black Swan.

### III. SKILL ENHANCEMENT COURSE- SEC 2: TECHNIQUES OF FOOD PRESERVATION

Marks: 75 (ESE: 3Hrs) = 75

Pass Marks: Th (ESE) = 30

(Credits: Theory-03) **45 Hours**

#### Course Objectives:

1. To learn the principles behind the methods of preservations
2. To understand the stages of cookery and chemical characteristics in the preservation of fruits and vegetables
3. Able to formulate preserved food products and acquire skills to preserve different types of food items based on their perishability.

#### Course Outcome

1. Know the principles of preservation behind the methods of preservation and acquire skills to formulate food-based products
2. Understand the stages of sugar cookery, quality of pectin and acidity in the development of preserved food products
3. Explore the principles of preservation in fruits and vegetable based products
4. Skills to prepare cereals and pulse based preserved products and develop new products with retention of quality.

#### Course Content

This course helps to understand food preservation; the factors that cause food to deteriorate, preservation by chemical treatments, changing the environmental conditions (temperature, moisture content, etc.) Food preservation is a course important for food handlers; whether for their own use, or on a commercial basis.

#### **Unit-I. Concept of Food Preservation**

**(09 Lectures)**

Importance of Food Preservation,

Types of Food spoilage by Micro-organisms and by Enzymes

Basic Principles of Food Preservation

Food preservatives- Use of Salt, Acid, Sugar, natural food preservatives and artificial preservatives

Starting a food preserving unit, Product Promotion strategies and marketing skills

#### **Unit-II. Preparation of dehydrated products**

**(09 Lectures)**

Methods of drying &amp; dehydration, different types of driers, freeze drying- lyophilisation, packing &amp; storage

Drying methods for the selected products -Rice, Sago, Wheat, Maida, Rice flakes, black gram dhal, green gram dhal, Horse gram dhal Roots and Tubers

General tips with drying foods

Preparation of salted, dehydrated, preserves (Traditional Indian varieties of chips, Papads, Khakharas etc and Masala Powders, onion, garlic, ginger powder etc.)

Hands on experience: Drying of vegetables- peas, potato, carrot, French beans, Reconstitution of dried vegetables, Drying &amp; preparation of powders- garlic, ginger, spices mix etc

#### **Unit-III. Preservation by Using Sugar**

**(09 Lectures)**

Role of Pectin in Preserved Foods Stages in Sugar Cookery

Sugar Concentrates – Principles of Gel Formation

Hands on Experience: Preparation of Jam, Jelly, Marmalades, Sauce and Squash Preserves, Candied, Glazed, Crystallized Fruits, Toffee

Evaluation of pH, Acidity and pectin quality Visit to Fruits and Vegetable processing industry

#### **Unit-IV. Preservation by Using Chemicals and Salts and Fermentation**

**(09 Lectures)**

Preparation and Preservation of Fruit Juices, RTS Pickling – Principles Involved and Types of Pickles

Chemical Preservatives – Definition, Role of Preservation Permitted Preservatives, FSSAI guidelines

Foods fermented by Yeasts Foods fermented by Bacteria

Common Fermented Foods, Wine and Cheese Making Hands on experience: Pickle making  
Visit to Commercial Pickle Manufacturing Food Industry and Wine industry

**Unit-V. Preservation by Advanced Preservation Technology****(09 Lectures)**

Meaning and needs of freezing foods Types of Freezing and managing freezers  
Guidelines for types of frozen Foods-Fruits, Vegetables, fish, meat and poultry Smoking foods  
Pasteurization and Sterilization Food Irradiation  
Vacuum Packing Canning and Bottling  
Food Packaging Materials for preserved food products Hands on experience: Blanching of fruits & Vegetables  
Visit to Food Industries

**Recommended Readings :**

1. Srivastava R.P. (2012), *Fruit and vegetable preservation – Principles and Practices*, International Book Distributing Co., (IBDC), New Delhi.
2. Maria Parloa (2009), *canned fruit, preserves and jellies: Household methods of preparation*, US Department of Agriculture, Washington.
3. Shafiqur, Rahman, M. (2007), *Handbook of Food Preservation*, 2<sup>nd</sup> edition, CRC press, New Delhi

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## SEMESTER III

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**I. MAJOR COURSE- MJ 4:**  
**INTRODUCTION TO TEXTILES**

**Marks:** 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

**Pass Marks:** Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

**Course Description**

An introduction to Textiles course covers the fundamental of the textiles along with the physical analysis of the fiber, yarn and fabric of different textiles. The course is designed to help the students understand the basics of textiles, the processes and technology used for manufacturing it. It explains about the properties and end uses of fiber, yarn, fabric and its correlation. This knowledge will be base for "Textile designing", "Garment technology", "Fashion designing", "Interior designing" courses. The course will be useful to those entering in textile related manufacturing, design and product development, selection, sourcing, quality control and research.

**Course Objectives**

1. Get acquainted with textiles technical terms, the properties, identification, production and uses of various textile fibers, fabrics.
2. Develop the skills for identification of fibers, yarn and fabrics
3. Understand different types of yarns, weaves, selection of textiles and finishes, of laundry and stain removal.
4. Learn the methods of dyeing, printing, and finishing of fabrics.

**Learning Outcome**

1. Develop an understanding of concepts and basics of textiles.
2. Develop critical understanding of the techniques of fibre, yarn and fabric manufacture.
3. Identify the fibers, yarn and fabrics for its appropriate use.
4. Recommend the dyes, printing and finishing of textiles for specific use

**Course Content**

**Unit-I. Introduction to Textiles** **(2 Lectures)**  
 Definition of textile fibers and terminology Classification of textile fibers, Basic unit and polymer bonds in textile fiber, Physical and Chemical properties of fibers

**Unit-II. Fibers** **(12 Lectures)**  
 Natural fibers (Morphology and polymer system, production, properties and end uses)  
 Cellulosic (Cotton, Jute), Protein (Silk, Wool)  
 Man-made fibers (Manufacturing process, chemical spinning, properties and end uses)  
 Viscose Rayon, Acetate Rayon, Nylon, Polyester, Acrylic, Elastomeric

**Unit-III. Yarn and Fabric** **(12 Lectures)**  
 Yarns  
 Classification of yarns: simple, ply and cord, Types of Yarn: Textured and novelty, Twist in yarn: "s" and "z", number of twist, Properties of yarn: strength, extension, fineness, length, diameter, composition.

Woven fabrics  
 Looms and its part, Classification Basic weaves Plain, Twill, Satin, Novelty weaves – Pile, Leno-Gauze, Honeycomb, End uses of fabrics with different weaves

Knitted fabrics  
 Types and terminology used, Hand knitting, Machine knitting

Nonwoven fabrics

**Unit-IV. Coloration and Finishing of Textiles** **(10 Lectures)**  
 Dyes  
 Terms related to dyes, Classification of dyes, Components of dyeing and its relation to dye material (auxiliaries, temperature and dye bath), Direct, Acid, Basic and Reactive dyes

**Printing**

Styles of printing, Modern methods of printing, Pre-preparation for printing (printing paste, printing table)

**Finishing**

Basic finishes - Singeing, Scouring, Bleaching, Sizing, Weighting, Degumming, Mercerizing, Sanforizing and Calendering, Special finishes

**Unit-V. Laundry, Storage and Care of Textiles****(8 Lectures)**

Introduction, Types, Uses, Water, Soaps, Detergents, Methods and care during laundering of different textiles

**Unit VI- Traditional Textiles of India****(16 Lectures)**

Textile art of India, History and Classification of Traditional Indian Textiles- Painted, Printed, Resist Dyed, woven and embroidered.

Woven textiles of Northern India- (Origin, Material, Techniques)

Rajasthan- Kota Doria, Gujrat- Sujani, Tangaliya, Madhya Pradesh- Chanderi, Maheshwari

Uttar Pradesh- Brocade, West Bengal- Dacca Muslin, Baluchari, Tangail, Shawl from Kashmir, Assam and Nagaland

Woven textiles of southern India- (Origin, Material, Techniques)

Maharashtra- Paithani, Himroo, Andhra Pradesh and Telangana- Dharmavaram, Vrnkatagiri, Gadwal, Narayanpet, Karnataka- Iрkal, Khann, Tamilnadu- Kanjivaram

**Recommended Reading:**

1. Booth, J.E. (1996). *Principles of Textile Testing*. New Delhi: CBS Publishers & Distributors Pvt. Ltd.
2. Corbman, P.B. (1983). *Textiles: Fibre to Fabric*. McGraw-Hill Publishers.
3. Collier, B.J., & Epps, H.H. (1998). *Textile testing and analysis*. Prentice Hall Publishers.
4. Dantyagi, S. (1996). *Fundamentals of Textiles and their Care*. India: Orient Black swan Private Limited.
5. D'Souza, N. (2014). *Fabric Care*. New Delhi: New Age International Publishers.
6. Greaves, P.H., Saville, B. P. (1995). *Microscopy of textile fibres*. bios Scientific Publishers
7. Gohl, E., Vile sky, L. (2003), Textile Science: an explanation of fiber properties (2 edition), New Delhi.
8. Hollen, R. N., Saddler, J., & Langford, A. (1979). *Textiles*. Macmillan Publishers.
9. Joseph, M. (1992), *Introductory Textile Science*. Sixth edition, California: Harcourt College Publishers
10. Kadolph, S.J. 2009. *Textiles*. Tenth edition. New Delhi: Dorling Kindersley (India)
11. Madhulika, P. (2013). *Weaving*. New Delhi: Random Publishing.
12. Mahapatra, N.N. (2015). *Textile Technology*. New Delhi: A.P.H. Publishing Corporation.
13. Needles, L.H. (1986). *Textile Fibers, Dyes, Finishes, and Processes*. USA, New Jersey: Noyes publications.
14. Rastogi, D., & Chopra, S. (2017). *Textile Science*. India: Orient Blackswan Private Limited.
15. Robert, R. & Mather, R. H. (2015). *The Chemistry of Textile Fibers*. Cambridge: RSC Publishers.
16. Sekhri, S. (2011). *Textbook of Fabric Science: Fundamentals to Finishing*. India: PHI Learning Pvt. Ltd.
17. Smith, J.L. (2015). *Textile Processing: Printing Dyeing Finishing*. Chandigarh: Abhishek Publication.
18. Tyagi, A. (2016). *Handbook of Fashion and Textile Design*. New Delhi: Sonali publication.
19. Wynne,A.,(1997).Textiles, The Motivate Series Mcmillain Education Ltd. ,London.

**II. MAJOR COURSE- MJ 5:  
PRACTICALS-II:**

**Marks: Pr (ESE: 3Hrs) =100**

**Pass Marks: Pr (ESE) = 40**

**(Credits: Practicals-04) 120 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:**

1. Fiber identification: Identification of natural and manmade fibers by following three methods i.e., microscopic test, burning test and solubility test.
2. Study of Yarn: Identification of various types yarn, Detail study of the ply of yarn, count of yarn using beasley yarn count balance, twist by twist tester, crimp by crimp tester and strength of the yarn by single yarn or lea strength tester
3. Characteristics of Fabric (following standards): Fabric count using pick glass, crimp using crimp tester, shrinkage, thickness, tensile strength (breaking strength and elongation) using tensile strength tester, tearing strength using tearing strength tester, bursting strength using bursting strength tester, weight (GSM) of the fabric.
4. Dyeing: Dyeing of yarn/fabric with different classes of dyes
  - a. Dyeing of cotton yarn and fabric with direct dyes
  - b. Dyeing of silk, wool and nylon yarn and fabrics with basic and acid dyes.
  - c. Dyeing of polyester yarn and fabric with disperse dyes.
5. Printing of fabrics using:
  - a. Direct style - block, stencil and screen
  - b. Resist style - Tie & Dye, Batik
6. Care of Textiles
  - a. Stain removal
  - b. Mending of textiles
  - c. Starching using different types of starches
  - d. Washing of Different garments made from different fibres.

**Reference Books**

1. Booth, J.E. (1996). *Principles of Textile Testing*. New Delhi: CBS Publishers & Distributors Pvt. Ltd.
2. Collier, B.J., & Epps, H.H. (1998). *Textile testing and analysis*. Prentice Hall Publishers.
3. Dantyagi, S. (1996). *Fundamentals of Textiles and their Care*. India: Orient Black swan Private Limited.
4. Greaves, P.H., Saville, B. P. (1995). *Microscopy of textile fibres*. Bios Scientific Publishers
5. Hollen, R. N., Saddler, J., & Langford, A. (1979). *Textiles*. Macmillan Publishers.
6. Madhulika, P. (2013). *Weaving*. New Delhi: Random Publishing.
7. Rastogi, D., & Chopra, S. (2017). *Textile Science*. India: Orient Blackswan Private Limited.
8. Robert, R. & Mather, R. H. (2015). *The Chemistry of Textile Fibers*. Cambridge: RSC Publishers Pvt. Ltd.
9. Smith, J.L. (2015). *Textile Processing: Printing Dyeing Finishing*. Chandigarh: Abhishek Publication.

**III. SKILL ENHANCEMENT COURSE- SEC 3:  
ELEMENTARY COMPUTER APPLICATION SOFTWARES**

Marks: 75 (ESE: 3Hrs) = 75	Pass Marks: Th (ESE) = 30
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**A Common Syllabus for FYUGP**

(Credits: Theory-03) **45 Hours**

**Instruction to Question Setter for  
End Semester Examination (ESE):**

There will be **objective type test** consisting of **Seventy-five questions of 1 mark each**. Students are required to mark their answer on **OMR Sheet** provided by the University.

**Course Objectives:**

The objective of the course is to generate qualified manpower in the area of Information Technology (IT) and Graphic designing which will enable such person to work seamlessly at any Offices, whether Govt. or Private or for future entrepreneurs in the field of IT.

**A. INTRODUCTION TO COMPUTER SYSTEM**

**1. Basic Concept of Computer:** What is Computer, Applications of Computer, Types of computer, Components of Computer System, Central Processing Unit (CPU) **(3 Lecture)**

**2. Concepts of Hardware:** Input Devices, Output Devices, Computer Memory, Types of Memory, processing Concept of Computer **(4 Lecture)**

**3. Operating system:** What is an Operating System, Operating System Examples, Functions of Operating System(Basic), Introduction to Windows 11, Working on Windows 11 environment, Installation of Application Software, My Computer, Control Panel, searching techniques in windows environment, Basic of setting **(6 Hours)**

**4. Concept of Software:** What is Software, Types of Software, Computer Software- Relationship between Hardware and Software, System Software, Application Software, some high level languages **(4 Hours)**

**5. Internet & its uses:** Basic of Computer networks; LAN, WAN, MAN, Concept of Internet, Applications of Internet; connecting to internet, what is ISP, World Wide Web, Web Browsing software's, Search Engines, URL, Domain name, IP Address, using e-governance website, Basics of electronic mail, getting an email account, Sending and receiving emails. **(6 Hours)**

**B. MICROSOFT OFFICE 2016 AND LATEST VERSIONS**

**6. Microsoft Word:** Word processing concepts, Creation of Documents, Formatting of Documents, Formatting of Text, Different tabs of word 2016 environment, Formatting Page, Navigation of Page, Table handling, Header and footer, Page Numbering, Page Setup, Find and Replace, Printing the documents **(7 Hours)**

**7. Microsoft Excel (Spreadsheet):** Spreadsheet Concepts, Creating, Saving and Editing a Workbook, Inserting, Deleting Work Sheets, Formatting worksheet, Excel Formula, Concept of charts and Applications, Pivot table, goal seek, Data filter, data sorting and scenario manager, printing the spreadsheet **(6 Hours)**

**8. Microsoft Power Point (Presentation Package):** Concept and Uses of presentation package, Creating, Opening and Saving Presentations, working in different views in Power point, Animation, slide show, Master Slides, Creating photo album, Rehearse timing and record narration **(5 Hours)**

**9. Digital Education:** What is digital education, Advantages of digital Education, Concept of e-learning, Technologies used in e learning **(4 Hours)**

**Reference Books**

1. Nishit Mathur, Fundamentals of Computer, APH publishing corporation (2010)
2. Neeraj Singh, Computer Fundamentals (Basic Computer), T Balaji, (2021)
3. Joan Preppernau, Microsoft Power Point 2016 step by step, Microsoft press (2015)
4. Douglas E Corner, The Internet Book 4<sup>th</sup> Edition, prentice -Hall (2009)
5. Steven Welkler, Office 2016 for beginners, Create Space Independent Publishing Platform (2016)
6. Wallace Wang, Microsoft Office 2019, Wiley (January 2018)
7. Noble Powell, Windows 11 User Guide For Beginners and Seniors, ASIN, (October 2021)

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## SEMESTER IV

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**I. MAJOR COURSE- MJ 6:  
EARLY CHILDHOOD CARE AND EDUCATION**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

**Course Description**

This course explores the range of issues related to Early Childhood Care and Education (ECCE). The focus of the course is on understanding the importance of early years and early interventions. The course further aims to familiarize students with indigenous (Indian) models of ECCE, pedagogical approaches and programmatic trends as they evolved in the Indian context.

**Course Objectives**

1. Know the importance of early childhood years and significance of intervention programs for early childhood development.
2. Develop insight into the historical developments – global and Indian including the current programs and policies in ECCE. Develop awareness of ECCE programs in different contexts in India.
3. Familiarize with indigenous (Indian) models of Early Childhood Education and explore the current early childhood research, theoretical trends and issues. To learn about different curriculum models and pedagogical approaches in early childhood education.
4. Impart knowledge on programme planning for young children.

**Learning Outcome**

1. Explain the importance of early childhood years and significance of intervention programs for early childhood development.
2. Describe the historical developments – global and Indian including the current programs and policies in ECCE.
3. Identify various indigenous (Indian) models of Early Childhood Education and apply it to understand the current early childhood research, theoretical trends and issues.
4. Analyze curriculum models and pedagogical approaches in early childhood education.
5. Create developmentally appropriate programs for young children.

**Course Content**

**Unit-I Introduction to Early Childhood Care and Education**

(10 Lectures)

Concept, meaning, scope and significance of ECCE

Developmental perspective, Neuroscience perspective, Human rights perspective

Expansion from ECE to ECCE to ECD. Aims and objectives of ECCE— General and specific

Types of ECCE service delivery – Formal and informal; Government funded, Philosophy oriented, Laboratory nursery school, Franchise oriented

**Unit-II ECCE in India**

(14 Lectures)

History of Early Childhood Care and Education in India.

Overview of ECCE in pre and post-independence period. Preschool education in the pre and post-independence era (very brief). How the international trends have influenced the national trends.

Contributions of educational philosophers: global and Indian perspective- views of educationists and philosophers: Comenius, Rousseau, Pestalozzi, Froebel, Robert Owen, McMillan Sisters, John Dewey and Montessori, Sri Aurobindo, Tagore, Gijubhai Badheka, Tarabai Modak, Mahatma Gandhi

Present status of young children in India.

Policy perspectives in ECCE

Recent Policies in ECCE-Various Education commissions of India:

National Policy on Education (1986) Programmes / schemes and innovations in ECCE –ICDS, Balwadis, mobile crèches.

National Curriculum Framework 2005

National Policy on Early Childhood Care and Education 2013

## Curriculum Framework for Early Childhood Care and Education 2012/2013 New Education Policy, 2020

**Unit-III Early Childhood Curriculum****(12 Lectures)**

Definition and concept of curriculum

Curriculum approaches – subject centered, learner centered, community centered

Developmentally Appropriate Practice (DAP) – definition and core considerations, myths and consequences of developmentally inappropriate ECE practices

Components and essential features of developmentally appropriate ECCE curriculum Planning a developmentally appropriate curriculum- approaches, key principles and types of plans

**Unit-IV Play and its Importance****(12 Lectures)**

Play and its characteristics

Theories of play- surplus energy theory, recreational theory, recapitulation theory Stages and types of play, Role of play in overall development of children. Teacher's role in creating environment and promoting play. Use of play way approach in the curriculum for young children.

**Unit-V Innovative ECCE Models****(12 Lectures)**

Nutan Bal Shikshan Sangh, India

Daxinamurti Bal Mandir, India

Gram Bal Shikshan Kendra, India

Lok Jumbish Program, India

Mirambika, India

Rishi Valley, India

High/Scope Model, USA

Reggio Emilia Approach, Italy

Te Whāriki Model, New Zealand

The ECEC Model, Sweden

Seto Gurans National Child Development Services, Nepal

**Recommended Readings**

1. Agarwal, J. C. (2007). *Early childhood care and education: principles and practices*. New Delhi: Shipra
2. Agarwal, S.P. and Usmani, M. (2000). *Children's education in India: from vedic times to twenty first century* New Delhi: Shipra.
3. Canning, N. (2010) *Play and practice in the early years: Foundation stage*. New Delhi: Sage.
4. Durlak, J.A. (1995). School based prevention programmes for children and adolescents. N.Y.: Sage.
5. Fleer, M. (2010). *Early learning and development: Cultural-historical concepts in play*. Cambridge: Cambridge University Press.
6. Kaul, V. (2009). *Early childhood education programme*. National Council of Educational Research and Training, New Delhi.
7. OECD. (2004). Curricula and pedagogies in early childhood education and care. Retrieved from <http://www.oecd.org/education/school/31672150.pdf>
8. Purkait, B.R. (2005). *Milestones in modern Indian education*. Kolkata: New Central Book Agency.
9. Swaminathan, M.(ed.) (1998). *The first five years: A critical perspectives on early childhood care and education in India*. New Delhi: Sage.
10. Sarangapani, P.M. (2009). Quality, feasibility and desirability of low cost private schooling: what is the evidence? *Economic & Political Weekly*, 44(43), 67–69.
11. Sarangapani, P.M. (2010). Comparative education in India: Why it is missing and why we need it. *Journal of Education Planning and Administration* 24(4): 363-378.
12. Saraswathi, T.H., Menon, S. & Madan, A. (eds.) (2018) *Childhoods in India traditions, trends and transformations*. New Delhi. Routledge.
13. Sharma, K.K., & Miglani, P. (2016). *Gender, school and society*. Patiala: Twenty First Century Publications.
14. Early Childhood Care and Education (n.d.) Retrieved from [http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp\\_content/home\\_science/10.\\_early\\_childhood\\_care,\\_education\\_and\\_development/14.\\_aurobindo,\\_gijubhai,\\_badheka,\\_tarabai\\_modak/et/6716\\_et\\_et.pdf](http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/home_science/10._early_childhood_care,_education_and_development/14._aurobindo,_gijubhai,_badheka,_tarabai_modak/et/6716_et_et.pdf)
15. Singh, A. (1995). *Playing to learn: A training manual for early childhood education*. Chennai: M. S. Swaminathan Research Foundation.
16. Venkataraman, B. (2009). Education for sustainable development. *Environment: Science and Policy for Sustainable Development*, 51(2), 8-10.

**II. MAJOR COURSE- MJ 7:**  
**FUNDAMENTALS OF CLOTHING CONSTRUCTION**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

**Course Description**

It is designed to develop skills in students related to clothing manufacturing techniques using appropriate tools and preparation of fabric for clothing construction. It deals with the components of garments, material selection and techniques of construction. The knowledge of fundamentals of clothing construction will enable the students to make sound decisions related to material resources through the application of clothing construction and application skills. This will prepare students for advanced studies and professional employment in the areas of clothing and textiles.

**Course Objectives**

1. Develop an understanding about the basics of clothing construction
2. Learn about the principals involved in clothing construction.
3. Know about various sewing equipment that are essential in a sewing room.
4. Learns to construct garment.
5. Develop skill in coordinating fabrics, patterns and supportive materials

**Learning Outcome**

A successful completion of this course will enable students to

1. Understand basic principles of clothing construction.
2. Comprehend the importance and function of clothes, Identify the common fabrics, utilize design components in garment construction, understands various garment construction process
3. Gain an insight of various sewing machines and other sewing equipment's available in the market, their functioning & common problems faced while usage
4. Co-ordinates fabrics, patterns and supportive materials and construct the garment

**Course Content**

**Unit I Introduction to Clothing**

**(10 Lectures)**

History of Clothing. Origin of Clothing  
 Use of clothing among primitive people  
 Functions and theories of clothing  
 Clothing in relation to culture  
 Psychological aspects of clothing  
 Self-respect, self-enhancement, self-expression, gender desirability and individuality  
 Socio-psychological aspects of clothing among children  
 Significance of uniforms and national costumes.  
 Clothes for conformity, mobility and aesthetic appearance.  
 Terminology: Clothing, fabric, fashion, fad, silhouette, weaving, knitting, felting, plackets, brands, clothing symbolism, tradition,

**Unit II Sewing Machines**

**(10 Lectures)**

Types of sewing machines -Mechanical Sewing Machine. Electronic Sewing Machine. Computerized or Automated Sewing Machine. Embroidery Machine.  
 Parts of sewing machine, Types and function Maintenance, Common problems and its remedies.  
 Tools and equipment used for clothing construction Measuring tool, Drafting Tool, Marking Tool, Cutting Tool, Stitching Tool, Pressing Tool,  
 Needles, threads and their relation to fabric, Types of needles for hand and machine sewing  
 Types of threads hand and machine sewing  
 Selection of right thread, needle for the fabric to be sewn.

**Unit-III. Introduction to Clothing Construction**

**(10 Lectures)**

Anthropometric measurements Introduction and importance  
 Instruments used for anthropometric measurements Standardization and size charts.

Importance and use of size charts Size charts of child, woman and man Factors affecting selection of fabrics, Social factors, Economic factors, Physiological factors, Environmental factors.

**Unit-IV. Design Components**
**(10 Lectures)**

Elements and Principles of Design Introduction  
Basic elements of design, Basic principles of design

Relation between elements and principles of design to the Clothing and Fashion Color, line and texture in relation to: Age, Season, Occasion, Figure Type, and Complexion

**Unit-V. Components of Garments**
**(10 Lectures)**

Garment Silhouettes  
Introduction to basic Garments-Skirts, Blouses, Pants  
Introduction to Garment detailing for- Necklines, Fullness, Pockets, Seams, Sleeve, Yoke and Plackets.

**Unit VI- Traditional Costumes of India**
**(10 Lectures)**

Traditional costumes of Northern India Jammu and Kashmir, Punjab, Haryana Traditional costumes of Western India Rajasthan, Gujarat, Maharashtra  
Traditional costumes of Southern India Andhra Pradesh, Tamil Nadu, Kerala, Karnataka Traditional costumes of Eastern India Orissa, West-Bengal, Assam, Nagaland, Meghalaya, Manipur, Arunachal, Mizoram, Tripura  
Traditional costumes of Central India Uttar Pradesh, Madhya Pradesh and Bihar

**Recommended Readings:**

1. Armstrong, Pearson. (1995), Pattern making for Fashion Design, Fairchild Publication, New York 1995 (Indian Ed.)
2. Cream, Penelope.,(1996), The Complete Book of Sewing - A Practical Step by Step Guide to Sewing Techniques, DK Publishing Book, New York ,
3. Dorothy wood, the practical encyclopaedia of sewing. Anneess publishing Ltd, London.
4. Holman, Gillian. (1997), Pattern Cutting Made Easy, BSP.
5. Janace E. Bubonia. (2012), Apparel production terms and processes, Fairchild Books, New York.
6. Kallal, Mary Jo, (1985), Clothing Construction, Mc Millan Publishing Company, New York.
7. Norma Hollen, Jane Saddler, Anna L. Langford & Sara, J.,(1988) Textiles 6<sup>th</sup> ed., Macmillan Publication, New York
8. Readers, Digest, Complete Guide to Sewing, The Reader's Digest Associations (Canada) Ltd. Montreal, Pleasantville, New York.
9. Thomas, A, (1986), the Art of Sewing UBSPD Publishers Distributors Ltd. New Delhi.

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**III. MAJOR COURSE- MJ 8:  
PRACTICALS-III:**

**Marks: Pr (ESE: 3Hrs) =100**

**Pass Marks: Pr (ESE) = 40**

**(Credits: Practicals-04) 120 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:**

**Part A**

1. Observation of early childhood programs at government and non-governmental institutions.
2. List the activities for each domain to promote all round development in young children.
3. Plan and record activities and methods of playful interactions to foster development in children (birth – two years and two –six years)
4. Conduct workshops in any two of the following: Developing worksheets to teach readiness concepts Enhancing social and language skills, Music, movement and drama for children
5. Prepare a developmentally appropriate plan and its implementation. Methods and tools to assess progress of children and program. Prepare low-cost play materials/equipment's

**Part B**

1. Preparation of fabric for cutting
  - a. Preshrinking, b. Identification and straightening of Grain.
2. Taking measurements directly from body
3. Tools and Equipment used in Garment Construction: Squares and Scales, French curves – for armhole, necklines etc.
4. Preparing sample of:
  - a. Basic hand stitches- basting, back stitch, hemming visible/invisible, Lock stitch.
  - b. Seams- plain seams and decorative seams
5. Fullness
  - a. Darts-Single point, Fish dart
  - b. Tucks- Pin tucks, wide tucks, corded tucks, criss crossed tucks
  - c. Pleats- Knife, box, inverted box, accordion pleat
  - d. Gathers – Hand and machine
  - e. Shirring
  - f. Ruffles and frills
6. Neckline finishes- Binding and facing
7. Plackets: Faced and continuous bound
8. Pockets: Patch, in seam pocket
9. Snap button and fastener attachment
10. Introduction to drafting method and stitching of the following garments.
 

Petticoat/ Apron/Kalidar Kurta

  - a. Drafting on paper
  - b. Transferring pattern markings from paper
  - c. Fabric cutting
  - d. Stay stitching
  - e. Sewing on machine

Preparation of portfolio with

  - a. Pictures of traditional textiles with the descriptive analysis
  - b. Pictures of the traditional costumes with constructional details.

**Reference Books**

1. Agarwal, J. C. (2007). *Early childhood care and education: principles and practices*. New Delhi: Shipra
2. Canning, N. (2010) *Play and practice in the early years: Foundation stage*. New Delhi: Sage.
3. Durlak, J.A. (1995). School based prevention programmes for children and adolescents. N.Y.:Sage.
4. Fleer, M. (2010). *Early learning and development: Cultural-historical concepts in play*. Cambridge: Cambridge University Press.
5. Kaul, V. (2009). *Early childhood education programme*. National Council of Educational Research and Training, New Delhi.
6. Readers, Digest, Complete Guide to Sewing, The Reader's Digest Associations (Canada) Ltd. Montreal, Pleasantville, New York.
7. Thomas, A, (1986), the Art of Sewing UBSPD Publishers Distributors Ltd. New Delhi.

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## SEMESTER V

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### I. MAJOR COURSE- MJ 9: RESOURCE MANAGEMENT CONCEPT AND CONTEXT

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

#### **Course Description**

Resources and their management is the ultimate goal of all families. The Course introduces the conceptual and contextual meaning of resources and their management in micro level family settings in the changing world in a simple format with experiential learning to the learners. Presenting optimal initiatives and equipping students with appreciable management acumen to imbibe the contexts in their family system and the environment is the major scope.

#### **Course Objectives**

1. Learning to identify and manage the use of resources available for functional use
2. Comprehending the purpose of managing resources
3. Setting realistic goals and being practical and prudent in the use and management of limited resources by making intelligent decisions
4. Becoming money, time and energy conscious in daily living

#### **Learning Outcome**

1. Understanding on the concepts related to family resource management
2. Appreciation of the significance of management process in efficient use of resources
3. Imbibing nuances of human values and standards for successful management and decision making
4. Focus on management of human energy as a family resource

#### **Course Content**

##### **Unit I Introduction to Resource Management in Family Settings**

(12 Lectures)

Introduction to home management- meaning, definitions, conceptual framework, need and philosophy  
 Concept, definition, universality and scope of family resource management  
 Approaches to resource management – family resources Vs home management  
 Ethics in management of resources – essential qualities for success  
 Motivating factors in management – Values, Standards and Goals – meaning, types/ classification and influences. Theories of Motivation- Maslow's hierarchy of needs theory; human wants – nature and role in management

##### **Unit II Resources**

(12 Lectures)

Concept, classification and characteristics of family resources  
 Factors affecting utilization of family resources. Maximizing use of resources and resource conservation.  
 Natural resources: renewable and non – renewable resources, methods of harnessing renewable resources for residential use

##### **Unit III Functions of Management: An Overview**

(12 Lectures)

Decision Making- the crux of management, Types of decisions; factors of control, role of values, standards and goals in decision making process  
 Management process: Definitions and steps in management process: Planning, Controlling, Organizing and Evaluation  
 Significance of managing resources of the family  
 Relation of Family Resource Management to other areas of Home Science

##### **Unit IV Resource Management Process**

(12 Lectures)

Management process applicable to specific resources:  
 Money- sources of income, meaning of income and expenditure, steps in money management, Budgeting- budget items, methods of handling money

Time – concept of time schedule, time norms and peak loads

Energy – Types of effort (Manual, pedal, visual etc.), Concept of body posture, drudgery and fatigue, fatiguing activities, classification of activities (sedentary, moderate and heavy), use of labour-saving devices in management of time and energy, methods of alleviating fatigue Principles of Work simplification, Mundel's Classes of Change, time and motion studies, working heights at different levels.

#### **Unit V Ergonomics: Role in Management of Human Resources**

**(12 Lectures)**

Ergonomics – concept and principles, work, worker and work environment relationship, role of work, workplace and equipment's (appliances) as sources of drudgery

Occupational health hazards – sources, problems and solutions

Waste management: home level solid and liquid waste management practices Application of Management Processes in: Event Planning &Execution

#### **Recommended Readings:**

1. Bhargava, B. (2005). *Family Resource Management and Interior Decoration*, Jaipur: Apple Printer and V. R. Printers
2. Deacon, R. F., and Firebaugh, F.M. (1975). *Home Management: Contexts and Concepts*. Boston: Houghton Mifflin Company.
3. Fitzsimmons, C. (1950). *The Management of Family Resources*. California: W. H. Freeman Co.
4. Gandotra, V., and Jaiswal, N .(2008). *Management of Work in Home*, New Delhi: Dominant Publishers and Distributors. (ISBN No. 81-7888-526-3)
5. Grandjean, E., and Kroemer, K.H.E. (1999). *Fitting the Task to the Human - A Text Book of Occupational Ergonomics*, New York: Taylor and Francis
6. Gross, I.H., Crandall, E. W. and Knoll, M. M. (1980). *Management for Modern Families*. New Jersey: Prentice Hall Inc.
7. Gross, I.H., and Crandall, E. W. (1967). *Management for Modern Families*. Delhi: Sterling Publishers.
8. Koontz, H., and O' Donnel C. (2005), *Management – A Systems and Contingency Analysis of Managerial Functions*. New York: McGraw-Hill Book Company
9. Kreitner, R. (2009/2010). *Management Theory and Applications*. India: Cengage Learning India Pvt Ltd (ISBN 13: 9788131511244)
10. Nickell, P., Rice, A. S., and Tucker, S.P. (1976). *Management in Family Living*. New York: John Wiley & Sons Inc.
11. Nickell, P., and Dorsey, J. M. (2002). *Management in Family Living*. New Delhi: CBS Publishers (ISBN13: 9788123908519)
12. Rao V.S.P., and Narayana P.S. (2008). *Principles and Practices of Management*. New Delhi: Konark Publishers Pvt. Ltd. (ISBN 13: 9788122000283)
13. Seetharaman, P., Batra, S., & Mehra, P. (2005). *An Introduction to Family Resource Management*. New Delhi: CBS Publishers &Distributors (ISBN 13: 9788123911861)
14. Shukul, M., and Gandotra, V .(2006). *Home Management and Family Finance*. New Delhi: Dominant Publishers and Distributors. (ISBN No. 81-7888-403-8)
15. Singh, S. (2007). *Ergonomics Integration for Health and Productivity*. New Delhi/ Udaipur: Himanshu Publication
16. Swanson, B. (1983). *Introduction to Home Management*. New York: Macmillan Publishing Co. Inc.
17. Varghese, M. A., Ogale, N. and Srinivasan K. (1985). *Home Management*. New Delhi: New Age International (P) Limited, Publishers (ISBN 13: 9780852269046)

## II. MAJOR COURSE- MJ 10: COMMUNICATION AND EXTENSION

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

### Course Description

The Course introduces to the students the concept of Communication and Extension. It will orient the students with creation, transmission and application of knowledge designed to bring out planned changes in the behavior of people. Communication is an exciting and challenging field of human interaction.

### Course Objectives

1. Understand the concept of Communication and its role in exchange of information
2. Examine the models and barriers to communication
3. Learn about the concept of extension, extension approaches and models
4. Enhance the students in the selection and use of media in different socio-cultural environment

### Learning Outcome

1. Gain knowledge on the need and importance of communication and its significance in exchange of information
2. Analyse the models of Communication and role of media in societal development
3. Perceive the importance of extension education
4. Acquire knowledge on the extension models and approaches

### Course Content

#### Unit-I. Communication Concept

**(12 Lectures)**

Meaning, definition, nature, scope and importance of communication

Functions of communication – information function, command or instructive function, influence or persuasive function and integrative function.

Elements of Communication – three elements – source, message, receiver, four elements –encoding, decoding, sender and receiver, five elements – communicator, communicate, message, channel and feedback

Means of Communication – Oral, Written, Sign / signal, action, object Types of Communication – Formal and Informal Communication

Pattern - one way, two ways, circular

Communication media – Print and electronic media Advantages and Limitations of communication media

#### Unit-II. Communication Models

**(12 Lectures)**

Importance of communication in extension

Models of Communication-Aristotle Model, Shanon – Weaver Model, Berlo Model, Schramm Model

Concept, purposes and significance of model in communication

Barriers to Communication – semantic, psychological, organizational and personal

#### Unit-III. Effective Communication

**(12 Lectures)**

Characteristics – Clear, correct, complete and precise message, reliability, consideration of the recipient

Skills – Observance, clarity and Brevity, Listening and Understanding, self-efficacy and self confidence

Significance – Team work, Team building, problem solving and decision making skills, facilitate creativity and reduces misunderstanding

Concepts relating to communication – perception, fidelity, communication gap, Empathy, Homophily, heterophily

#### Unit-IV. Communication and Extension

**(12 Lectures)**

Concept, need, functions, principles and scope of extension Steps in extension teaching

Elements of extension communication system

Communication methods in extension – group method, mass method and individual method Advantages and limitations of communication and extension

**Unit-V. Extension Models and Approaches****(12 Lectures)**

Models – Innovation transfer model, Social education model, Indigenization model, Social action / consignation models, Empowerment participation model, Combination models

Approaches – General Extension, Commodity specialized, Training and visit, Agricultural, Extension participatory, project, farming systems development, cost sharing and Educational Institution approach

**Recommended Reading**

1. Dahama, O.P and Bhatnagar O.P. (1995). Education and Communication for Development. New Delhi: Oxford and IBH Co.
2. Gupta, D. (2007). Development Communication in Rural Sector. New Delhi: Mukhopadhyay Abhijeet Publication
3. Nisha, M. (2006). Understanding Extension Education. New Delhi: Kalpay Publications
4. Reddy, A.A. (2001). Extension Education. Bapatla: Sri Lakshmi Press
5. Rogers Everett, M. (2003). Diffusion of Innovations, 5<sup>th</sup> Ed. New York: The Free Press
6. Singh, U.K and Nayak, A.K. (2007). Extension Education. New Delhi: Common Wealth Publishers
7. Wilson, M.C., and Gallup, G. (1955). Extension Teaching Methods. Washington: US Department of Agriculture

Extension

**III. MAJOR COURSE- MJ 11:**  
**PRACTICALS-IV:**

Marks: Pr (ESE: 3Hrs) =100	Pass Marks: Pr (ESE) = 40
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(Credits: Practicals-04) **120 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

Experiment	= 60 marks
Practical record notebook	= 15 marks
Viva-voce	= 25 marks

**Practicals:**

**Part A**

1. Comprehend and give a write up on values held and goals set – different age groups
2. Identify resources in and around a family, their use and benefits accrued: Prepare an Inventory
3. Harnessing natural resources: model making – solar devices, windmills, rainwater harvesting, water conservation measures
4. Conservation of community and natural resources for optimization: Portfolio
5. Identification and development of self as a resource.
  - SWOC analysis-who am I and Microlab
  - Building Decision Making abilities through management games
  - Role play
  - Goal setting exercise for one academic year
6. Elucidate changing value systems in Indian conditions – pros and cons
7. Preparation of time plans for self and family
8. Drafting family budget for different income groups
9. Time and Motion Studies for simplifying work- Flow process chart etc.
10. Ergonomic analysis of different work, work places and appliances as sources of drudgery
11. Trial experiments on time and energy management using different household appliances
12. Determining working heights for different individuals at different levels
13. Planning an Event - management and evaluation, with reference to
  - Managerial process
  - Resource optimization - time, money, products, space, human capital and natural resources

**Part B**

1. Developing skill in planning and conducting small group communication
2. Preparation of Communication Models
3. Apply communication methods in the implementation of programme
4. Interaction with villagers and understand the felt and unfelt need
5. Carryout a case study using any one Extension approach

**Recommended Readings**

1. Fitzsimmons, C. (1950). *The Management of Family Resources*. California: W. H. Freeman Co.
2. Gandotra, V., and Jaiswal, N. (2008). *Management of Work in Home*, New Delhi: Dominant Publishers and Distributors. (ISBN No. 81-7888-526-3)
3. Grandjean, E., and Kroemer, K.H.E. (1999). *Fitting the Task to the Human - A Text Book of Occupational Ergonomics*, New York: Taylor and Francis
4. Gross.I.H., Crandall, E. W. and Knoll, M. M. (1980). *Management for Modern Families*. New Jersey: Prentice Hall Inc.
5. Nickell, P., and Dorsey, J. M. (2002). *Management in Family Living*. New Delhi: CBS Publishers (ISBN13: 9788123908519)
6. Shukul, M., and Gandotra, V. (2006). *Home Management and Family Finance*. New Delhi: Dominant Publishers and Distributors. (ISBN No. 81-7888-403-8)

7. Singh, S. (2007). *Ergonomics Integration for Health and Productivity*. New Delhi/ Udaipur: Himanshu Publication
8. Varghese, M. A., Ogale. N. and Srinivasan K. (1985). *Home Management*. New Delhi: New Age International (P) Limited, Publishers (ISBN 13: 9780852269046)
9. Dahama, O.P and Bhatnagar O.P. (1995). *Education and Communication for Development*. New Delhi: Oxford and IBH Co.
10. Gupta, D. (2007). *Development Communication in Rural Sector*. New Delhi: Mukhopadhyay Abhijeet Publication
11. Nisha, M. (2006). *Understanding Extension Education*. New Delhi: Kalpay Publications
12. Reddy, A.A. (2001). *Extension Education*. Bapatla: Sri Lakshmi Press

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## SEMESTER VI

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### I. MAJOR COURSE- MJ 12: FAMILY FINANCE AND CONSUMER BEHAVIOUR

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

#### **Course Description**

Consumer is the king in the consumer market. Consumers' behaviour and attitude reflects their living styles which *per se* will be the delineation of their family finance management practices. The Course exposes students to real life situations for realizing their role as consumers as well as financial managers in family settings

#### **Learning Objectives**

1. Provide situations to understand significance of family income and expenditure and saving for future
2. Register and react as responsible consumers
3. Analyze relevance of consumer movement in India
4. Gain knowledge on consumer protection Laws and Acts and reflect upon personal rights and responsibilities

#### **Learning Outcomes**

1. Becoming familiarized to the changing trends in consumerism
2. Enriched Knowledge on market systems
3. Emerge as informed consumers
4. Review the benefits of planned financial management

#### **Course Content**

##### **Unit I Consumer and the Market**

(12 Lectures)

Consumer: definition and meaning; consumer Vs customer

Role of consumers in the economy, National Income, Per Capita Income, Household wise distribution of income

Classification of Consumer goods

Consumer and the market: definition and classification of markets, types Consumer demand and supply

Channels of distribution

Consumer behaviour: changing nature of consumer behaviour to suit modern market and business trends – concepts of C2C, B2B, B2C, C2B etc; Factors influencing Consumer behavior

Meaning, characteristics of buyer behaviour, buying motives – types; consumer buying process;

Change in consumer purchase practices in the digital market – concept of e-commerce, m-commerce, online shopping etc; Extended use of plastic currency and cards

##### **Unit II Household Income and Expenditure**

(12 Lectures)

Household Income – Types, Sources, Supplementation of family income, use of family income, per capita income

Household expenditure: Items of expenditure, mental and written plans, Factors influencing expenditure pattern, expecting exigencies and tackling them

Account maintenance: methods of account keeping like balance sheets, account books, ledgers, income-expenditure records

Process of budgeting- steps in drafting a family budget, balancing income and expenditure, ways to meet emergent expenses

Personal finance management: Tax implications: significance in budgeting, measures adopted and instruments used to ensure tax benefits, calculation of personal income tax for an individual's monthly income

Engel's Laws of consumption, drafting well balanced family budgets

##### **Unit III: Family Savings and Credit Practices**

(12 Lectures)

Consumer credit- Concept, meaning, need, sources, credit cards, credit services availed by the family members, types of loans availed by families

Mortgages: Definition and conceptual meaning, significance in meeting emergent needs of expenditure  
 Financial security arrangements: Family savings and investments- need, principles, channels of investment  
 Savings and savings institutions, merits and demerits of each Guidelines for wise savings practices

**Unit IV: Consumerism in India****(12 Lectures)**

Consumerism: genesis, reasons for consumer movement Historic Declaration of Consumer rights

Consumerism in India

Consumer problems – types, nature, causes and solutions

**Concern for the Consumer:** Consumer education: Meaning and definition; need and scope, objectives, aspects, methods, contents and resources, Problems

Consumer education and empowerment: meaning, need and achievements with specific relevance to India  
 Consumer aids: classification – Labels, Trademarks, Brand Names, Patents, Warranty, Guarantee, Quality Control and After Sales Service, Government and Voluntary Agencies, Role of advertisements influencing consumer behaviour

Product labeling and packaging – significance to fair practices

Unfair consumer practices: adulteration and faulty weights and measures

**Green Consumerism**-Meaning and importance with respect to consumerism, need, consideration in daily consumption and significance, ethos of adopting sustainable/eco- friendly lifestyle as green consumers

**Unit V: Consumer Protection****(12 Lectures)**

Consumer protection: concept, need and significance Consumer rights and responsibilities in India

Consumer organizations – origin, functioning, role and types Consumer cooperatives – role, history and growth in India

Consumer redress: role of consumer forums and consumer courts in safeguarding consumers Basic legislative framework for consumer protection in India- Consumer Protection Act 1986 (COPRA), Alternative redressal mechanisms, Mediation centres

Standardization and quality control measures: Role of ISI, FPO, AGMARK, ISO, Eco mark, Wool mark, Silk mark, Cotton mark, Handloom mark, BEE Star labeling and others

Consumer Protection Act 2019

**Recommended Readings:**

1. Gangawane, L. V., and KhilareV. C. (2007). *Sustainable Environmental Management: Dr Jayshree Deshpande Festchrift Volume*. Delhi: Daya (ISBN 13: 9788170354741)
2. Gupta, C.B., and Nair, R.N. (2004). *Marketing Management*. New Delhi: Sultan Chand and Sons
3. Kathiresan, S., and Radha, V. (2004). *Marketing*. Chennai: Prasanna Publishers
4. Khanna S.R., Hanspal S., Kapoor S., & Awasthi H.K. (2007). *Consumer Affairs*. New Delhi: Universities Press India Pvt. Ltd.
5. Nair R., and Nair S. R. (2003). *Marketing*. New Delhi: Sultan Chand and Sons
6. Nair, S (2002). *Consumer Behaviour*. New Delhi: Sultan Chand and Sons
7. Pattanchetti, C.C., and Reddy (2002). *Principles of Marketing*. Coimbatore: Rainbow Publishers
8. Sawhney, H.K., &Mital, M. (2007). *Family Finance & Consumer Studies*. New Delhi: Elite Publishing House Pvt. Ltd.
9. Seetharaman, P., and Sethi, M. (2001). *Consumerism: Strength and Tactics*. New Delhi: CBS Publishers.
10. Verma, B.P. (2003). *Civil Engineering Drawing, Drawing and House Planning*. New Delhi: Khanna Publishers
11. Wagner, S. (2003). *Understanding Green Consumer Behaviour* Routledge (ISBN 9780415316194)

**II. MAJOR COURSE- MJ 13:**  
**FAMILY MEAL MANAGEMENT**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

**Course Description**

Course investigates how nutrition requirements and challenges change throughout the human lifecycle and how alteration in nutritional requirements impact on human health. The course covers assessment of normal growth and body development during childhood and adolescence and factors affecting the nutritional status of adults and the elderly.

**Course Objectives**

1. Study the growth and development during various stages of life span
2. Understand the basics for recommending the dietary allowances
3. Study nutritional needs at different stages of life span
4. Gain experience in planning adequate diets for different age groups and for different income groups.

**Learning Outcome**

1. Design food plans and assess the adequacy of diets to meet the nutritional needs of humans at various stages of life cycle.
2. Assess nutrition issues and conditions and also recommend nutrition intervention and support to promote the health and wellbeing.
3. Have the knowledge, both to develop and critique nutritional interventions designed to improve human health and well-being at specific age associated time points.
4. On completion of the course students will be able to critically assess nutritional requirements and nutritional health status of an individual.

**Course Content**

**Unit-I. Introduction to RDA and Balanced Diet**

**(12 Lectures)**

Basic concept and purposes of Recommending the Dietary Allowances,  
 Factors Affecting Recommended Dietary Allowances

Requirements and Recommended Dietary Allowances for various age groups Uses of ICMR- RDA in planning balance diet. Exchange system and Dietary Diversity

**Unit-II. Nutrition in Pregnancy and Lactation**

**(12 Lectures)**

Physiological Changes occurring during Pregnancy

Importance of Food and Nutritional Care and Requirement during pregnancy General Dietary and nutritional Problems and Complications,

Physiology and Hormones involved in Lactation Food supplements and galactagogues.

Factors Affecting the Volume and Composition of Breast Milk,

Nutritional Requirements during lactation

**Unit-III. Nutrition in Infancy**

**(12 Lectures)**

Growth and Development of Infants,

Composition of Human Milk and Human Milk Substitute,

Bottle Feeding and related Problems,

Weaning and Supplementary Feeding Foods,

Feeding Problems and Complications.

Use of growth charts and standards and prevention of growth faltering

**Unit-IV. Nutrition in Childhood and Adolescence**

**(12 Lectures)**

Growth and Development of Pre School, School Going Children and Adolescence.

Food and Nutritional Requirements,

Factors to be considered while Planning Diet for Children and Adolescents,

Growth Spurt during Adolescence.

Food Habits, Dietary Guidelines, Food and Nutritional Requirements,

Nutritional and Behavioral Problems and Eating Disorders

**Unit-V. Nutrition for Adults and Elderly****(12 Lectures)**

Reference Man and Reference Woman,  
Food and Nutritional Requirements for Adults doing Different Activities  
Processes of Aging,  
Food and Nutritional Requirements of Elders,  
Nutrition Related Problems of Old Age,  
Dietary Guidelines and diet Modifications.

**Recommended Reading**

1. Mahtab, S, Bamji, Kamala Krishnasamy, Brahmam, G.N.V. (2012) *Text Book of Human Nutrition*, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
2. Srilakshmi, B. (2013), *Dietetics*, New Age International (P) Ltd., New Delhi.
3. SunetraRoday (2017). *Food Science and Nutrition*, Oxford University Press, New Delhi
4. Longvah, T, Ananthan, R, Bhaskarachary, K, Venkaiah, K. (2017). *Indian Food Composition Tables (IFCT)*, Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
5. Shakuntala Manay, Shadaksharawamy. M (2013) *Foods, Facts and Principles*, New Age International Pvt Ltd Publishers, 2nd Edition) Ltd., New Delhi.
6. Swaminathan, M. (2012), *Advanced Textbook on Food and Nutrition*, Vol. 1, Second Edition, Bangalore Printing and Publishing Co. Ltd., Bangalore.

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**III. MAJOR COURSE- MJ 14:**  
**COMMUNICATION MODEL IN EXTENSION**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

**Course Description**

The Course enables the students to understand the concept and process of communication. Apply knowledge of communication and be able to evaluate the theoretical approach used in the inter disciplinary field of communication and learn the concept of diffusion of innovations and adoption.

**Learning Objectives**

1. Understand the concept and process of communication for development
2. Acquire skill in information education and communication
3. Learn the concept of diffusion and acquires skill to transfer the Innovation
4. Strengthen the knowledge of traditional and modern media in development communication

**Learning Outcomes**

1. Explain the basic concept, nature and significance of Communication model
2. Learn the communication channel and skill
3. Analyse the media in development communication
4. Understand the adoption and diffusion process to help the extension agents to accelerate them

**Course Content**

**Unit-I. Communication Model**

**(12 Lectures)**

Concept of communication model and significance

Functions – teaching elements of communication process, conducting research, predicting the success of failures of communication process.

Importance of communication model – easy understanding of communication process, showing information flow, introducing the parts of communication process, easy presentation of communication process and understanding the communication process.

**Unit-II. Methods of Communication**

**(16 Lectures)**

Extension methods of communication – Individual method – Farm and home visit, farmer's call, personal letter, adaptive or minikit trial, farm clinic

Group method – result demonstration, method demonstration, group meeting, small group training, field day or farmer's day and study tour

Elements of extension communication system – communicator, message, channel treatment and presentation, audience, audience response

Characteristics of change agent – empathy, linkage, structure, synergy, energy, proximity, openers

Role and competencies of change agent – broad knowledge, operational and relational knowledge, sensitivity and maturity, authenticity

**Unit-III. Media in Development Communication**

**(12 Lectures)**

Traditional media – types (folk songs, drama, and puppetry) characteristics and role in development communication

Radio – Origin and history, news, features and commentaries, role in development communication

Television and cinema – history, features and role in development communication ICTs – scope and development communication

**Unit-IV. Diffusion of Innovations**

**(10 Lectures)**

Diffusion-concept, elements of diffusion, difference between communication and diffusion Innovation - form, functions and meaning of innovation, perceived attributes of innovation, preventive innovation

**Unit-V. Adoption**

**(10 Lectures)**

Definition, adoption process – diffusion network – the innovation decision process, the innovation decision period, rate of adoption, mandates for adoption, over adoption, adopter categories, measurement of adoption, role of extension agent in the adoption and diffusion of innovation.

**Recommended Reading**

1. Gupta, D. (2007). Development communication in Rural Sector. New Delhi:
2. Meenakshi Raman and Sangeetha Sharma. (2013). Technical Communication-Principles and Practice. New Delhi: Oxford University Press
3. Mukhopadhyay Abhijeet Publication
4. Nair, R. (1993). Perspectives in Development Communication. New Delhi:
5. Nisha, M. (2006). understanding Extension Education. New Delhi: Kalpay Publications
6. Parveen Pannu and Yuki Azaad Tomer. (2012). Communication Technology for Development. New Delhi: International Publishing House Pvt Ltd.
7. Ray, G.L. (2015). Extension Communication and Management. Ludhiana: Kalyani Publishers
8. Reddy, A.A. (2001). Extension Education. Bapatla: Sri Lakshmi Press
9. Rogers Everett, M. (2003). Diffusions of Innovations. 5th Edition. New York: Sage Publication
10. Singh, U.K. and Nayak, A.K. (2007). Extension Education. New Delhi: Common The Free Press, Wealth Publishers)

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**IV. MAJOR COURSE- MJ 15:**  
**PRACTICALS-V:**

Marks: Pr (ESE: 3Hrs) =100	Pass Marks: Pr (ESE) = 40
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(Credits: Practicals-04) **120 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:**

**Part A**

1. Evaluation and designing of advertisements in the print media including products, services and social ads.
2. Evaluation and designing of informative and attractive labels for different type of food products.
3. Case study of banks and post offices to understand their services and products
4. Learning to fill different bank forms for depositing money, start fixed deposit or recurring deposit
5. Food adulteration tests
6. assignments on:
  - a. Consumer credit – merits and demerits
  - b. Online shopping – advantages and disadvantages
  - c. Credit and debit card usage – pros and cons
7. Visit to consumer Forums and consumer courts to understand their operational procedures
8. Identify various marks of significance like Hall mark, wool mark, silk mark etc. and know the complex modes of identity clauses
9. Visits to various types of consumer markets to find out how they function
10. Do an elaborate Market study to identify labels and packaging and the information transfer expected in different consumer products
11. Learn to distinguish one mark from another from the logo and colour of logo like eco labels, green labels
12. Calculate taxable income and accruing tax for an individual whose occupation, monthly income, savings and like are specified
13. Compare provisions made in Consumer Protection Act 1986 with COPRA 2019

**Part B**

1. Planning, Preparing and Evaluating Menu during Pregnancy
2. Planning, Preparing and Evaluating Menu during Lactation
3. Planning, Preparing and Evaluating Menu for Infants (Supplementary Foods)
4. Planning, Preparing and Evaluating Menu for Preschoolers
5. Planning, Preparing and Evaluating Menu for School Going Children
6. Planning, Preparing and Evaluating Menu for Adolescents
7. Planning, Preparing and Evaluating Menu for Adults
8. Planning, Preparing and Evaluating Menu for Elderly

**Part C**

1. Preparation of charts, posters, flash cards, Pamphlet, Notice
2. Preparation of IEC material on various topics for different group
3. Selecting the target audience
4. Project preparation on specific area in development communication
5. Case studies in development communication

**Recommended Readings**

1. Gupta, D. (2007). Development communication in Rural Sector. New Delhi:
2. Meenakshi Raman and Sangeetha Sharma. (2013). Technical Communication-Principles and Practice. New Delhi: Oxford University Press
3. Nisha, M. (2006). understanding Extension Education. New Delhi: Kalpay Publications
4. Parveen Pannu and Yuki Azaad Tomer. (2012). Communication Technology for Development. New Delhi: International Publishing House Pvt Ltd.
5. Ray, G.L. (2015). Extension Communication and Management. Ludhiana: Kalyani Publishers
6. Reddy, A.A. (2001). Extension Education. Bapatla: Sri Lakshmi Press
7. Singh, U.K. and Nayak, A.K. (2007). Extension Education. New Delhi: Common The Free Press, Wealth Publishers

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## SEMESTER VII

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**I. MAJOR COURSE- MJ 16:**  
**PUBLIC HEALTH NUTRITION**

**Marks:** 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

**Pass Marks:** Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours**

**Course description**

The focus of this course is to examine the role of the dietitian/nutritionist in identifying health and nutrition problems and integrating nutritional services with medical and social services within the community. This course will also provide basic knowledge and skills relevant to the practice of community nutrition, the concept of community, the role of nutrition in health promotion and perspectives for resolving community nutrition problems, Needs for assessment issues and national and state community nutrition programs, determinants of health outcomes, measurement of nutrition and health status, food and nutrition policy, legislative issues and management of community programs.

**Learning objectives:**

1. To know the basics of public health nutrition
2. To understand the need of prioritizing nutrition issues
3. To assess the nutritional and Health Status of an individual and the community.
4. To learn nutritional programmes and policies to overcome malnutrition
5. To understand various national and International nutritional organizations for combating malnutrition
6. To apply ICT in the formulation of community nutrition education programme

**Learning outcomes:**

1. Finally, the concepts and knowledge required for the delivery of community nutrition services will be applied to program planning, intervention and program evaluation
2. Gaining knowledge on nutritional programmes and policies overcoming malnutrition
3. Understanding the national, international and voluntary nutritional organizations to combat malnutrition
4. Able to organize community nutrition education programme with the application of computers.
5. Apply immunological intervention programmes to overcome epidemic of communicable diseases.

**Course Content**

**Unit-I. Introduction to Public Health Nutrition and National Development**

**(12 Lectures)**

Meaning and Scope of Public Health Nutrition

Roles and responsibilities of public health nutritionists

Definitions of optimum health, malnutrition (under nutrition, overweight, obesity, micronutrient deficiency), nutritional status, nutrition intervention, food and nutrient supplements, , nutrition education, morbidity, mortality rates

Nutrition – A Global Developmental Priority Importance of nutrition throughout the life cycle, dual burden of malnutrition

Sustainable Development Goals (SDGs), 12 of the 17 Goals require good nutrition to be met Ecology Consequences and of Malnutrition,

Strategies to Overcome Malnutrition Relation of nutrition to national development Nutrition and food security

**Unit-II. Nutritional Assessment**

**(12 Lectures)**

Introduction, Definition of Nutritional Status, Instruments, Standard of Reference, Age Assessment, Measurement Techniques, Weight, Linear Measurement/Height, Circumferences, Soft Tissue Subcutaneous Fat, Objective and Classification of nutritional assessment Methods

Overview of nutritional status assessment methods:

**Direct Nutritional Assessment parameters** - (anthropometry, clinical signs and symptoms, dietary assessment and biochemical parameters); ecological parameters – environment, Food prices, and indirect parameters – SES, Mortality and Morbidity rates

**Anthropometric measurements**

Techniques commonly used in public health (weight for age, weight for height, height for age & BMI for age), Comparison of indices with references  
 The new WHO growth standards, its use and implications and classification to define mild, moderate & severe forms of malnutrition  
 New WHO growth standards for Adolescents, implications of introducing new standards in school health program)

**Biochemical Estimation**

Name of assessment of parameters, Reference value/Desirable Level of nutrients and their metabolites in body tissues  
 Lipids & Lipoproteins (TG, LDL and HDL cholesterol and their ratios)  
 Carbohydrates (blood and urinary glucose)  
 Protein (serum protein, albumin, NEAA/EAA ratio, hydroxyproline index, urea/creatinine ratio, etc.)  
 Iron (Hb, Hct, serum iron, transferrin, ferritin)  
 Vitamin A (serum retinol, carotene)  
 Vitamin D (serum alkaline phosphatase, calcium and phosphorous)  
 B-complex vitamins, including Folic acid & Vitamin B12 (urinary excretion)  
 Vitamin C (serum ascorbic acid, whole blood ascorbic acid)  
 Iodine (T3, T4, urinary excretion)  
 Sodium, potassium and chloride  
 Fluoride  
 TB Test, HIV Test CD4 counts

**Clinical Examination** of common nutritional deficiencies

Specific nutrient Deficiency signs & symptoms (Vitamin A, Iron, Iodine, Zinc U, B complex vitamins etc.)  
 Grouping of Signs

**Dietary Survey and Types of Nutritional Survey**

Dietary intakes methods and understanding their usage and limitations in different field situations: 24-hour diet recall methods; Food frequency method; Weighed food inventory; food diaries and food composition methods  
 Rapid assessment methods for dietary intake  
 Dietary Diversity Score for Household, Individual, women and children

**Indirect Nutritional Assessment parameters**

Vital Statistics, Age Specific Mortality Rate, Morbidity and Cause of Specific Mortality.

**Unit-III. Social & Behavior Change Communication**

(12 Lectures)

**Concepts, components and process of communication for nutrition health promotion**

Definitions of Formal – non-formal communication, Participatory communication

Components of BCC (Sender, Message, Channel, Receiver)

Various types of communication – interpersonal, mass media, visual, verbal/ non-verbal.

need of SBCC in India

Social ecological model and communication for development (C4D) approach

**Concepts and Theories of Social and Behavior Change Communication (12 Lectures)**

Definitions, Three characteristics, Ten overarching principles for developing SBCC program or campaign

Steps for developing a successful Social and Behavior change communication program

Evaluating and re-planning

Training workers in nutrition education programmes

Methods of education when to teach, whom to teach

Use of computers to impart nutrition education

Organization of Nutrition education programmes

**Unit –IV. National, International and Voluntary Organizations to Combat Malnutrition****Role of Nutrition in Achieving Global Targets****(12 Lectures)**

Optimal Infant and Young Child Feeding: Significance of the first 1000 days of life

Improving maternal, infant and young child nutrition – WHO Global Targets 2025

Nutrition Intervention programmes in India –

Integrated Child Development Services (ICDS): ICDS Mission Mode, ICDS mission in various states

Role of AWW; Supplementary Nutrition, Bal bhog, Sakhibhog, Shishubhog

Mid-Day Meal (MDM) program

Fortification program

**National Programs to Combat Micronutrient Malnutrition**

Iron: National Nutritional Anemia Control Program, Nutritional Program for Control of Anemia among Adolescent Girls, National Iron Plus Initiative (NIPI)

Vitamin A: Vitamin A Prophylaxis Program (VAPP)

Iodine: National Iodine Deficiency Disorders Control Program (NIDDCP), Universal Salt Iodization (USI), Double Fortified Salt (DFS)

Diarrhea Control Program: Role of Zinc, ORS and National Deworming Campaign

Fluorosis Control Program

**Organizations Working towards Meeting Global Nutrition Targets**

National organization – ICAR, ICMR, CSWB, SSWB, NNMB, NIN, CFTRI, DFRL, NIPCCD and NFI, Save the Children, Tata Trusts

International Organizations - World Bank, World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF), World Food Programme (WFP), Bill and Melinda Gates Foundation

Voluntary organizations – Global Alliance for Improved Nutrition(GAIN) Micronutrient Initiatives, CARE, CRS, AFPRO, IDA; World Alliance for Breastfeeding Action (WABA)

**Unit-V. Epidemiology of Communicable Diseases****(12 Lectures)**

Definition, causes, signs and symptoms, treatment and prevention of communicable diseases, Respiratory infections and intestinal infections,

Other infections- dengue, Flu

Types of immunity- active, passive and herd-group protection

Immunization agents- vaccines, immunoglobulin

Immunization schedules - National and WHO Expanded Programme on Immunization-Universal Passive, Combined, Chemoprophylaxis, non-specific measures

**Recommended Readings:**

1. Park A. (2007), Park's Textbook of Preventive and Social Medicine XIX Edition M/S Banarasidas, Bharat Publishers, 1167, Prem Nagar, Jabalpur, 428 001(India)
2. Bamji M.S, Prahlad Rao N, Reddy V (2004). Textbook of Human Nutrition II Edition, Oxford and PBH Publishing Co. Pvt. Ltd , New Delhi
3. Bhatt D.P (2008), Health Education, Khel Sahitya Kendra, New Delhi
4. Gibney MJ, Margetts BM, Kearney JM, Arab L (2004) Public Health Nutrition Blackwell Publishing Co. UK
5. Swaminathan M (2007), Essentials of Food and Nutrition. An Advanced TextbookVol.I, The Bangalore Printing and Publishing Co. Ltd, Bangalore
6. UNICEF. <https://www.unicef.org/>
7. WHO.<http://www.who.int/>
8. National Guidelines on Infant and Young Child Feeding. [wcd.nic.in](http://wcd.nic.in)
9. WHO Non-communicable diseases and risk factors. <http://www.who.int/ncds/en/>
10. National Nutrition Mission – ICDS. [icds-wcd.nic.in](http://icds-wcd.nic.in)
11. Ministry of Health & Family Welfare, [www.mohfw.nic.in](http://www.mohfw.nic.in)
12. Field guide to designing communication strategy, WHO publication-2007
13. Communication for Development (C4D) Capability Development Framework, UNICEF and 3D Change, 2009
14. Health education: theoretical concepts, effective strategies and core competencies: a foundation document to guide capacity development of health educators/World Health Organization. Regional Office for the Eastern Mediterranean, 2012

## **SELECTION OF SPECIALISATION**

Institute or Student may select All Courses from any of Following Groups of Specialization in any one given area of Home Science in Semester VII & VIII.

**All courses (papers) of same group must be taken.**

**Group A- FOOD AND NUTRITION (FN)**

**Group B- HUMAN DEVELOPMENT AND FAMILY STUDIES (HDFS)**

**Group C- CLOTHING AND TEXTILES (CT)**

**Note:** Change of group once studied in a semester cannot be allowed in any circumstances unless a student quite the programme and seek re-admission.

**II. MAJOR COURSE- MJ 17 A:**  
**DIETETICS**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

**Course Description**

This course prepares the students to use advanced knowledge about food and nutrition for prevention as well as treatment of diseases and also maintain human health. Dietetics focuses on food management through proper planning, preparation, monitoring, implementation and supervision of a patient's modified diet and to develop basic counseling skills as dietitian.

**Learning Objectives**

1. Understand the role of dietitian and to maintain good nutritional status, correct deficiencies or disease conditions of the patients
2. Gain knowledge on the principles of diet therapy and designing or formulating different therapeutic diets for various disease conditions
3. Develop skill to plan and prepare therapeutic diets for prevention of disease conditions
4. Diet therapy may include prescribing specialized dietary regimes or meal plans. As entrepreneur.

**Learning Outcomes:**

1. Integrate knowledge of research principles and methods associated with nutrition and dietetics practice.
2. Collect, organize and assess data relating to the health and nutritional status of individuals, groups and populations.
3. Demonstrate initiative and judgment using a professional, ethical and entrepreneurial approach advocating for excellence in nutrition and dietetics.
4. Independently plan and execute a research project in regard to nutrition and dietetics practice.

**Course Content**

**Unit-I. Concepts in Diet Therapy**

**(12 Lectures)**

Growth and Scope of Dietetics

Purposes and Principles of Therapeutic Diets Modifications of Normal Diets Classification of the Therapeutic Diets,

Role of Dietitians Characteristics of Dieticians,

Hospital Dietary Food Service, Diet Counseling, Team Approach to Nutritional Care, Principles of Food Prescription, Indian Dietetic Association,

Computer Assisted Instructions (CAI) - Diet Planning using computers, Use of Technology in diet counseling.

**Unit-II. Medical Nutrition Therapy in Obesity, Underweight and Diabetes Mellitus**

**(12 Lectures)**

Etiology, Pathophysiology, Clinical symptoms, metabolic alterations, Assessment/Indicators, Lifestyle & Dietary guidelines for the following conditions

**Obesity** (Bariatric Surgery: types, Management)

**Underweight**

**Diabetes Mellitus** (Acute and Chronic Complications of Diabetes

Diet Modifications, Use of Food Exchange Lists, Insulin-Types and Use, Oral Hypoglycemic Agents, Carbohydrate counting, Glycemic Index, Glycemic Load)

**Unit-III. Medical Nutrition Therapy in Gastro Intestinal Disorders and Diseases of the liver** **(12 Lectures)**

Etiology, Pathophysiology, Clinical Symptoms, Assessment/Indicators, Lifestyle & Dietary guidelines for the following conditions

Diarrhea

Dysentery

Constipation and Peptic Ulcer

Jaundice Hepatitis Fatty Liver Cirrhosis Hepatic Coma

**Unit-IV. Medical Nutrition Therapy in Diseases of the Cardio Vascular System and Kidney Diseases**

Etiology, Pathophysiology, Clinical Symptoms, Lifestyle & Dietary guidelines for the following conditions:

Atherosclerosis, Hyperlipidemia, Ischemic Heart Disease, Congestive Heart Failure,

Bypass Surgery Hypertension (DASH Diets) Nephrotic Syndrome Nephrolithiasis

Acute and Chronic Renal Failure 4.10Dialysis – Principles and Types 4.11Kidney Stones

**(12 Lectures)**

**Unit-V. Medical Nutrition Therapy for Fever, Food Allergy and Cancer Febrile Conditions (12 Lectures)**

**Acute and chronic infectious disease**-Typhoid, Tuberculosis and HIV and AIDS

Guidelines for management of tuberculosis and infectious diseases.

**Food Allergy** - Definition, Causes, Science and Symptoms, Types of Allergies, Diagnosis, Dietary Modifications

**Gluten sensitivity and Lactose intolerance**

**Cancer:** Etiology, Metabolic alterations, Types of Cancer, Dietary Recommendation for Cancer Survivors. Nutritional therapy for Cancer

**Recommended Readings:**

1. Srilakshmi, B. *Dieterics*, New Age International P. Ltd., New Delhi, 2018.
2. *Dietary Guidelines of Indians – A Manual*, National Institute of Nutrition, Hyderabad, 2015.
3. Garg, M. *Diet, Nutrition and Health*, ABD Publishers, 2006.
4. Krause, M.V. and Mahan, L.K. *Food, Nutrition and Diet Therapy*, 9<sup>th</sup> Ed., W.B. Saunders Company, Philadelphia, 2019.
5. Maimun Nisha, *Diet Planning for Diseases*, Kalpaz Publishers, 2016.
6. *Dietary Guidelines of Indians – A Manual*, National Institute of Nutrition, Hyderabad, 2011.
7. Brown, J (2014). *Nutrition now* (7<sup>th</sup>ed). Wadsworth, USA, ISBN- 13:978-1-133-93653-4, ISBN 10:1-133-93653-9
8. Nelms M, Sucher K (2015). *Nutrition Therapy and Pathophysiology*. (3<sup>rd</sup> edition) Cengage Learning, USA. ISBN-13: 978-1305111967, ISBN-10: 130511196n, New Delhi

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OR MJ 17 B:

**CHILDHOOD AND ADOLESCENCE****Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100****Pass Marks: Th (SIE + ESE) = 40****(Credits: Theory-04) 60 Hours****Course Description**

The course introduces students to child and adolescent development. It explains basic developmental principles and psychosocial factors which influence development from conception till 18 years. It further explores the influence of a range of issues from birth through age 18.

**Learning Objectives**

1. Develop an understanding about the need and importance of studying child and adolescent development.
2. Develop an understanding about the historical views and theories on childhood and adolescent development.
3. Learn about the characteristics, needs and developmental tasks of infancy, early middle and late childhood, and early, middle and late adolescence.
4. Learn about the biological and environmental factors that affect development during childhood and adolescence.
5. Learn key issues which influence childhood and adolescent development.

**Learning Outcomes**

1. Explain the need and importance of studying childhood and adolescence as a distinctive stage of the life-span.
2. Describe the characteristics, needs and developmental tasks of infancy, early childhood, middle childhood and early and late adolescence.
3. Identify the biological and environmental factors affecting development during childhood and adolescence.
4. Analyse key issues that influence child and adolescent development.

**Course Content:****UNIT-I Childhood and Adolescent Development: Introduction****(12 Lectures)**

Concept, meaning and principles of 'growth' and 'development'.

Concept of critical periods of development during infancy, childhood and adolescence.

**UNIT-II Historical Foundations and Theories of Childhood and Adolescent Development**

Historical foundations and scientific beginnings

**(12 Lectures)**

Brief overview of theories of child and adolescent development – maturational, behavioral, psychosocial, cognitive, social learning,

Brief overview of theories of child and adolescent development including the maturational, behavioral, psychosocial, cognitive, social learning, ecological, and sociocultural, perspectives.

**UNIT-III Development across Childhood and Adolescence****(12 Lectures)**

Major characteristics of different stages of childhood and adolescence (infancy, early, middle and late childhood, puberty, early and late adolescence)

What are developmental tasks and milestones, and their importance

With reference to each domain of development (physical, cognitive, language, socio-emotional) characteristics, needs, developmental tasks and milestones of individuals from birth to 18 years are explained.

Neonate (birth–1 month)

Infancy (1 month–2 years)

Early childhood (2-6 years)

Middle childhood (6-11 years)

Adolescence (12-18 years)

**UNIT-IV Familial and Social Influences on Childhood and Adolescent Development (12 Lectures)**

Family influences on child and adolescent development

Influence of various parenting styles on development, behavior and functioning during childhood and adolescence

Changes in self-esteem, self- concept and identity from early childhood through adolescence

Moral development from early childhood to late adolescence in relation to societal norms and social understanding

Development of gender roles and perceptions, changes in gender identity from early childhood through adolescence

**UNIT-V Childhood and Adolescent Development: Key Issues**

**(12 Lectures)**

- Influence of peer relationships on development
- Impact of media and its influences on development and learning
- Physical, psychological and social effects of substance abuse and risk behaviors
- Role of nutrition in childhood and adolescent development.
- Brief overview of aggression, gender roles and stereotypes, androgyny, friendship, popularity and rejection, sibling relations, juvenile delinquency, suicide, depression, elopement, puberty, early/late maturation, human sexuality, eating disorders during childhood and adolescence

**Recommended Readings:**

1. Berk, L.E. (2017). Child development (9th ed.). Pearson
2. Bhogle, S. (1999). Gender roles: The construct in the Indian context. In T.S. Saraswathi (Ed.), Culture socialization and human development: Theory, research and applications in India (p.p.278-300). New Delhi: Sage.
3. Kapadia, S. (2017) Adolescence in Urban India: Cultural Construction in a Society in Transition. Springer
4. Keenan, T., Evans, S., & Crowley, K. (2016). An introduction to child development. Sage.
5. Kumar, K. (1993). Study of childhood and family. In T.S. Saraswathi & B. Kaur (Eds.). Human development and family studies in India: An agenda for research and policy, (pp.67-76). New Delhi: Sage.
6. Lightfoot, C., Cole, M., & Cole, S. (2012). The development of children (7<sup>th</sup> ed.). New York: Worth Publishers
7. Santrock, J. (2017). A topical approach to life span development (9th ed.). New NY.: McGraw-Hill Higher Education.
8. Saraswathi, T.S., & Kaur, B. (1993). Human Development and family Studies in India- an Agenda for research and Policy. New Delhi. Sage.
9. Saraswathi, T. & Oke, Meera. (2013). Ecology of Adolescence in India. Psychological Studies. DOI 58. 10.1007/s12646-013-0225-7.
10. Saraswathi, T.S., Menon, S., & Madan, A. (eds.) (2018) Childhoods in India Traditions, Trends and Transformations. New Delhi. Routledge.
11. Sinha, D., & Misra, R.C. (1999). Socialization and cognitive functioning. In T.S. Saraswathi (Ed.), Culture, socialization and human development: Theory, research and applications in India (pp.167-187). New Delhi: Sage.
12. Verma, S., & Saraswathi, T. S. (2002). Adolescence in India: Street urchins or Silicon Valley millionaires? In B. B. Brown, R. W. Larson & T. S. Saraswathi (Eds.), The world's youth: Adolescence in eight regions of the globe (p. 105-140). Cambridge University Press.
13. <https://doi.org/10.1017/CBO9780511613814.005>

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OR MJ 17 C:

**FASHION MARKETING AND MERCHANDISING**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

The course introduces students to the business aspects of fashion with a focus on fashion marketing and merchandising. It focuses on learning to capture the attention, of potential customers and promoting required products and services to them. It deals with how to understand, predict, and respond to consumer wants and behaviour to maximize business sales and revenue.

**Learning Objectives:**

1. Determine how business of fashion identifies its target market and adapts to deliver the desired satisfactions to the ultimate customer. Learns the product / merchandise presentation to potential customers.
2. Understand the buying and selling of goods for the purpose of making a profit.

**Learning Outcomes:**

Successful completion of this course will enable students to

1. Explain how fashion marketing and merchandising can help the fashion industry.
2. Define role and responsibilities of fashion marketers and fashion merchandisers.
3. Identify target markets and build consumer profiles for fashion products
4. Select promotional tool suitable for potential customers. Develop a promotional plan and promote a merchandise
5. Establish and use inventory control systems

**Course Content****Unit-I. Understanding the Basic Concepts of Fashion Marketing and Merchandising (12 Lectures)**

Fashion business terminologies

Nature and scope of fashion marketing and merchandising

The marketing environment: macro and micro

Areas of fashion marketing and merchandising: public relations, brand management, event planning, customer relations, social media, advertising, retail buying, store management, fashion buying, visual merchandising, retail sales management

Profiles of occupations in fashion marketing and merchandising

**Unit-II. Researching the Fashion Market and Consumer****(12 Lectures)**

The fashion consumer and organizational buyer

Segmentation and the marketing mix

Fashion marketing research: identifying the needs and wants of target customer.

**Unit-III. Fashion Marketing Communication****(12 Lectures)**

Promotion tools for fashion marketing: advertising, sales promotion, packaging, public relations and publicity. Onsite Promotion: visual merchandising framework and approaches

**Unit-IV. Merchandise Management****(12 Lectures)**

Types of Merchandise

Six rights of merchandising and their importance

Merchandise planning, acquisition, handling and monitoring

Supply chain management

Inventory Control systems, Financial accounting

**Unit-V. Future Trends in Buying and Merchandising****(12 Lectures)**

The changing impact of IT on fashion retailing

The impact of new manufacturing techniques

The fashion buyers of the future

The fashion merchandiser of the future

Future technologies impacts on the consumer

Other types of fashion retail competition

**Recommended Readings:**

1. Bliss, L. L. (1995) Study Guide Visual Merchandising and Display 3<sup>rd</sup> ed. Fairchild Publications.
2. Blythe, J. (2006), Principles and Practice of Marketing, Thomson, London.
3. Easey M. ( 2009), Fashion Marketing, 3<sup>rd</sup> ed. United Kingdom: Blackwell Publishing
4. Elaine, S. (2013) The Dynamics of Fashion. 4<sup>th</sup> ed. New York: Bloomsbury publication
5. Kotler, P. and Gary, A. (2001) Principles of Marketing. 9th ed. Upper Saddle River, N.J.: Prentice Hall
6. Wolfe, M. (2009) Fashion Marketing & Merchandising, 3<sup>rd</sup> ed. United States:
7. Goodheart-Willcox Publishing
8. <https://www.slideshare.net/kotharivr/fashion-merchandising-ebook>

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**III. MAJOR COURSE- MJ 18 A:**  
**NUTRITION FOR HEALTH AND PHYSICAL FITNESS**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

**Course Description**

Integration and application of principles of sound nutrition and physical activities to optimize the physiological, psychological, and social lifelong development of the individual and use of scientific principles and current technological advances, helps to assess and evaluate physical fitness, body composition, dietary patterns, energy expenditure, and their interrelationships.

**Learning Objectives:**

1. Understand the Importance of Nutrition, Fitness and Health
2. Gain Knowledge on Exercise Physiology and Nutrition for Physical Activity
3. Comprehend the Technique and Gadgets for Physical Activity Training
4. Understand the Risks of Hypokinetic Diseases
5. Understand the principles of Exercise and Stress Management

**Learning Outcomes:**

Upon successful completion of the course students shall be able to:

1. Explain the principles of physical fitness and nutrition (such as body composition, energy intake, energy expenditure, and the acute and chronic physical changes related to exercise and nutrition) complement each other in helping to develop physiological well-being and overall health.
2. Explain the principles of fitness and nutrition (such as setting realistic short-term behavior change goals and the relationship of exercise and diet to stress reduction) complement each other in helping to develop psychological well-being and overall health.
3. Identify some of the social and cultural influences on food habits and exercise/activity patterns.
4. Evaluate current nutritional information with regard to its contribution to Health and physical fitness.

**Course Content**

**Unit-I. Health and Fitness**

**(10 Lectures)**

Definition, Components and Relationship among Physical Fitness, Wellness and Health Personalized approach  
Benefits of fitness training

**Unit-II. Exercise Physiology and Nutrition for Physical Activity**

**(16 Lectures)**

Pulmonary, Cardiovascular Regulation and integration, Skeletal and neural control, Endocrines and exercise Nutrition & Physical performance  
Physical fitness: cardio respiratory fitness, muscular strength, muscular endurance, body composition and flexibility  
Energy systems, muscles and physical performance-ATP-CP energy systems, Lactic Acid energy systems, Oxygen energy systems, Glycogen depletion  
Endurance Training-Muscle and Muscle fibers  
Optimal Nutrition and Energy needs for optimum performance e.g. athletes Exercise and fluid loss, Hydration, Nutrition supplements, Ergogenic Aids

**Unit-III. Physical Activity Training**

**(12 Lectures)**

Aerobic and anaerobic training -To enhance Cardio Vascular Endurance, Flexibility and Body Composition,  
Measurement of PAL,  
Benefits of Fitness training and Gadgets for measuring PA –Motorized Treadmill, (aerobic Fitness), Functional Trainer,  
Fluid Rower (Upper body), Elliptical Bicycle and Bicycle Ergometer (Lower body), 3.10 Stretch Trainer (Whole body),  
3.11 Multi Gym (9, 12, 16 station) for different muscle groups

**Unit-IV. Diseases due to Faulty/Poor Food Habits and Physical Inactivity (12 Lectures)**

Life Style related diseases/disorders (Non communicable Disease conditions) - Meaning Causative Factors and Diet Modification/evidence-based guidelines for Underweight, Obesity, Diabetes mellitus, Hypertension, Cancer Cardiovascular Disease, Anemia

**Unit-V. Exercise, Stress and Health Management (10 Lectures)**

Stress Assessment and Management  
Techniques-Exercise at medium and high altitudes, Underweight, Overweight and Obesity, Relaxation Techniques,  
Yoga and Meditation for Health, Clinical Exercise  
Physiology for Cancer,  
CV and Pulmonary rehabilitation

**Recommended Reading**

1. Werner W. K Hoejer (1989), *Life time Physical Fitness and Wellness*, Morton Publishing Company, Colorado.
2. Mishra, S. C (2005) *Physiology in Sports*. Sports Publication, New Delhi
3. Greenberg, S. J and Pargman, D (1989) *Physical Fitness – A Wellness Approach* Prentice Hall International (UK) Limited, London
4. Swaminathan M. (2008) *Essentials of Food and Nutrition* Bangalore Printing Publishing Co. New Delhi
5. McArdle, W. D, Frank I. Katch, F. I and Victor L. Katch (1996) *Exercise Nutrition: Energy Nutrition and Human Performance*. William & Wilkin Publishing USA.
6. Mahan, K and Stump, E. S (1996) *Krause Food and Nutrition and Diet Therapy* W.B Saunders Company, USA.

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OR MJ 18 B:

**ADULTHOOD AND AGING**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

The course introduces students to the concept of adult development and aging. It explains basic developmental transitions in adulthood and late adulthood or old age. Various facets of adult development across domains and developmental needs of the elderly are discussed. Cultural and gender differences in the experiences of aging are included.

**Learning Objectives**

1. Understand the theoretical significance of adulthood in life span development with special reference to aging
2. Develop a culturally relevant understanding of issues and concerns of adulthood and aging
3. Sensitize students to transitions in adult life and preparation for old age from a gender perspective
4. Create awareness about policy provisions for adults and elderly across various contexts (work, family, retirement, health, welfare).
5. Prepare students for outreach activities with varied groups of adults and elderly.

**Learning Outcomes**

1. Explain variations in the experiences of adulthood and old age across cultures and genders
2. Discuss factors that affect physical, cognitive and socio-emotional development during adulthood and old age
3. Identify developmental needs of varied groups of adults and elderly across contexts
4. Execute developmental programs of intervention for varied groups of adults and elders

**Course Content****Unit-I Stages of Adult Development and the Process of Aging: A Theoretical Overview (10 Lectures)**

Contemporary changes, increase in life expectancy and decrease in death rate

Stages of Adulthood and Aging: Emerging adulthood (18-25), mature adulthood (25-45), middle age (45-55), late adulthood (55-65), old age (65 and above)

Characteristics and needs in different stages of adulthood

Theories of adult development and aging (Erikson's theory, Wisdom theories, Disengagement, Activity, Ashrama Dharma framework)

**Unit-II Development in Emerging and Early Adulthood****(12 Lectures)**

Definition, characteristics, developmental tasks

Physical changes - Cardiovascular and Respiratory systems, Motor performance, Immune system

Cognitive development - Changes in mental abilities - Crystallized and fluid intelligence, Information processing - Speed, Attention, Memory, Problem solving and Creativity

Life transitions and adjustments during early adulthood: Exploring sexual orientations, stable romantic relationships, alternative life choices, marriage, family life, parenting and caregiving, social mobility

Cultural, gender and social class variations in the experience of adulthood and aging

Interpersonal relationships and responsibility challenges in different spheres of life (balancing work and family, socio-cultural responsibilities, health challenges, emotional stresses, financial security)

**Unit-III Development in Middle and Late Adulthood****(12 Lectures)**

Definition, characteristics, developmental tasks,

Physical and cognitive changes, Changes in interests, Social, emotional, vocational changes, Relationships at midlife - marriage and divorce, changing parent-child relationships, grandparenthood, siblings, friendships, relationship across generations- Middle aged children and their aging parents

Preparation for old age (From work to retirement, emotional, financial, social and familial transitions,)

Contextual variations in the experience of late adulthood and aging (rural-urban, socioeconomic, employed-unemployed, organized-unorganized sector etc.)

**Unit-IV Development in Old Age****(14 Lectures)**

The phenomenon of aging - biological, psychological, sociological and functional age; optimal aging, normal aging, primary and secondary aging and successful aging

Gerontology - Definition, concept, importance and scope

Types - Social gerontology, Bio gerontology, Medical gerontology (Geriatric)

Theories of aging process – Sociological, Psychological and Biological theories of aging. Psychosocial development in old age,

Changing relationships in old age – marriage and divorce, widowhood, never-married, childless older adults, siblings, friendships

Myths and realities of aging Adjustments - Physical and mental changes,

Vocational adjustments- adjustment to retirement, different living arrangements, familial roles and relationships.

Dealing with stressful life events, divorce, terminal illness, death and bereavement Overview of Alzheimer, Dementia, Parkinson's disease Common abuses among elderly-physical, emotional, psychological, verbal and financial, reporting abuse, Adult Protective Services.

Policy provisions for the elderly: Global and national

**Unit-V Aging and Well-Being in the 21<sup>st</sup> Century****(12 Lectures)**

Demographic profile of elderly in the world and India

Living arrangements (intergenerational families, old age homes, institutions etc.) and new models of care giving

Overcoming mental health challenges (loneliness, depression, anxiety, dementia, other age-related diseases etc.)

Life style changes and holistic health (physical well-being, food choices, yoga and restorative fitness, counseling and therapy, social and interpersonal support systems)

Technology and aging (use of internet, advances in health and medical treatment, gadgets supporting safety and security of elderly)

Leisure time activities and innovative models of developmental intervention

**Recommended Readings:**

1. Arnett, J. J., & Jensen, L. A. (2019). Human Development: A cultural approach (3<sup>rd</sup>ed.). New York: Pearson.
2. Cavanaugh, J., & Blanchard-Fields, F. (2011). Adult development and aging (7<sup>th</sup>ed). Stamford, CT: Cengage Learning.
3. Kakar, S. (Ed.). (1993). Identity and adulthood. New Delhi: Oxford University Press.
4. Lamb, S. E. (Ed.). (2012). Aging and the Indian diaspora: Cosmopolitan families in India and abroad. New Delhi: Orient Blackswan.
5. Menon, U. (2013). Women, well-being and ethics of domesticity in an Odia temple Town. New Delhi: Springer.
6. Rajan, I. S., Risseuv, C., & Perar, M. (Eds.). (2008). Institutional provisions and care for the agedperspectives from Asia and Europe. New Delhi: Anthem Press.
7. Reddy, P.A., Devi, U., & Harinath, N. (2010). Ageing: The global phenomena: issues and strategies. New Delhi: Sonali.
8. Sahoo, F. M. (Ed.). (2009). Behavioral issues in ageing: Care, concern and commitment. New Delhi: Concept Publishers.
9. Sahu, C. (1988). Problems of aging among Indian tribes. New Delhi: Sarup & Sons.
10. Shankardass, M.K. (Ed.). (2020). Ageing issues and responses in India. New Delhi: Springer.
11. Soneja, S. (2001). Elder abuse in India. Report for the World Health Organization.
12. Srivastava, V. (2010) Women and ageing. New Delhi: Rawat Publisher.
13. Tanner, D., & Harris, J (2007). Working with the older people. New York: Routlege publishers.
14. Tornstram, L. (2005). Gerotranscendence: A developmental theory of positive aging. New York: Springer.

OR MJ 18 C:

**APPAREL CONSTRUCTION**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

The course introduces the basic principles of apparel construction including pattern and fabric selection. The course aims at developing skills in using knowledge of apparel construction required to be employed in the field of apparel industry and entrepreneurship. It deals with the tools and techniques required for apparel construction. It covers the pattern making and grading techniques required for making apparels. It gives hands on experience for apparel construction which is the pre requisite of apparel industry.

**Learning Objectives:**

1. Learns the requirement for apparel construction
2. Understand the use, significance and selection of tools and equipment for apparel construction
3. Understand the coordination of fabric, pattern and supportive material.
4. Enhance the understanding of drafting and pattern making.
5. Acquire skills of apparel construction
6. Understand fit of the garment.

**Learning Outcomes:**

Successful completion of this course will enable students to

1. Know the requirements for apparel construction
2. Describe the use and significance of tools and equipment for apparel construction
3. Explain drafting and pattern making method.
4. Explore the skills of apparel construction
5. Adapt basic block to different designs.
6. Evaluate fit of the garment

**Course Content****Unit-I. Introduction to Apparel Construction****(12 Lectures)**

Elements of apparel construction

Grain, Seams, Finish, Workmanship Guides to sew fabrics

Threads, needles, seams and its co-relation to fabrics Uses of essentials tools and supplies

Sewing Needles, hand sewing tools, marking tools, measuring tools, cutting tools, pressing tools, threads, special tools, trims &amp; tapes, buttons &amp; closures.

**Unit-II. Basics of Apparel Construction****(12 Lectures)**

Body measurements (BM):

Principles of taking BM,

Taking accurate body measurements

Measuring from a garment.

Size charts

Standard size charts for Kids, Men and Women

Ease allowance for various fit.

Comparison of standard size charts from different countries and brands

Fabric Requirement:

Calculation of fabric needed for various garments.

Optimising the fabric requirement

Principles and methods of grading and sizing

**Unit-III. Pattern Making****(12 Lectures)**

Introduction to pattern making

Pattern making tools

Pattern making techniques: Drafting, Draping and Flat pattern technique

Darts and their manipulation, added fullness and contouring.

Principles of pattern making for: Upper garment, Lower garment, Sleeves, Collar, Dresses

**Unit-IV. Fabric Layout, Cutting and Marking****(12 Lectures)**

- Fabric preparation
- Laying out checks, plaids & directional fabrics,
- Marking with chalk, pencil or liquid markers
- Cutting and sewing tips

**Unit-V. Selection of Fabric and Accessories****(12 Lectures)**

- Fabrics: Easy to stitch, special fabrics, textured and patterned fabrics
- Selection of appropriate fabrics for apparels.
- Accessories and trimmings: types and use
- Appropriate combination of accessories, trims and materials

**Recommended Readings:**

1. Aldrich, W. (1988). Metric Pattern Cutting. Unwin Hyman Ltd., London.
2. Amaden, C. & Crawford (1995) Fashion Your Own Skirts the Simple way Amaden-Crawford Associates, USA.
3. Armstrong, H. (2012). Patternmaking for Fashion Design Pearson Education, Inc, New Delhi.
4. Bray N., (1986) Dress Pattern Designing: The Basic Principles of cut and fit, Blackwell Publishing.
5. Hollen, N.R. & Kundel, C.J. (1993). Pattern Making by the Flat-Pattern Method. Prentice Hall, New Jersey.
6. Kopp, E., Rolfo, V. & Zelin, B. (1995). Designing Apparel through the Flat Pattern. Fairchild Publications New York.
7. Singer. (1989). Sewing Pants that Fit. Cowles Creative Publishing Inc. Minnesota, USA
8. Thomas, A. J. (1993). Art of Sewing. UBS Publishers Distributions Ltd. New Delhi
9. Zarapkar, K.R. (2008). Zarapkar System of Cutting. Navneet Publication (India) Ltd., Mumbai.

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**IV. MAJOR COURSE- MJ 19 A/ B/ C:**  
**PRACTICALS-VI A:**

**Marks: Pr (ESE: 3Hrs) =100**

**Pass Marks: Pr (ESE) = 40**

**(Credits: Practicals-04) 120 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:**

**Part I**

1. Assessing the nutritional status of an individual, group and community in different settings
2. Conducting 3 Day Weight Survey for an Individual
3. Planning and conducting nutrition education programmes in a selected village for 3 days
4. Spot observations based on the observations through field visits in ICDS centres, MDM school programme

**Part II**

1. Preparation of Hospital Diets- Modification of diet with respect to texture, consistency and nutrients
2. Modification of Diets in Obesity
3. Modification of Diets in Underweight
4. Modification of Diets in Diabetes Mellitus
5. Diets for Febrile Conditions – TB, Typhoid
6. Modification of Diets in Peptic Ulcer, Constipation and Diarrhea
7. Modifications of Diets in Liver Diseases – Jaundice, Hepatitis and Cirrhosis
8. Diets for Nephritis, renal Failure and renal Calculi, Protein Restricted Diets
9. Diets for Cardiovascular diseases – Sodium Restricted, Fat Controlled
10. Modification of Diet for Cancer Patients and HIV Infected Person
11. An Overview/desk review on DASH diet, Mediterranean diet, Paleo diet, FODMAP diet, Keto diet VLCD etc.

**Part III**

1. Aerobic and Anaerobic Exercises
2. Relaxation Techniques,
3. Stress Assessment and Management
4. Yoga and Meditation
5. Visit to Fitness Centre: Observational report and 2 Case studies
6. Desk review of ergogenic aids available in the market
7. Use of non-invasive equipment's like Pedometer, pulse oximeter, step test, Omron body composition analyser, home monitoring BP equipment to assess the nutritional status

**Recommended Readings:**

1. Srilakshmi, B. *Dietetics*, New Age International P. Ltd., New Delhi, 2018.
2. *Dietary Guidelines of Indians – A Manual*, National Institute of Nutrition, Hyderabad, 2015.
3. Krause, M.V. and Mahan, L.K. *Food, Nutrition and Diet Therapy*, 9<sup>th</sup> Ed., W.B. Saunders Company, Philadelphia, 2019.
4. Maimun Nisha, *Diet Planning for Diseases*, Kalpaz Publishers, 2016.
5. Werner W. K Hoejer (1989), *Life time Physical Fitness and Wellness*, Morton Publishing Company, Colorado.
6. Greenberg, S. J and Pargman, D (1989) *Physical Fitness – A Wellness Approach* Prentice Hall International (UK) Limited, London
7. Swaminathan M. (2008) *Essentials of Food and Nutrition* Bangalore Printing Publishing Co. New Delhi
8. McArdle, W. D, Frank I. Katch, F. I and Victor L. Katch (1996) *Exercise Nutrition: Energy Nutrition and Human Performance*. William & Wilkin Publishing USA.

OR MJ 19 B:

**PRACTICALS-VI B:****Marks: Pr (ESE: 3Hrs) =100****Pass Marks: Pr (ESE) = 40****(Credits: Practicals-04) 120 Hours*****Instruction to Question Setter for******End Semester Examination (ESE):****There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:****Part I**

1. Assessing the nutritional status of an individual, group and community in different settings
2. Conducting 3 Day Weighment Survey for an Individual
3. Planning and conducting nutrition education programmes in a selected village for 3 days
4. Spot observations based on the observations through field visits in ICDS centres, MDM school programme

**Part II**

1. Preparation of an album on developmental milestones of children and adolescents.
2. Visit to a pediatric ward
3. Visit to an Anganwadi
4. Interaction with counselors/clinical psychologists
5. Carry out a case study of an adolescent boy and girl using multiple methods
6. Select a topic related to a significant developmental problem or issue faced by children and adolescents and describe ways to assist them, their teachers and parents to deal with the problem.

**Part III**

1. Preparation of an album on developmental transitions, individual and family life transitions during adult life.
2. Visit to old age home or specialized living arrangements for elderly.
3. Visit to leisure facilities for elderly like laughing clubs, recreational clubs
4. Visiting your parents' workplace to understand their roles and responsibilities.
5. Documenting your mother's and grandmother's life aspirations and experiences before and after marriage.
6. Preparing a list of specialized services for the elderly in the city and / or preparing an elderly support kit (support with amenities, important phone numbers, medicines, reminders etc.)
7. Planning a hands-on workshop session for teaching internet and smart phone use to elderly
8. Interviewing elderly couples about their relationship, life challenges and satisfactions
9. Planning a panel discussion or awareness session on welfare policies and policy recommendations for older persons in India
10. Discussing intergenerational relationships of emerging/young adults and parents as portrayed in cinema, advertisements and social media

**Recommended Readings:**

1. Kapadia, S. (2017) Adolescence in Urban India: Cultural Construction in a Society in Transition. Springer
2. Keenan, T., Evans, S., & Crowley, K. (2016). An introduction to child development. Sage.
3. Kumar, K. (1993). Study of childhood and family. In T.S. Saraswathi & B. Kaur (Eds.). Human development and family studies in India: An agenda for research and policy, (pp.67-76). New Delhi: Sage.
4. Saraswathi, T.S., & Kaur, B. (1993). Human Development and family Studies in India- an Agenda for research and Policy. New Delhi. Sage.
5. Saraswathi, T.S., Menon, S., & Madan, A. (eds.) (2018) Childhoods in India Traditions, Trends and Transformations. New Delhi. Routledge.
6. Sinha, D., & Misra, R.C. (1999). Socialization and cognitive functioning. In T.S. Saraswathi (Ed.), Culture, socialization and human development: Theory, research and applications in India (pp.167-187). New Delhi: Sage.

2. Verma, S., & Saraswathi, T. S. (2002). Adolescence in India: Street urchins or Silicon Valley millionaires? In B. B. Brown, R. W. Larson & T. S. Saraswathi (Eds.), *The world's youth: Adolescence in eight regions of the globe* (p. 105–140). Cambridge University Press. <https://doi.org/10.1017/CBO9780511613814.005>
3. Reddy, P.A., Devi, U., & Harinath, N. (2010). *Ageing: The global phenomena: issues and strategies*. New Delhi: Sonali.
4. Sahoo, F. M. (Ed.). (2009). *Behavioral issues in ageing: Care, concern and commitment*. New Delhi: Concept Publishers.
5. Soneja, S. (2001). Elder abuse in India. Report for the World Health Organization.
6. Srivastava, V. (2010) *Women and ageing*. New Delhi: Rawat Publisher.
7. Tanner, D., & Harris, J (2007). *Working with the older people*. New York: Routledge publishers.
8. Tornstram, L. (2005). *Gerotranscendence: A developmental theory of positive aging*. New York: Springer.

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OR MJ 19 C:

**PRACTICALS-VI B:****Marks: Pr (ESE: 3Hrs) =100****Pass Marks: Pr (ESE) = 40****(Credits: Practicals-04) 120 Hours*****Instruction to Question Setter for******End Semester Examination (ESE):****There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:****Part I**

1. Assessing the nutritional status of an individual, group and community in different settings
2. Conducting 3 Day Weighment Survey for an Individual
3. Planning and conducting nutrition education programmes in a selected village for 3 days
4. Spot observations based on the observations through field visits in ICDS centres, MDM school programme

**Part II**

1. Identify the marketplace and evaluate customers, as well as trends affecting future sales
2. Case studies to understand the buying procedures of various types of fashion retail businesses and also analyze the environment in which buying occurs.
3. Review trends, emerging and the growing retail formats where will consumers make purchases through literature and field visits
4. Describe your customers; identifying changes in consumer markets, understanding buying motives and learning about customers through data warehousing and data mining
5. Plotting customer profiles for various fashion businesses
6. Visual merchandising projects to be undertaken for different fashion businesses
7. Interact with Store managers to understand how they develop and prepare merchandise plan as well as a merchandise assortment for their business. What are their best practices?
8. Visit to various type of markets
9. Case study of fashion business to understand its supply chain management and inventory control systems

**Part III**

1. Development of basic block
  - a) Upper and
  - b) Lower
2. Drafting and construction of different types of
  - a) Collars
  - b) Plackets and
  - c) Sleeves
3. Drafting and construction of
  - a) Salwar
  - b) Churidar
4. Adaptation of basic block for designing of
  - a) Frock
  - b) Kurta
  - c) Blouse
  - d) Shirt
5. Construction of above designed patterns.
  - a) Maintaining of journal with the details of the practical work in writing and supported with samples.

**Recommended Readings:**

1. Bliss, L. L. (1995) Study Guide Visual Merchandising and Display 3<sup>rd</sup> ed. Fairchild Publications.
2. Blythe, J. (2006), Principles and Practice of Marketing, Thomson, London.
3. Elaine, S. (2013) The Dynamics of Fashion. 4<sup>th</sup> ed. New York: Bloomsbury publication
4. Kotler, P. and Gary, A. (2001) Principles of Marketing. 9th ed. Upper Saddle River, N.J.: Prentice Hall
5. Wolfe, M. (2009) Fashion Marketing & Merchandising, 3<sup>rd</sup> ed. United States: Goodheart-Willcox Publishing
6. Aldrich, W. (1988). Metric Pattern Cutting. Unwin Hyman Ltd., London.
7. Amaden,C.& Crawford (1995) Fashion Your Own Skirts the Simple way Amaden-Crawford Associates, USA.
8. Armstrong, H. (2012). Patternmaking for Fashion Design Pearson Education, Inc, New Delhi.
9. Bray N., (1986) Dress Pattern Designing: The Basic Principles of cut and fit, Blackwell Publishing.
10. Hollen, N.R. &Kundel, C.J. (1993). Pattern Making by the Flat-Pattern Method. Prentice Hall, New Jersey.
11. Kopp, E., Rolfo, V. &Zelin, B. (1995). Designing Apparel through the Flat Pattern. Fairchild Publications New York.
12. Singer. (1989). Sewing Pants that Fit. Cowles Creative Publishing Inc. Minnesota, USA
13. Thomas, A. J. (1993). Art of Sewing. UBS Publishers Distributions Ltd. New Delhi
14. Zarapkar, K.R. (2008). Zarapkar System of Cutting. Navneet Publication (India) Ltd., Mumbai

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## SEMESTER VIII

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**I. MAJOR COURSE- MJ 20:  
STATISTICS**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

(Credits: Theory-04) **60 Hours**

**Course Objectives:**

On completion of this course, the students will be able to understand

1. Role of statistics in research
2. Application of Statistical Techniques to research data for analysis and interpretation of data meaningfully

**Course Learning Outcomes:**

On successful completion of this course the student should know:

1. Application of statistics in research and data analysis.
2. Application of statistical tools in data treatment and interpretation

**Course Content:**

**UNIT I**

Conceptual understandings of statistical measures. Classification and tabulation of data, Measures of central tendencies, measures of variables. Frequency distribution, histogram, frequency polygon, Ogive

**UNIT II**

Binomial distribution. Normal distribution – use of normal probability table

**UNIT III**

Experimental Designs, Completely randomized Design, Randomized block design, Latin Square design, Factorial design, Trend analysis

**UNIT IV**

Parametric and non-parametric test

Testing of Hypothesis, Type I and Type II Errors, Level of Significance

Chi-Square Test, goodness of fit, independence of attributes, 2x2 and rxc contingency table

Application of 't' test for small sample, difference in proportion of means and difference in means

Correlation, coefficient of correlation, rank correlation

Regression and prediction

Analysis of Variance- one way and two-way classification

**UNIT V**

Computer and statistics. Statistical Software. SPSS, R Studio software, Microsoft Excel.

**Recommended Readings:**

1. Das, N.G., Statistical Methods, Mc Graw Hill
2. Gupta, S.C., Fundamentals of Statistics, Himalaya Publishing House, 7<sup>th</sup> Edn.
3. Gupta, S.P., Statistical Methods, S Chand & Sons
4. Gun, A.M., Gupta, M.K., and Dasgupta, B., Fundamentals of Statistics, World Press

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**II. ADVANCED MAJOR COURSE- AMJ 1 A:**  
**FOOD SAFETY, SANITATION AND HYGIENE**

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

**Course description**

A study of food safety, hygiene and sanitary practices in food industries causes investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards in Food Service Industries

**Learning objectives**

1. Learn the various aspects of food safety
2. Understand about food laws and labeling
3. Understand the need for consumer education

**Learning outcomes**

1. Upon completion of this course, the student will be able to: 1. Identify causes of and prevention procedures for food-borne illness, intoxication, and infection.
2. Demonstrate good personal hygiene and safe food handling procedures; describe food storage and refrigeration techniques; explain sanitation of dishes, equipment, and kitchens including cleaning material, garbage, and refuse
3. Discuss Occupational Safety and Health Administration (OSHA) requirements and effective workplace safety programs in Food Service Industries.

**Course Content**

**Unit-I. Introduction to Food Safety and adulteration, Basic Principles of Food Safety (12 Lectures)**

Food contamination: definition Sources of contamination

Difference between food poisoning and food infection

Safety in food processing -a. Food procurement; b. Storage; c. Handling; d. Preparation e. Safety of leftover foods

Frame-work for creating enabling environment for serving safe & nutritious food at the workplace.

Regulatory compliance requirements for the canteen establishments, Food Service Industries Safe & nutritious food tips for the employee

Factors affecting food safety and food spoilage:

Food adulteration - definition, types of adulteration in various foods- intentional, incidental and metallic contaminants

**Unit-II. Food Laws and Regulations (12 Lectures)**

National Legislation – Essential Commodities Act,

Standard of Weight and Measures Act, ISI, Mark of BIS, Agmark and PFA, FPO, Food Safety and Standards Bill 2005,

International Laws and Agreements - FAO, WHO, Codex Alimentarius, WTO, JEFA, APEDA, ISO 22000 series,

Hazard Analysis Critical Control Point (HACCP): principles of HAACP, applications of HACCP

**Unit-III. Current Food Safety Standards in India (14 Lectures)**

Current Food Safety regulations 2001,

Food Safety and Standards Authority of India, objectives of developing food safety standards, enforcement of structure and procedure,

role of food analyst, safety analysis, action by designated officer and report of food analyst

Food Safety Management System (FSMS) Good Practices/ PRPs - HACCP, GMP, GHP Management Element / System

Statutory and regulatory requirements

Certification - HACCP, ISO 22000, FSSC 22000

**Unit-IV. Sanitation Procedures (12 Lectures)**

Basic Principles of Hygiene and Sanitation Personal hygiene and Environmental hygiene Methods of Sanitation and Hygiene

Sterilization and disinfection using heat and chemicals

Waste product handling and control- Solid and liquid waste disposal Control of infestation- Pest control

Cleaning and sanitizing- need for efficient cleaning program, cleaning agents, equipment's, Methods to wash, rinse and sanitizing food contact surfaces. Importance and methods of pest control; Outlining methods of disposal of liquid, solid and gaseous waste

**Unit-V. Importance of Personal Hygiene of Food Handlers (10 Lectures)**

General principles of hygiene – personal and environmental hygiene, hygienic practices in handling and serving foods, planning and implementation of training programme for health person

**Recommended Readings:**

1. Mahtab, S, Bamji S, Kamala Krishnaswamy, Brahmam G.N.V, *Text Book of Human Nutrition*, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi, 2012.
2. Srilakshmi, B., Dietetics, New Age International (P) Ltd., New Delhi, 2013.
3. Swaminathan, M., *Advanced Textbook on Food and Nutrition*, Vol. 1, Second Edition, Bangalore Printing and Publishing Co. Ltd., Bangalore, 2012.
4. *Dietary Guidelines for Indians*, ICMR, National Institute of Nutrition.

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OR AMJ 1 B:

**INTERPERSONAL RELATIONSHIP AND FAMILY DYNAMICS**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

The course prepares students for an understanding of contemporary interpersonal relationships in families and in society, from a psycho-social perspective. It includes a focus on concepts and theories of interpersonal communication, with an emphasis on types of relationships (family/peers/workplace), relationship development, communication strategies, stress and conflict management.

**Learning Objectives**

1. Understand interpersonal relationships and family dynamics in contemporary India.
2. Understand one's own self and others with the aim of improving interpersonal relationships.
3. Understand theories and perspectives related to interpersonal relationships and family dynamics.
4. Develop an insight into interpersonal stress, conflict and its resolution.

**Learning Outcomes**

1. Explain basic components and processes involved in interpersonal relationship
2. Describe theoretical perspectives in understanding interpersonal relationships and family dynamics.
3. Use one's self-awareness in understanding significant others. Illustrate the significance of self-awareness in our understanding of significant others.
4. Formulate strategies for developing positive dynamics in different relationships and managing conflict.

**Course Content****Unit-I Understanding the Self****(12 Lectures)**

Self-Awareness—personality characteristics, cultural beliefs, values, expectations and ideas guiding behavior  
 Self-identity— Identifying one's own philosophy and goals of life (influenced by personal history, socialization and context)

Personality—factors that shape one's personality and its influence on behavior and interpersonal communications

Self with family/parents/siblings, peers, social/professional organizations The impact of media on the self

**Unit-II Perspectives and Theories****(10 Lectures)**

Perspectives: On friendships, love, family and other interpersonal relationships

Ethological Perspective  
 Psychological Perspective  
 Sociological Perspective  
 Cross-cultural perspectives

Theories:

Social Exchange Theory  
 Triangular theory of love - Robert Sternberg

**Unit-III Basics of Interpersonal Communication****(10 Lectures)**

Process and components of basic communication

Interpersonal communication: communication of ideas and feelings, self-disclosure, crediting and criticism

Nurturing positive interpersonal communication and dynamics: perspective taking, empathy, listening and feedback skills.

Resolving interpersonal conflicts: Types of conflicts and management skills (in relation with marital, parental, workplace, family, and friends)

**Unit-IV Life Choices (Education, Career, Romantic Relationships)****(12 Lectures)**

Engagement with life goals and conscious life choices- in view of personal philosophy, demands of the family, peers, societal norms.

Understanding intimate, love and romantic relationships within a cultural context  
 Career choices and professional relationships- developing trust, mutual respect, mindfulness, appreciation for diversity and open communication.  
 Understanding the role of adjustments in relationships- myths, misconceptions and factors influencing adjustment patterns.

**Unit-V Family Dynamics****(16 Lectures)**

Understanding Family Dynamics- Definition, function and scope  
 Factors that shape roles, relationships and family dynamics (family size, age composition, structure, social and financial status, gender and ordinal position, power, hierarchy and patriarchy, employment) and how these dynamics shape individual personality and behavior.  
 Change and evolution of the family - Family life cycle and stages  
 Changing roles and dynamics through significant life events: romantic relationships, partner selection, marriage, childbirth, parenting, career trajectories and economic status, health issues, loss of loved ones.  
 Gender norms and roles in family dynamics  
 Interpersonal communication within families: Managing expectations (family/self/society), self-goals, adjustments and negotiations.  
 Forms of family crisis: Marriage, divorce/separation, remarriage, financial instability, poor work-family balance, illness, death, childlessness, child abuse/neglect, family violence, peer pressure, addiction, rape, suicide, unemployment, natural disasters, epidemics and wars.  
 Family cohesion- the role of effective communication, compassion, perspective-taking, role distribution, positive conflict resolution, and teamwork.  
 Agencies offering support: Marriage and family therapists, Family courts, Child guidance clinics, counseling and rehabilitation centers.

**Recommended Readings:**

1. Arnett, J.J. (2005). Youth, cultures and societies in transition: The challenge of growing up in a globalized world. In F. Gale & S. Fahey. (Eds.), *Youth in Transition – The challenges of generational change in Asia* (pp 22-35). Bangkok: Regional Unit for Social and Human Sciences in Asia and the Pacific.
2. Baron, R. A., Byrne, D., & Branscombe, N. R. (2006). *Social psychology*. ND: Pushp Print Services.
3. Chaudhary, N., & Shukla, S. (2019). Family, identity, and the individual in India. In G. Misra (Ed.), *Psychology: Volume 2: Individual and the social: Processes and issues* (pp.143-189). New Delhi, India: Oxford University Press.
4. D'cruz, P., & Bharat, S. (2001). Beyond joint and nuclear: The Indian family revisited. *Journal of Comparative Family Studies*, 32(2), 167-194.
5. Duck, S. (1998). *Human relationships*. ND: Sage.
6. Ganguly-Scrase, R. (2007). Victims and agents: Young people's understanding of their social world in an urban neighbourhood in India. *Young*, 15, 321-341.
7. Gardiner, H.W., Mutter, J.D. & Kosmitzki, C. (1998). *Lives across cultures: cross-cultural human development*. Boston: Allyn and Bacon.
8. Gudykunst, W. B., & Toomey, S. T. (1998). *Culture and interpersonal communication*. ND: Sage.
9. Mines, M. (1998). Conceptualizing the person: Hierarchical society and Individual autonomy in India. *American Anthropologist*, 90(3), 568-579.
10. Pestonjee, D. M. (1992). *Stress and coping: The Indian experience*. New Delhi: Sage
11. Weiten, W., & Llyod, M. A. (2004). *Psychology applied to modern life*. Singapore: Thompson Asia Pvt. Ltd.

OR AMJ 1 C:

**TEXTILE DESIGN AND ILLUSTRATION**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

Design and development of textiles is the key to the fashion world. This course aims to develop innovative approaches to design by understanding the fundamentals of design. It emphasizes on building a variety of skills, in combination with theoretical knowledge and practical application. It also focuses on knowledge and techniques needed to produce fashion drawings along with the vocabulary of clothing styles and accessories. It will lead to the development of students' intellectual abilities, creativity, independence, critical self-awareness, imagination and skills that will enhance global employment opportunities on completion of the course

**Learning Objectives:**

1. Understand the principles and elements of design.
2. Apply the principles and elements of design in textiles and fashion design.
3. Explore and learn sketching and drawing techniques to represent styles and fabrics in fashion.
4. Learns basic traditional media methods to develop creative and customized fashion illustrations
5. Design apparels and accessories for men, women and children.

**Learning Outcomes:**

Successful completion of this course will enable students to

1. Define and apply the principles and elements of design in textiles and fashion design.
2. Design and create visual compositions in fashion illustration and explains fashion apparel construction when illustrating garments.
3. Analyze fabrics and their tactile/visual qualities to render them appropriately.
4. Apply basic traditional media methods to develop creative and customized fashion illustrations

**Course Content****Unit-I. Understanding Design****(10 Lectures)**

- Design-its meaning and importance,
- Importance of good taste in design
- Designer – Textile designer and Fashion designer
- Challenges and opportunities for design and designers

**Unit-II. Elements of Design and Its Co-relation****(12 Lectures)**

- Point, Line, Colour, Plane, Volume, Space, Shape, Form, light, Texture, pattern

**Unit-III. Principles of Design and Its Co-Relation****(12 Lectures)**

- Balance, Proportion and scale, Rhythm, Emphasis, Harmony, Contrast, Variety Law of area

**Unit-IV. Line, Colour and Pattern in Design****(14 Lectures)**

- Line and its expressiveness
- Types and composition
- Effect of lines to create rhythm and optical illusions Colour expression
- Colour wheel and its dimension Colour mixing and colour system Colour harmony and colour scheme Colour in different media
- Colour in fabric, texture and light Pattern
- Surface pattern and pattern group Repeat pattern

**Unit-V. Human Body Proportions and Illustrating Fashion****(12 Lectures)**

- Balance and proportion in human body: average and fashion figures
- Postures of male, female and children croquies and its significance: Front view, Back view, Side view and 3/4th view
- Stylizing the croquie and its importance Understanding fabric textures and drapes

**Recommended Readings:**

1. Derrick, L. (2018) Fashion Sketchbook: Fashion Sketchbook with figure templates (Fashion Croquis), Create Space Independent Publishing Platform
2. Elaine, S. (2013) The Dynamics of Fashion. 4<sup>th</sup> Ed. New York: Bloomsbury publication.
3. Julia Y.,& Donna G., (2011), the Fashion Careers Guidebook: A Guide to Every Career in the Fashion Industry and How to Get It, Barron's Educational Series.
4. Linda,T.,(2010), Portfolio Presentation for Fashion Designers, 3rd Edition, Fairchild books, New York.
5. Mary,L.G.,(2008), The Fairchild Encyclopedia of Menswear, Fairchild Publications, New York.
6. Michele W.B., Diane D., (2006), the Spec Manual, Fairchild Publications, New York.
7. Patrick, J. I. (2009) New Encyclopedia of Fashion Details: Over 1000 Fashion Details, London: B.T. Batsford.
8. Patrick, J. I. (1996) Fashion Design Illustration - men, London: B.T. Batsford.
9. Patrick, J. I. (2005) Fashion Design Illustration - men, London: B.T. Batsford
10. Patrick, J. I. (2003) Introduction to Fashion Design, London: B.T. Batsford
11. Sharon L. T. and Glazer, S.S. (2017), Illustrating Fashion, 4<sup>th</sup> Ed. New York: Fairchild Books. The Snap Fashion Sketch Book, Prentice Hall, NewJersey.
12. Stipelman, S. (2017) Illustrating Fashion, 4<sup>th</sup> Ed. New York: Fairchild Books.
13. Tate, S. L. & Glazer, B. (2007) The Snap Fashion Sketchbook, New Jersey: Prentice Hall.

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### III. ADVANCED MAJOR COURSE- AMJ 2 A: FOOD SERVICE MANAGEMENT

**Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100**

**Pass Marks: Th (SIE + ESE) = 40**

**(Credits: Theory-04) 60 Hours**

#### Course Description

The course “Food Service Management” aims at creating a basic understanding of various aspects of managing a food service operation particularly in the hospital dietary food service. This creates an awareness on the fundamental principles and functions of management, and the tools which can be used for simplifying work for efficient use of manpower and time and managing material and other resources. The practical experience will give students hands on experience from food procurement to service which will enable them to acquire managerial skills and also opens avenues to build confidence in them to become entrepreneurs in the food service industry.

#### Learning objectives:

Understand the organization in a hospital dietary service.

1. Gain knowledge on planning and organization of work in a dietary department.
2. Comprehend the basic concepts in financial and personnel management.
3. Know the different styles of food service. Develop managerial skills.

#### Learning outcomes:

After completion of the course the student will be able to

1. Suggest an efficient design by effective allocation of space to ensure smooth work flow in a hospital dietary.
2. Plan and organize food production and service in a hospital dietary by effective utilization of resources.
3. Implement attributes of financial and personnel management. Acquire good managerial skills.

#### Course content

##### Unit I

**(12 Lectures)**

Scope and objectives of food service

Types - Commercial – Hotels, Restaurants, fast food outlets, cafeterias, snack bars, kiosks, vending machines. Noncommercial – Hospitals, Nursing homes, Industrial canteens and child care centres.

Transport – Air, rail, road and ship catering. Miscellaneous – outdoor, contract and function catering. Evolution, Growth, Scope and Recent Trends in food service Industry.

##### Unit II

**(12 Lectures)**

Organization – Definition, types of organizational hierarchy suitable for a hospital dietary department. Physical plant – Planning space requirements in Receiving area, storage area, Preparation area and service area.

##### Unit III :

**(12 Lectures)**

Management – Principles of management; Functions of management – Planning, organizing, staffing, directing, coordinating, reporting and budgeting. Resources of management – Man, Money, Material, Machine, Method, Minute, Market. Tools of management – Organisation Chart, Job Description, Job Specification, Job Analysis, Work Simplification methods

##### Unit IV

**(12 Lectures)**

Food Service Systems – Conventional, Commissary, Ready prepare, Assembly Serve Systems

Food service - Types – centralized and decentralized service, Satellite service; Styles – Table service, Buffet, Banquet, Tray service and self service

##### Unit V : Financial and Personnel Management

**(12 Lectures)**

Financial management – Food cost, Labour cost, Overhead cost, Recipe costing, Menu Costing, Selling price, Break-even Analysis.

Personnel management – Man power planning, recruitment, selection, induction, training, performance appraisal, promotion and transfer.

Training Methods, Leadership, Communication in Food Service Operations Computer application in the management of hotel and hospital dietary department.

**Recommended Readings**

1. June Payne-Palacio, and Monica Theis (2016). Food service Management: Principles and Practices, 13th Edition Pub. Harlow: Pearson.
2. Mary B. Gregoire (2015). Food Service Organizations: A Managerial and Systems Approach, Prentice Hall.
3. Walker. J.R. (2006). Introduction to Hospitality Management, Dorling Kindersley (India) Pvt.ltd.
4. Ramesh B Rudani. (2019). Principles of Management, Second Edition, Mc Graw hill.
5. Kinton, R., Cessarani, V and Foskett, D, (2000), The Theory of Catering, Hodderand Stoughton.
6. Kiran (2019), Production planning and control,1<sup>st</sup> edition, eBook, ISBN: 9780128189375.
7. Kotler, P.(2019). Principles Of Marketing, 13th edition, Pearson.
8. Prasad, L. M. (2019). Principles & practice of Management, Sultan Chand and sons.
9. Dale,H. B. (2019). Total quality Management. 5<sup>th</sup> edition. Pearson India Education Ltd.ISBN:978-93-530-6631-4.
10. Paneerselvam, R. (2012). Production & Operation Management,3<sup>rd</sup> edition, PHI learning Pvt. Ltd.
11. Sethi, M. (2011). Institutional Food Management, New Age International (P) Limited, second edition

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OR AMJ 2 B:

**GENDER, SOCIETY AND HUMAN DEVELOPMENT**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

The course introduces students to gender and related concepts, and enables an understanding of gender as a socially constructed concept. It explores critical questions about the meaning and implications of gender in society, and acquaints students with key issues, debates, and questions pertaining to gender.

**Learning Objectives**

1. Critically understand the situation of women and men in Indian society from multiple perspectives.
2. Learn about the concepts of gender, patriarchy, equality, equity, and feminism as well as the intersection of social class and caste to determine the status of women.
3. Recognize how social institutions are patriarchal.
4. Develop sensitivity regarding the socio-cultural, economic and political factors that shape life experiences in relation to gender.
5. Learn about women's human rights and laws related to women in India.
6. Learn about different gender identities and sexual orientations- masculinities, LGBTQIA in the Indian context

**Learning Outcomes**

1. Describe basic concepts of gender and relevance of gender studies as an academic discipline.
2. Describe theories and concepts of gender and development.
3. Analyse human rights in terms of gender equality and gender equity.
4. Critically analyse existing laws and the legal system through a gender lens.
5. Analyse how gender is constructed in different types of media.

**Course Content****Unit-I Gender: A Social Construction****(12 Lectures)**

Differences between sex and gender – biological determinism Key gender concepts and definitions  
 Gender socialization in family and society  
 Patriarchal institutions and key areas of patriarchal control Caste, class and gender intersectionality in India  
 Gender identities and sexual orientations (femininity, masculinity, LGBTQIA)  
 Status of women – historical and contemporary perspectives  
 Introduction to women's studies/ gender studies as a discipline

**Unit-II Gender and Development: Approaches and Strategies****(12 Lectures)**

Concept of gender and development – indicators of human and gender development – equality and equity  
 Orientation to theories of women, gender and development (WID, WAD and GAD) Human Development Index (HDI), Gender Development Index (GDI), Gender Inequality Index (GII), and Gender Empowerment Measure  
 Gender budgeting and gender auditing  
 Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)

**Unit-III Gender, Rights and Laws****(12 Lectures)**

Girls, women, and human rights UDHR, UN-CEDAW and UN-CRC  
 Constitutional provisions accorded to women  
 Legal aspects related to women: PCPNDT Act, PWDVA, Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) act, Indecent Representation of Women (Prohibition) Act, The Dowry Prohibition Act.  
 Overview of laws related to marriage, divorce and property inheritance. The Women's Reservation Bill

**Unit-IV Role of Media in Social Construction of Gender****(12 Lectures)**

Social construction of gender reality by contemporary media  
 Media and perpetuation of gender stereotypes: rhetoric of the image, narrative Mainstream media and gender

Representation of women in media in political, cultural and social landscape  
 Researching and analyzing media from a gender perspective: in broadcast, print, new media. Gender and media ethics  
 Gender and ICTs

**Unit -V Gender, Health and Empowerment****(12 Lectures)**

Gender discrimination and under nutrition  
 Epidemiology of menstruation and menstrual disorder, health indicators and gender gap Socioeconomic inequality and women's health  
 Biological and psychological determinants of women's health (all in brief)  
 Gender inequality in labor market: segmented labor market and occupational segregation Gendered jobs and social inequality  
 Sex segregation at work place (in brief)

**Recommended Readings:**

1. Ambedkar, B.R. (1917). Caste in India: Their mechanism, genesis and development. New Delhi: Critical Quest.
2. Bhasin, K. (1993). What is patriarchy? New Delhi: Kali for Women.
3. Bhasin, K. (2003). Exploring masculinity. New Delhi: Women Unlimited.
4. Bhasin, K. (2000). Understanding gender. New Delhi. Kaali for Women.
5. Chakravarti, U. (2018). Gendering caste: Through a feminist lens. New Delhi: Sage.
6. Chatterjee, P. (2002). Community, gender and violence. Delhi: Permanent Black.
7. Das, B. (2009). Gender issues in development. Jaipur: Rawat Publications.
8. Goel, A, Kaur, A and Sultana, A. (2006). Violence against women: Issues and perspectives. New Delhi: Deep& Deep Publishers.
9. Jain, J., & Rai, S. (Eds.). (2002). Films and feminism: Essays in Indian cinema. Jaipur: Rawat Publications.
10. Dasgupta, S., Sinha, D., & Chakravarti, S. (2011). Media, gender, and popular culture in India: Tracking change and continuity. New Delhi: Sage Publishing India.
11. Kannabiran, K. (Ed.). (2013). Women and law: Critical feminist perspectives. New Delhi: Sage.
12. Kumar, S. (2019). LGBT Community in India: A study. New Delhi: Educreation Publishing
13. National Law School. Vols. I to IV Gender, human rights and the law.
14. Thomas, S. E. (2019). Gender, human rights and law. Volume - 6
15. Bangalore: Centre for Women and the Law, National Law School of India University
16. Websites of Government of India and National Commission for Women for Laws and Constitutional provisions accorded to women
  - a. [https://www.india.gov.in/sites/upload\\_files/npi/files/coi\\_part\\_full.pdf](http://ncw.nic.in/important-links>List-of-Laws-Related-to-Women</a></li>
<li>b. <a href=)
17. Websites of United Nations and UNDP, OHCHR to get the details of UDHR, UN CEDAW, UNCRC, MDGs and SDGs.
  - a. <https://www.un.org/en/universal-declaration-human-rights/>
  - b. <https://www.un.org/womenwatch/daw/cedaw/text/econvention.htm>

OR AMJ 2 C:

**DYEING, PRINTING AND FINISHING OF TEXTILES**

Marks: 25 (5 Attd. + 20 SIE: 1Hr) + 75 (ESE: 3Hrs) = 100

Pass Marks: Th (SIE + ESE) = 40

(Credits: Theory-04) **60 Hours****Course Description**

After the manufacturing of textiles, value addition is required. Dyeing printing and finishing of the textiles are the prime methods of value addition to the textiles. This course deals with the basics of the Dyeing, printing and finishing along with the influence of chemicals and auxiliaries on the end products. It further describes different types of dyeing, printing and finishing and explains the procedure of doing it on different fabrics to obtain required results. This will help in using reasonably priced dyes and dyeing procedure and operating according to ecological requirements and carrying out in the shortest possible time.

**Learning Objectives:**

1. Introduce basics of dyeing, printing and finishing
2. Inculcate the knowledge of auxiliaries and chemicals used for dyeing and printing
3. Enhance the understanding of the relation between the dyes, pigments and fabrics.
4. Acquaint students with the importance of finishing of textiles
5. Develop the skills in doing dyeing and printing of textiles
6. Reproducing the required shade from batch to batch.

**Learning Outcomes:**

Successful completion of this course will enable students to

1. Describe the basics of dyeing, printing and finishing.
2. Examine the knowledge of auxiliaries and chemicals used for dyeing and printing
3. Explain the relation between the dyes, pigments and fabrics.
4. Recommend the finishing for textiles
5. Dye and print textiles.
6. Reproduce the required shade from batch to batch.

**Course content****Unit-I. Introduction of Dyeing and Printing****(12 Lectures)**

History of dyeing and printing

Terms related to colour- Dye, pigment, light, hue, value, intensity

Colour wheel and schemes, Digital colour models: CMYK, RGB, Colour matching system

Directional and non-directional printing

Motifs types: Geometric, floral and novelty

**Unit-II. Basics of Dyeing and Printing****(12 Lectures)**

Classification of dyes Classification of Printing

Difference between dyes and pigments

Preparation of fabrics before dyeing and printing designing, scouring, bleaching, mercerization, carbonization Heat setting: processing method

**Unit-III. Dyeing****(12 Lectures)**

Classification of dyes. Auxiliaries and machineries used for dyeing Methods for dyeing

Factors affecting dyeing, dyeing of cotton, wool and silk Dyeing of viscose and polyester

Natural dyeing methods and limitations After treatments

**Unit-IV. Printing****(12 Lectures)**

Preparation of print paste and printing table Pigments and dyes used

Direct style of printing Resist style of printing Discharge style of printing Novel techniques of printing

Fixation and after treatment processes Dyes for digital textile printing

**Unit-V. Finishes****(12 Lectures)**

Classification: Physical, Chemical and Functional Objectives of textile finishing

Factors affecting the finishing of textiles: fibre, weave, physical properties, end use, susceptibility to chemical modification.

Finishes for achieving different texture Finishes for enhancing specific characteristics

**Recommended Readings:**

1. Chavan, R.B. (1979). Textile Printing (Book of Papers) Department of Textile Technology, IIT New Delhi.
2. Giles, G.H. (1974) Laboratory Course in Dyeing Hart & Clough; Bradford; England Kale
3. D.G. (1976) Principles of Cotton Printing. Maharaja Brothers Ahmedabad.
4. Saraiya, N.S. & Gupta P.C. Technology and Management of Printing.
5. Shenai, V.A. (1979). Chemistry of Dyes and Principles of Dyeing. Sevak Publications Mumbai
6. Trotman E.R. (1975). Dyeing and Chemical Technology of Textile Fibre. Charles Griffin & Co. Ltd., London
7. Wynne Andrea (1997). Textiles. The Motivate Series Mcmillain Education Ltd., London.
8. Vilensky L.D. & Gohil E.P. G. (1987) Textile Science, An explanation of fiber properties. CBS Publishers & Distribution, Delhi.

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**IV. ADVANCED MAJOR COURSE- AMJ 3 A/ B/ C:**  
**PRACTICALS-VII A:**

**Marks: Pr (ESE: 3Hrs) =100**

**Pass Marks: Pr (ESE) = 40**

**(Credits: Practicals-04) 120 Hours**

**Instruction to Question Setter for**

**End Semester Examination (ESE):**

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

Experiment	= 60 marks
Practical record notebook	= 15 marks
Viva-voce	= 25 marks

**Practicals:**

**Part I**

1. Microbiological Examination of different food samples
2. Bacteriological Analysis of Water
3. Assessment of surface sanitation by swab/rinse method
4. Assessment of personal hygiene
5. Biochemical tests for identification of bacteria
6. Scheme for the detection of food borne pathogens
7. Detection of common adulterant in food:
  - a) Khesari flour in besan
  - b) Vanaspati in Ghee/Butter.
  - c) Dried papaya seeds in black pepper,
  - d) Metanil yellow in turmeric or colored sweet products
  - e) Artificially foreign matter in tea (dust/leaves).

**Part II**

1. Visit to a commercial and a non-commercial food service institution.
2. Practice work simplification techniques in the laboratory.
3. Prepare costing sheet for recipes and menus.
4. Organize a food sale - Plan the menu, resources and execute production and sale and estimate profit or loss.

**Reference Books**

1. Mann, F.G. & Saunders, B.C. *Practical Organic Home Science*, Pearson Education (2009)
2. Furniss, B.S., Hannaford, A.J., Smith, P.W.G., Tatchell, A.R. *Practical Organic Home Science, 5th Ed.*, Pearson (2012)
3. Mahtab, S, Bamji S, Kamala Krishnasamy, Brahmam G.N.V, *Text Book of Human Nutrition*, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi, 2012.
4. Srilakshmi, B., Dietetics, New Age International (P) Ltd., New Delhi, 2013.
5. Swaminathan, M., *Advanced Textbook on Food and Nutrition*, Vol. 1, Second Edition, Bangalore Printing and Publishing Co. Ltd., Bangalore, 2012.
6. *Dietary Guidelines for Indians*, ICMR, National Institute of Nutrition.

OR AMJ 3 B:

**PRACTICALS-VII B:****Marks: Pr (ESE: 3Hrs) =100****Pass Marks: Pr (ESE) = 40****(Credits: Practicals-04) 120 Hours*****Instruction to Question Setter for******End Semester Examination (ESE):****There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:****Part I**

1. Group discussion/role play/simulations on interpersonal relationships
2. Conduct workshops on: cultural variations in interpersonal relationships, family dynamics, verbal vs non-verbal communication, and social networking.
3. Plan an interaction with a counselor or therapists working in the area of interpersonal conflicts (in the family family/peer group/parent-child dyad/workplace).
4. Conduct a workshop on enhancing family cohesion and conflict resolution
5. Select a form of family crisis or stress. Describe ways of preventing and managing the crisis.
6. Create posters about ways to improve interpersonal communication skills and patterns of relating to enhance resiliency in relationships.

**Part II**

1. Analysis of gender differentials using development indicators
2. Gender based analysis of media with special reference to portrayal of women
3. Case studies for programs and campaign for women's development.
4. Analyze the achievements of MDGs
5. Analyze the progress of SDGs
6. Critically engage with Laws and Acts for Women in India
7. Observe the representation of masculinity in Indian movies
8. Submit report after visiting local Women's organization and LGBTQAI organizations

**Recommended Readings:**

1. Arnett, J.J. (2005). Youth, cultures and societies in transition: The challenge of growing up in a globalized world. In F. Gale & S. Fahey. (Eds.), *Youth in Transition – The challenges of generational change in Asia* (pp 22-35). Bangkok: Regional Unit for Social and Human Sciences in Asia and the Pacific.
2. Baron, R. A., Byrne, D., & Branscombe, N. R. (2006). *Social psychology*. ND: Pushp Print Services.
3. Chaudhary, N., & Shukla, S. (2019). Family, identity, and the individual in India. In G. Misra (Ed.), *Psychology: Volume 2: Individual and the social: Processes and issues* (pp.143-189). New Delhi, India: Oxford University Press.
4. D'cruz, P., & Bharat, S. (2001). Beyond joint and nuclear: The Indian family revisited. *Journal of Comparative Family Studies*, 32(2), 167-194.
5. Duck, S. (1998). *Human relationships*. ND: Sage.
6. Ganguly-Scrase, R. (2007). Victims and agents: Young people's understanding of their social world in an urban neighbourhood in India. *Young*, 15, 321-341.
7. Gudykunst, W. B., & Toomey, S. T. (1998). *Culture and interpersonal communication*. ND: Sage

OR AMJ 3 C:

**PRACTICALS-VII C:****Marks: Pr (ESE: 3Hrs) =100****Pass Marks: Pr (ESE) = 40****(Credits: Practicals-04) 120 Hours*****Instruction to Question Setter for******End Semester Examination (ESE):****There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 60 marks</i>
<i>Practical record notebook</i>	<i>= 15 marks</i>
<i>Viva-voce</i>	<i>= 25 marks</i>

**Practicals:****Part I**

1. Introduction of flat sketches, garment features and accessories: types of silhouettes, skirts, trousers, necklines, collars, sleeves, coats and jackets, footwear, handbags.
2. Factors to be considered when designing for children, women and men- formal wear, casual wear, night wear, sportswear, ethnic wear, wedding wear
3. Drawing average and fashion figures: stick, block and flesh
4. Observation of people and live sketching in different postures
5. Converting photographic poses from magazines into fashion illustration
6. Exploring medias to create fabric textures
7. Rendering of fabric swatches and fabric drapes using different colour medias
8. Visit to fashion museum / virtual tour of a fashion museum.
9. Visiting designers' boutique / designer's website
10. Preparation of an album of garment features for designing of Apparels.
11. Preparation of an album of accessories suitable for different occasion.
12. Observation of people in different situations and live sketching of styles worn
13. Designing of apparel and accessories for men as per the given brief.
14. Designing of apparel and accessories for women as per the given brief.
15. Designing of apparel and accessories for children as per the given brief.
16. Portfolio development

**Part II**

1. Preparation of fabric for dyeing and printing
  - a. Scouring, desizing, bleaching
2. Dyeing: Dyeing of yarn and fabric with different classes of dyes by varying the temperatures, % shade and M: L ratio.
  - a. Dyeing of cotton yarn and fabric with direct dyes, vat and reactive dyes.
  - b. Dyeing of silk, wool and nylon yarn and fabrics with basic and acid dyes.
  - c. Dyeing of polyester yarn and fabric with disperse dyes.
3. Making designs for
  - a. Blocks, stencil and screen
4. Preparation of
  - a. Blocks, stencil and screen
5. Printing of fabrics using:
  - i. Direct style - block, stencil and screen
  - ii. Resist style - Tie & Dye, Batik
6. Application of starch by varying concentration and material
  - a. Natural starch
  - b. Synthetic starch
7. Printing on garments by different styles
8. Product development

**Recommended Readings:**

1. Derrick, L. (2018) Fashion Sketchbook: Fashion Sketchbook with figure templates (Fashion Croquis), Create Space Independent Publishing Platform
2. Elaine, S. (2013) The Dynamics of Fashion. 4<sup>th</sup> Ed. New York: Bloomsbury publication.
3. Linda, T., (2010), Portfolio Presentation for Fashion Designers, 3rd Edition, Fairchild books, New York.
4. Mary, L.G., (2008), The Fairchild Encyclopedia of Menswear, Fairchild Publications, New York.
5. Michele W.B., Diane D., (2006), the Spec Manual, Fairchild Publications, New York.
6. Patrick, J. I. (2009) New Encyclopedia of Fashion Details: Over 1000 Fashion Details, London: B.T. Batsford.
7. Patrick, J. I. (2005) Fashion Design Illustration - men, London: B.T. Batsford
8. Patrick, J. I. (2003) Introduction to Fashion Design, London: B.T. Batsford
9. Sharon L. T. and Glazer, S.S. (2017), Illustrating Fashion, 4<sup>th</sup> Ed. New York: Fairchild Books. The Snap Fashion Sketch Book, Prentice Hall, New Jersey.
10. Stipelman, S. (2017) Illustrating Fashion, 4<sup>th</sup> Ed. New York: Fairchild Books.
11. Tate, S. L. & Glazer, B. (2007) The Snap Fashion Sketchbook, New Jersey: Prentice Hall.

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## COURSES OF STUDY FOR FYUGP IN “HOME SCIENCE” MINOR

**MINOR COURSE-1A****(SEM-I)****I. MINOR COURSE- MN 1A:  
INTRODUCTORY HOME SCIENCE**

Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75

Pass Marks: Th (SIE + ESE) = 30

(Credits: Theory-03) **45 Hours****Course Description**

This course will give a basic understanding of overall domain of Home Science as a discipline. It will deal with the basic knowledge of all the five branches or area of specialisation under the subject Home Science as an applied science

**Course Objectives**

1. To make students enable to understand the domains of Home Science as a Subject
2. To make students aware of basics of Nutrition for a healthy life.
3. To make an understanding of Life and Human Development
4. To develop understanding of resources their best utilisation, textiles and their uses, Home Science extension education system for better community outreach programme

**Course Outcome**

On successful completion of course

1. Students will develop a basic understanding of Home Science as Subjects.
2. Students will develop knowledge and understanding about health & nutrition, Human Development and its need, textiles & their uses, family resources and extension education system in order to achieve the aimed SDC by 2030.

**Course Content****Unit I- Foods and Nutrition****(09 Lectures)**

Basic understanding of Foods, Nutrition, Health and its relationship, terminologies  
Function of Food, Food Groups as source of various nutrients. Macro and micronutrients, water.  
Principles of meal planning, RDA. A brief knowledge of nutrition during infancy, childhood, adolescence, adulthood, old age and special condition (pregnancy, lactation, calamities, disaster

**Unit II- Human Development****(09 Lectures)**

Definition, Introduction and importance of Human Development. Pre-natal development, birth and neonates, stages and factors affecting pre-natal development. Various developments during Infancy, Childhood, Adolescence, Adulthood, old age, (Physical, Mental, Social, Emotional)

**Unit III- Family Resource Management****(09 Lectures)**

Concept, Universality, and Scope of management, approaches to management  
Family as resource, Meaning, classification and characteristics of resources, factor affecting utilisation of resources, maximising use of resources and resource conservation. Family as resource, availability and management of resources by an individual/family- money, time, energy, space. Event planning and execution.

**Unit IV- Textiles and Clothing****(09 Lectures)**

Textile fibers, its properties, classification, a brief comparative study of production, properties, uses of major natural (cotton, wool, silk, linen, jute) and manmade fiber (Nylon, Polyester, acrylic)  
Basic concept of yarn and fabric manufacturing process. Reason of wearing clothes, factors affecting selection of cloth/ apparel. Stain removal of major stains

**Unit V- Home Science Extension Education****(09 Lectures)**

Definition, concept, nature, philosophy and principles of Home science extension education  
Methods and media of community outreach; Audio visual aids- concept, classification, characteristics and scope. Relationship between communication, extension and development.

**Recommended Readings:**

1. Srilakshmi (2007). Food Science, 4th Edition. New Age International Ltd.
2. Wardlaw and Insel MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition. Mosby.
3. Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, New Delhi. 2015
4. Santrock, J. W. (2007). A topical approach to life-span development. New Delhi: Tata McGraw- Hill.
5. Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient BlackSwan.
6. Patri and Patri (2002); Essentials of Communication. Greenspan Publications
7. Rao V.S. and Narayana P.S., Principles and Practices of Management, 2007, Konark Pub. Pvt. Ltd.
8. Corbman, P.B., (1985) Textiles- Fiber to Fabric (6th Edition), Gregg Division/McGraw Hill Book Co.
9. Sekhri S., (2013) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi

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**II. MINOR COURSE- MN 1A PR:  
MINOR PRACTICALS-1A PR**

<b>Marks: Pr (ESE: 3Hrs) = 25</b>	<b>Pass Marks: Pr (ESE) = 10</b>
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(Credits: Practicals-01) **30 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 15 marks</i>
<i>Practical record notebook</i>	<i>= 05 marks</i>
<i>Viva-voce</i>	<i>= 05 marks</i>

**Practicals:**

1. Cultural practices related to pregnancy and infancy
2. Methods of study children- interview, observation, narratives
3. Planning and preparation of diet for infant, children, pregnant and lactating women
4. Planning and executing Birthday party/ fresher's party
5. Stain removal- Haldi, Curry, nailpolish, ball point ink, paint/warnish/ polish
6. Preparation of chart and poster to educate Mothers for caring their new born babies

**Recommended Readings:**

1. Srilakshmi (2007). Food Science, 4th Edition. New Age International Ltd.
2. Wardlaw and Insel MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition. Mosby.
3. Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, New Delhi. 2015
4. Santrock, J. W. (2007). A topical approach to life-span development. New Delhi: Tata McGraw- Hill.
5. Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient BlackSwan.
6. Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient BlackSwan.
7. Patri and Patri (2002); Essentials of Communication. Greenspan Publications
8. Rao V.S. and Narayana P.S., Principles and Practices of Management, 2007, Konark Publishers Pvt. Ltd.
9. Corbman, P.B., (1985) Textiles- Fiber to Fabric (6th Edition), Gregg Division/McGraw Hill Book Co., US.
10. Sekhri S., (2013) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi

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**MINOR COURSE-1B****(SEM-III)****III. MINOR COURSE- MN 1B:  
NUTRITION: A LIFESPAN APPROACH****Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75****Pass Marks: Th (SIE + ESE) = 30****(Credits: Theory-03) 45 Hours****Course Description**

The course deals with basic understanding of nutritional requirements of various age groups. In order to meet the nutritional requirement, it also gives concept of balanced diet, meal planning, recommended nutritional requirements, nutritional assessment etc.

**Course Objective**

1. To develop an understanding of importance of Nutrition and nutritional requirement through every phases of life
2. To learn the basics of meal planning to ensure the complete nutrition,

**Course Outcome**

1. On successful completion of course students will be able to identify the nutritional need of any age group
2. Will be able to plan, prescribe the proper diet to meet the RDA of any age group or category of community
3. Will develop an understanding of meeting the nutritional need by alternative food group or sources.

**Course Content****Unit I: Principles of Meal Planning (10 Lectures)**

Balanced diet, Food groups, Food exchange list , Factors effecting meal planning and food related behaviour. Dietary guidelines for Indians and food pyramid

**Unit II: Nutrient Requirements****(08 Lectures)**

Concept of Dietary Reference Intakes. Overview of methods for assessment of nutrient needs

**Unit III: Nutrition for Adulthood and Old Age****(09 Lectures)**

Adult: Nutrient requirements for adult man and woman, RDA, nutritional guidelines, nutritional concerns, diet and lifestyle related diseases and their prevention. Elderly – Physiological changes in elderly, RDA, nutritional guidelines, nutritional and health concerns in old age and their management, factors contributing to longevity

**Unit IV: Nutrition During Pregnancy and Lactation****(09 Lectures)**

Pregnancy – Physiological changes in pregnancy, RDA, nutritional guidelines, nutritional needs, effect of nutritional status on pregnancy outcome, optimal weight gain and its components, nutrition related problems in pregnancy and ways to control them. Lactation – Physiology of lactation, RDA and nutritional needs of a nursing mother, nutritional guidelines

**Unit V: Nutrition During Childhood****(09 Lectures)**

Growth and development, growth reference/ standards, RDA, nutritional guidelines, nutritional concerns and healthy food choices - Infants - Preschool children - School children - Adolescents

**Recommended Readings:**

1. Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
2. Wardlaw GM, Hampi JS, DiSilvestro RA (2004). Perspectives in Nutrition, 6th edition. McGraw Hill.
3. ICMR (2011) Dietary Guidelines for Indians. Published by National Institute of Nutrition, Hyderabad.
4. ICMR (2010) Recommended Dietary Allowances for Indians. Published by National Institute of Nutrition, Hyderabad. 105
5. Chadha R and Mathur P eds. (2015) Nutrition: A Lifecycle Approach. Orient Blackswan. New Delhi.
6. Seth V and Singh K (2006). Diet Planning through the Life Cycle: Part 1 Normal Nutrition. A Practical Manual. Elite Publishing House Pvt. Ltd. New Delhi.
7. Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.

**IV. MINOR COURSE- MN 1B PR:  
MINOR PRACTICALS-1B PR**

<b>Marks: Pr (ESE: 3Hrs) = 25</b>	<b>Pass Marks: Pr (ESE) = 10</b>
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(Credits: Practicals-01) **30 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 15 marks</i>
<i>Practical record notebook</i>	<i>= 05 marks</i>
<i>Viva-voce</i>	<i>= 05 marks</i>

**Practicals:**

**1. Introduction to Meal Planning**

Use of food exchange list

**2. Planning and Preparation of Diets and Dishes for**

- Young adult
- Pregnant and Lactating woman
- Preschool child
- School age child and adolescents
- Elderly

**3. Planning Complementary Foods for Infants and Toddlers**

**Recommended Readings:**

1. Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
2. Wardlaw GM, Hampi JS, DiSilvestro RA (2004). Perspectives in Nutrition, 6th edition. McGraw Hill.
3. ICMR (2011) Dietary Guidelines for Indians. Published by National Institute of Nutrition, Hyderabad.
4. ICMR (2010) Recommended Dietary Allowances for Indians. Published by National Institute of Nutrition, Hyderabad. 105
5. Chadha R and Mathur P eds. (2015) Nutrition: A Lifecycle Approach. Orient Blackswan. New Delhi.
6. Seth V and Singh K (2006). Diet Planning through the Life Cycle: Part 1 Normal Nutrition. A Practical Manual. Elite Publishing House Pvt. Ltd. New Delhi.
7. Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.

**MINOR COURSE-1C****(SEM-V)**

**V. MINOR COURSE- MN 1C:**  
**CURRENT CONCERNS IN PUBLIC HEALTH NUTRITION**

Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75

Pass Marks: Th (SIE + ESE) = 30

(Credits: Theory-03) **45 Hours****Course description**

The focus of this course is to identify health and nutrition problems and integrating nutritional services with medical and social services within the community. This course will also provide basic knowledge and skills relevant to the practice of community nutrition, the role of nutrition in health promotion and perspectives for resolving community nutrition problems, Needs for assessment issues and national and state community nutrition programs, determinants of health outcomes, measurement of nutrition and health status, food and nutrition policy, legislative issues and management of community programs.

**Course objectives:**

1. To know the basics of public health nutrition
2. To understand the need of prioritizing nutrition issues
3. To assess the nutritional and Health Status of an individual and the community.
4. To learn nutritional programmes and policies to overcome malnutrition
5. To understand various national and International nutritional organizations for combating malnutrition
6. To apply ICT in the formulation of community nutrition education programme

**Course outcomes:**

1. The concepts and knowledge required for the delivery of community nutrition services will be applied to program planning, intervention and program evaluation
2. Gaining knowledge on nutritional programmes and policies overcoming malnutrition
3. Understanding the national, international and voluntary nutritional organizations to combat malnutrition
4. Able to organize community nutrition education programme with the application of computers.
5. Apply immunological intervention programmes to overcome epidemic of communicable diseases.

**Course Content****Unit I: Nutritional Problems Affecting the Community** **(15 Lectures)**

Aetiology, prevalence, clinical features and preventive strategies of-  
 Undernutrition - Protein energy malnutrition: Severe Acute Malnutrition and Moderate Acute Malnutrition, Nutritional Anaemias, Vitamin A Deficiency, Iodine Deficiency Disorders  
 Over nutrition – obesity, coronary heart disease, diabetes  
 Fluorosis

**Unit II: Strategies for Improving Nutrition and Health Status of the Community** **(5 Lectures)**

Appropriate interventions involving different sectors such as Food, Health and Education

**Unit III: Unit III: Nutrition Policy and Programmes** **(15 Lectures)**

National Nutrition Policy  
 Integrated Child Development Services (ICDS) Scheme, Mid-day Meal Programme (MDMP), National programmes for prevention of Anaemia, Vitamin A deficiency, Iodine Deficiency Disorders Unit

**Unit IV: Food and Nutrition Security** **(10 Lectures)**

Concept, components, determinants and approaches  
 Overview of Public Sector programmes for improving food and nutrition security

**Recommended Readings:**

1. Wadhwa A and Sharma S (2003). Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
2. Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition. M/s Banarasidas Bhanot Publishers, Jabalpur, India.

3. Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
4. Gibney MJ (2005). Public Health Nutrition.
5. Vir S. (2011) Public Health Nutrition in developing countries. Vol 1 and 2
6. ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
7. ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
8. Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi

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**VI. MINOR COURSE- MN 1C PR:  
MINOR PRACTICALS-1C PR**

<b>Marks: Pr (ESE: 3Hrs) = 25</b>	<b>Pass Marks: Pr (ESE) = 10</b>
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(Credits: Practicals-01) **30 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 15 marks</i>
<i>Practical record notebook</i>	<i>= 05 marks</i>
<i>Viva-voce</i>	<i>= 05 marks</i>

**Practicals:**

1. Planning and evaluation of low cost nutritious recipes for preschoolers, school age children, adolescents, pregnant and nursing mothers.
2. Planning and evaluation of low calorie nutritious recipes for weight management.
3. Planning and conducting a food demonstration.
4. Visit to an ongoing nutrition programme.

**Recommended Readings:**

1. Wadhwa A and Sharma S (2003). Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
2. Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition. M/s Banarasidas Bhanot Publishers, Jabalpur, India.
3. Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
4. Gibney MJ (2005). Public Health Nutrition.
5. Vir S. (2011) Public Health Nutrition in developing countries. Vol 1 and 2
6. ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
7. ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
8. Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi

**MINOR COURSE-1D****(SEM-VII)****VII. MINOR COURSE- MN 1D:  
CARE AND WELL-BEING IN HUMAN DEVELOPMENT****Marks: 15 (5 Attd. + 10 SIE: 1Hr) + 60 (ESE: 3Hrs) = 75****Pass Marks: Th (SIE + ESE) = 30****(Credits: Theory-03) 45 Hours****Course Description**

Course deals with basic concept of Human development, factors affecting development and its relation with wellbeing. It also aims to develop understanding about programme and policies for promoting human development.

**Course Objective**

1. To develop basic understanding and knowledge of Human development and factor affecting it
2. To enable to have idea and knowledge of policies and programs related to Human development

**Course Outcome**

1. On completion of this course students will be well acquainted with knowledge for uplifting general population through better understanding of knowledge of human development

**Course Content****Unit I: Care and Human Development****(10 Lectures)**

- Definition, concepts & relevance of care
- Vulnerable periods in life that require care
- Principles & components of care

**Unit II: Well-being and Human Development****(10 Lectures)**

- Concept of well-being-- physical, psychological, spiritual
- Life crises and well-being • Factors & experiences that promote well-being

**Unit III: Care & well-being at different stages of life****(10 Lectures)**

- Childhood years • Adolescence • Adulthood and old age
- Well-being of caregivers

**Unit IV: Policies, Services & Programs****(15 Lectures)**

- School health programs
- Nutrition & health for all
- Counselling & yoga

**Recommended Readings:**

1. IGNOU. (2011). Positive psychology-2, MCFT-006 Applied social Psychology. New Delhi: IGNOU. 111
2. Santrock, J.W. (2007). Life Span Development (3rd ed.). New Delhi: Tata McGraw-Hill.
3. Seligman, M.E.P. (2002). Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment. New York: Free Press.
4. Sriram, R. ( 2004). Ensuring infant and maternal health in India. In J. Pattnaik (Ed.). Childhood in South Asia: A critical look at issues, policies and programs. Conn .USA: Information Age.
5. Singh, P.( 1999). Child health & well-being: Psychosocial care within & beyond hospital walls. In T.S. Saraswathi (Ed.).Culture, socialization and human development. New Delhi: Sage.

**VIII. MINOR COURSE- MN 1D PR:  
MINOR PRACTICALS-1D PR**

<b>Marks: Pr (ESE: 3Hrs) = 25</b>	<b>Pass Marks: Pr (ESE) = 10</b>
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(Credits: Practicals-01) **30 Hours**

***Instruction to Question Setter for***

***End Semester Examination (ESE):***

*There will be one Practical Examination of 3Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:*

<i>Experiment</i>	<i>= 15 marks</i>
<i>Practical record notebook</i>	<i>= 05 marks</i>
<i>Viva-voce</i>	<i>= 05 marks</i>

**Practicals:**

1. Observations of children (1 infant, 1 toddler) to understand their care needs
2. Interview of a mother of a school-going child to understand her perspective of care and child's well-being
3. Interaction with two adolescents (male, female) to explore their perspectives on well-being
4. Visit to a senior citizens' home to study their care and well-being
5. Lecture/workshop by a counselor on significance of counseling
6. Participation in yoga/ self-development session

**Recommended Readings:**

1. IGNOU. (2011). Positive psychology-2, MCFT-006 Applied social Psychology. New Delhi: IGNOU. 111
2. Santrock, J.W. (2007). Life Span Development (3rd ed.). New Delhi: Tata McGraw-Hill.
3. Seligman, M.E.P. (2002). Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment. New York: Free Press.
4. Sriram, R. (2004). Ensuring infant and maternal health in India. In J. Pattnaik (Ed.). Childhood in South Asia: A critical look at issues, policies and programs. Conn. USA: Information Age.
5. Singhi, P. (1999). Child health & well-being: Psychosocial care within & beyond hospital walls. In T.S. Saraswathi (Ed.). Culture, socialization and human development. New Delhi: Sage.