

# **FOUR YEARS UNDERGRADUATE PROGRAMME IN HOME SCIENCE**

**2022**

**(Based on NEP-2020, LOCF and CBCS)**

*In accordance with the Manipur University Ordinance for Undergraduate  
Programmes on Science, Arts and Commerce, 2021*



**Syllabus for Home Science  
School of Human and Environmental Sciences  
Manipur University, Canchipur, Imphal - 795003**

## **Preamble:**

Home Science has contributed a great deal towards national development by training students to take up leadership roles in extension and community outreach programs. The students are encouraged to develop a scientific temper. Familiarizing them with the use of newer technologies, methods in family and community linkages, and sustainable use of resources for human development are the hall mark of education in Home Science. As a discipline Home Science integrates the ingredients of the sciences, social sciences and technology to facilitate the study of and enhance the quality of human life. Its approach is therefore inherently interdisciplinary. Traditionally, Home Science has adopted an ecological approach in its curriculum that engages the student through teaching, research and extension. The education process in Home Science underscores the importance of an individual's dynamic relationship with his/her family, community and society as a whole, as well as with the resources in the environment. Higher education learning in Home Science subjects provides students the opportunity to sharpen their capacities with a sense of social responsibility.

In contemporary times, Home Scientists promote capacity building of individuals and communities for social and economic empowerment. They train community women and youth from various strata of society for entrepreneurship. Many Home Scientists have done exceptionally well as entrepreneurs themselves. They do not remain job seekers but have also become job creators. They gain and provide employment in research organizations, food and textile industries, dietetic practice, education and child development domains, accreditation of green buildings, strategic planning and communication technologies. Keeping in view the growing aspirations of today's youth and the capacity of Home Science discipline to deliver, the present Learning Outcome-based Curriculum Framework (LOCF) and Choice Based Credit System (CBCS) Curricula have been drawn up.

Years of national and international experience in the field has contributed to the wisdom that all the five windows of opportunity that Home Science offers be opened for i.e. Food and Nutrition, Human Development and Childhood Studies, Resource Management and Design Application, Development Communication and Extension, and Fabric and Apparel Sciences. In this course, the students will learn the fundamental principles and foundations of all the five areas. They are expected to internalize the principle of a Home Scientist, that is, to give back to the community from which they draw, for sustainable development. This is a major contribution of Home Science in both developed and developing societies.

### **The Objectives of 4 Year UG Programme of Home Science:**

- To understand and appreciate the role of interdisciplinary sciences in the development and well-being of individuals, families and communities
- To learn about the sciences and technologies that enhance quality the life of people
- To acquire professional and entrepreneurial skills for economic empowerment of the student in particular, and community in general
- To develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development
- To take science from the laboratory to the people

## National Educational Policy 2020

Under National Educational Policy 2020 of the Government of India and the University Grants Commission's Guidelines for the Learning Outcomes-based Curriculum Framework (LOCF) under the Choice Based Credit System (CBCS), the Manipur University hereby makes the Ordinance titled *Manipur University's Ordinance for Undergraduate Programmes in Science, Arts and Commerce, 2021*.

The Ordinance supersedes the existing Ordinance for Bachelor of Arts and Bachelor of Science (Six-Semester System), 2010. The undergraduate academic programme governed by this Ordinance shall be of four years duration with multiple exit options within this period with appropriate certifications namely :

- (a) **Bachelor's Certificate** in a Discipline upon the successful completion of the First Year (Two Semesters);
- (b) **Bachelor's Diploma** in a Discipline upon the successful completion of the Second Year (Four Semesters);
- (c) **Bachelor's Degree** in a Discipline at the successful completion of the Third Year (Six Semesters);
- (d) **Bachelor's Degree with Honours** in a Discipline at the successful completion of the Four Year (Eight Semesters).

### I. Courses of Undergraduate Programmes:

The undergraduate programmes governed by this Ordinance contain the following course components:

**Core Course:** This is a course which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline/subject of study. Each of the Core Courses shall contain two components: Theory and Practical/Tutorial. Theory Paper having Practical shall carry 4 Credits so that Practical carries 2 Credits. Theory Paper having Tutorial shall carry 5 Credits so that Tutorial carries 1 Credit.

**Elective Course:** Generally, an elective course is a course which can be chosen from a pool of courses which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill.

#### An Elective Course may be Three Types:

**Discipline Specific Elective (DSE) Course:** Elective courses offered by the main discipline/subject of study are referred to as Discipline Specific Elective Courses. This course is to advance knowledge and skill in the core domain. Each of the DSE courses shall contain two components: Theory and Practical/Tutorial. Theory Paper having Practical shall carry 4 Credits so that Practical carries 2 Credits. Theory Paper having Tutorial shall carry 5 Credits so that Tutorial carries 1 Credit.

**Dissertation/Project/Internship:** An elective course designed to acquire special/advanced knowledge is termed as dissertation/project. This is considered as a special course involving application of knowledge in solving/ analyzing/ exploring a real life situation/ difficult problem. Dissertation/Project Work/Internship is optional and it may be offered in lieu of a discipline specific elective paper in 8<sup>th</sup> Semester.

**Generic Elective Course (GEC):** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek a wide exposure is called a Generic Elective.

A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective. Each of the GEC Courses shall contain two components: Theory and Practical/Tutorial. Theory Paper having Practical shall carry 4 Credits so that Practical carries 2 Credits. Theory Paper having Tutorial shall carry 5 Credits so that Tutorial carries 1 Credit.

**Ability Enhancement Course:** The Ability Enhancement Course may be of two kinds. Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). AECC courses are the courses based upon the content that leads to Knowledge enhancement: (i) Environmental Science and (ii) English/MIL Communication. These are mandatory for all disciplines. SEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc. These may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge. Each of the AECC and SEC courses shall carry 4 Credits.

**Value Addition Courses (VAC):** These are courses that will help develop all capacities of human beings - intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner. It includes subjects like Yoga, Sports, Health Care, NCC, NSS, Ethics, Culture etc. VAC courses may be chosen from a pool of courses. Each VAC course shall carry 2 Credits.

## 2. Course Structure:

The course structure for the 4-year UG programme shall be as under:

### Course structure for 4-Year Undergraduate programmes

Semester	Core Credit	DSE (Credit)	GEC (Credit)	AECC (Credit)	SEC (Credit)	VAC (Credit)	Semester (Credit)
I	Core-1(6)			AECC-1 (4) English/MIL	SEC-1 (4)	VAC-1 (2)	24 Credits
	Core-2(6)					VAC-2 (2)	
II	Core-3(6)			AECC-2 (4) Environment al Sc.	SEC-2 (4)	VAC-3 (2)	24 Credits
	Core-4(6)					VAC-4 (2)	
<b>Exit option with Bachelor's Certificate in a Discipline on completion of courses equal to a minimum of 46 Credits</b>							
III	Core-5(6)		GEC-1 (6)			VAC-5 (2)	26 Credits
	Core-6(6)						
	Core-7(6)						
IV	Core-8(6)		GEC-2(6)			VAC-6 (2)	26 Credits
	Core-9(6)						
	Core-10(6)						
<b>Exit option with Bachelor's Diploma in a Discipline on completion of courses equal to a minimum of 96 Credits</b>							
V	Core-11(6) Core-12(6)	DSE-1 (6)	GEC-3(6)			VAC-7 (2)	26 Credits
VI	Core-13(6) Core-14(6)	DSE-2 (6)	GEC-4(6)			VAC-8 (2)	26 Credits
<b>Exit option with Bachelor's Degree in a Discipline on completion of courses equal to a minimum of 140 Credits</b>							
VII	Core-15(6) Core-16(6)	DSE-3 (6)	GEC-5(6)				24 Credits
VIII	Core-17(6) Core-18(6)	DSE-4 (6)/ Dissertation	GEC-6(6)				24 Credits
<b>Award of Bachelor's Degree with Honours in a Discipline on completion of courses equal to a minimum of 182 Credits</b>							

## 3. Bachelor's Certificate

The Bachelor's Certificate in a discipline is obtainable after 1 year (two semesters) of study. A Bachelor's Certificate in a discipline may be awarded if a student studies 4 core papers in that discipline, 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC)

and minimum 3 Value Addition Courses (VAC), with the completion of courses equal to a minimum of 46 Credits.

#### **4. Bachelor's Diploma**

The Bachelor's Diploma in a discipline is obtainable after 2 years (four semesters) of study. A Bachelor's Diploma in a discipline may be awarded if a student studies 10 core papers in that discipline, 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC), minimum 4 Value Addition Courses (VAC) and 2 Generic Elective courses (GEC), with the completion of courses equal to a minimum of 96 Credits.

#### **5. Bachelor's Degree**

The Bachelor's Degree in a discipline is obtainable after 3 years (six semesters) of study. A Bachelor's degree (i.e., B.Sc./ B.A./ B.Com.) in a discipline degree may be awarded if a student studies 14 core papers in that discipline, 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC), minimum 5 Value Addition Courses (VAC), 2 Discipline Specific Elective (DSE) courses and minimum 3 Generic Elective (GE) courses, with the completion of courses equal to a minimum of 140 Credits.

#### **6. Bachelor's Degree with Honours**

The Bachelor's Degree with Honours in a discipline is obtainable after 4 years (eight semesters) of study. A Bachelor's degree with Honours (i.e., B.Sc. (Honours)/ B.A. (Honours)/ B.Com. (Honours)) in a discipline may be awarded if a student studies 18 core papers in that discipline, 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC), minimum 5 Value Addition Courses (VAC), 4 Discipline Specific Elective (DSE) and minimum 4 Generic Elective courses (GEC), with the completion of courses equal to a minimum of 182 Credits.

#### **7. Multiple Entry and Exit Options:**

The entry and exit options for students, who enter the undergraduate programme, shall be as follows:

##### **First Year**

**Entry 1:** The entry requirement for Bachelor's certificate (Level 5) programme is Secondary School Leaving Certificate obtained after the successful completion of Grade 12. A programme of study leading to entry into the first year of the Bachelor's degree is open to those who have met the entrance requirements, including specified levels of attainment at the secondary level of education specified in the programme admission regulations. Admission to the Bachelor's degree programme of study is based on the evaluation of documentary evidence (including the academic record) of the applicant's ability to undertake and complete a Bachelor's degree programme.

**Exit 1:** Bachelor's certificate will be awarded when a student exits at the end of 1<sup>st</sup> year (Level 5). A Bachelor's certificate requires completion of courses equal to a minimum of 46 Credits at Level 5.

##### **Second Year**

**Entry 2.** The entry requirement for Bachelor's diploma (Level 6) is a Bachelor's certificate obtained after completing the first year (two semesters) of the undergraduate programme. A programme of study leading to the second year of the Bachelor's degree is open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission

regulations. Admission to a programme of study is based on the evaluation of documentary evidence (including the academic record) of the applicant's ability to undertake and complete a Bachelor's degree programme.

**Exit 2:** At the end of the 2nd year (Level 6), if a student exits, a Bachelor's diploma shall be awarded. A Bachelor's Diploma requires completion of courses equal to a minimum of 96 Credits from Level 5 to Level 6.

### **Third Year**

**Entry 3.** The entry requirement for an undergraduate programme is a diploma obtained after completing two years (four semesters) of the undergraduate programme. A programme of study leading to the Bachelor's degree is open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission regulations. Admission to a programme of study is based on the evaluation of documentary evidence (including the academic record) of the applicant's ability to undertake and complete a Bachelor's degree programme.

**Exit 3:** On successful completion of three years, the Bachelor's degree shall be awarded. A Bachelor's degree requires completion of courses equal to a minimum of 140 Credits from Level 5 to Level 7.

### **Fourth Year**

**Entry 4.** An individual seeking admission to a Bachelor's degree (Honours) (Level 8) in a discipline would normally have completed all requirements of the relevant three-year bachelor degree (Level 7) in that discipline. After completing the requirements of a three-year Bachelor's degree, candidates who meet a **minimum CGPA of 7.5** shall be allowed to continue studies in the fourth year of the undergraduate programme to pursue and complete the Bachelor's degree with Honours in the discipline.

**Exit 4:** On the successful completion of the fourth year, a student shall be awarded a Bachelor's degree with Honours in the concerned discipline. A Bachelor's degree with Honours requires completion of courses equal to a minimum of 182 Credits from Level 5 to Level 8.

## **8. Marks Distribution and Evaluation:**

Total marks for each course shall be based on internal assessment (25%) and semester end examination (75%). The internal assessment of 25% shall be distributed as under:

- (i) Test/Assignment/Seminar/Field Work/Project Work/Case Study : 20%;
- (ii) Attendance: 5%.

## **9. Letter Grade and Grade Point:**

The 10-point grading system of the UGC, as described below, will be adopted for assessment and examination of the performance of students in various courses of the undergraduate programmes.

**Letter Grade** is used to signify the level of qualitative/quantitative academic achievement of a student in a Course, while the **Grade Point** is used to indicate the numerical weight of the Letter Grade on a 10-point scale. Letter Grades 'O' to 'P' indicate successful completion of a Course, while Letter Grades 'F' and 'Ab' indicate 'fail' and 'Absent' respectively.

**Table : Letter Grades and Grade Points**

Letter Grade	Grade Point	% of Marks	SGPA/CGPA	Description
O (Outstanding)	10	90 - 100	9.0 - 10.0	Outstanding
A+ (Excellent)	9	80 - 89	8.0 - 8.9	First Class Exemplary
A (Very Good)	8	70 - 79	7.0 - 7.9	First Class Distinction
B+ (Good)	7	60 - 69	6.0 - 6.9	First Class
B (Above Average)	6	55 - 59	5.5 - 5.9	High Second Class
C (Average)	5	50 - 54	5.0 - 5.4	Second Class
P (Pass)	4	40 - 49	4.0 - 4.9	Pass
F (Fail)	0	00 - 39	0.0 - 3.9	Fail
Ab	0	—	—	Absent

**10. Computation of SGPA and CGPA**

The Semester Grade Point Average (SGPA) of a student in a Semester is the weighted average of the Grade Points secured by the student in all the Credit Courses that he/she registered in that Semester, irrespective of whether he/she could or could not complete the Courses. The SGPA of a student in a Semester shall be calculated on the UGC's 10-point scale by finding the ratio of sum of the product of the number of credits with the grade points scored by the student in all the courses in that semester and the sum of the number of credits of all the courses undergone by the student.

## 11. COURSE STRUCTURE OF 4 YEARS UNDERGRADUATE PROGRAMME IN HOME SCIENCES

The Bachelor of Science (B.Sc.) course in Home Science will be of 4 years duration consisting of 8 Semesters with the option of multiple exits at the end of 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year. The Course would be of a minimum of 182 credits (with minimum credits at each of the exit level), where one credit course of theory paper will be of one clock hour per week and two credit for practical course will consist of 3-4 laboratory/practical hours, running for 15 weeks in a semester. The scheme of papers shall be as follows:

### 11.1 CREDIT, PAPER AND SEMESTER-WISE COURSE DISTRIBUTION OF 4 YEARS UNDERGRADUATE PROGRAMME IN HOME SCIENCE

### 11.2 CREDIT DISTRIBUTION OF VARIOUS COURSES OF 4 YEARS UNDERGRADUATE PROGRAMME IN HOME SCIENCE: TOTAL 200 CREDITS

	No. of Courses	Credits per Course	Total Credits
I. Core courses	18	6	108
II. Discipline Specific Electives (DSE)	4	6	24
III. Ability Enhancement Courses (AECC) English/Hindi/MIL/Communication/ En. Science	2	4	8
IV. Skill Enhancement Courses (SEC)	2	4	8
V. Generic Elective Courses (GEC)	6	6	36
VI. Value Addition Courses (VAC)	8	2	16
Total Credits			200

### 11.3 PAPER AND SEMESTER-WISE COURSE DISTRIBUTION OF CREDITS FOR 4 YEARS UNDERGRADUATE PROGRAMME IN HOME SCIENCE

#### SEMESTER I

Course type	Course title	Credits	Marks
Core	HS-501: Food and Nutrition	4	100
	Practical related to HS-501	2	50
	HS-502: Family Resource and Management	4	100
	Practical related to HS-502	2	50
SEC	HS-521: Bakery and Quantity Cookery; HS-522: Life Skill Education (Any one of the above two)	4	100
AECC	AECC-1: English	4	100
VAC	VAC-1	2	50
VAC	VAC-2	2	50
Total		24	600



**SEMESTER II**

Course type	Course title	Credits	Marks
Core	HS-503: Human Development	4	100
	Practical related to HS-503	2	50
	HS-504: Textile, Clothing and Extension Education	4	100
	Practical related to HS-504	2	50
SEC	HS-523: Surface Ornamentation in Fashion Designing; HS-524: Techniques of Food Preservation (Any one of the above three)	4	100
AECC	AECC-2: Environmental Science	4	100
VAC	VAC-3	2	50
VAC	VAC-4	2	50
Total		24	600
Exit option with Bachelor's Certificate in Home Science on completion of courses equal to a minimum of 48 credits = 1200 Marks			

**SEMESTER III**

Course type	Course title	Credits	Marks
Core	HS-601: Dynamics of Communication and Extension	4	100
	Practical related to HS-601	2	50
	HS-602: Basics of Food Science	4	100
	Practical related to HS-602	2	50
	HS-603: Personal Finance and Consumer Studies	4	100
	Practical related to HS-603	2	50
GEC	HS-631: Current Concerns in Public Health Nutrition	4	100
	Practical related to HS-631	2	50
VAC	VAC-5	2	50
Total		26	650

**SEMESTER IV**

Course type	Course title	Credits	Marks
Core	HS-604: Human Development in Adolescence and Adulthood	4	100
	Practical related to HS-604	2	50
	HS-605: Nutrition: A Life Span Approach	4	100
	Practical related to HS-605	2	50
	HS-606: Textiles Finishing Process	4	100
	Practical related to HS-606	2	50
GEC	HS-632: Care and Well Being in Human Development	4	100
	Practical related to HS-632	2	50
VAC	VAC-6	2	50
Total		26	650
Exit option with Bachelor's Diploma in Home Science on completion of courses equal to a minimum of 96 credits = 2400 Marks			

**SEMESTER V**

Course type	Course title	Credits	Marks
Core	HS-701: Life Sciences	4	100
	Practical related to HS-701	2	50
	HS-702: Physical Sciences	4	100
	Practical related to HS-702	2	50
DSE	HS-711: Communication for Development HS-712: Non-Formal, Adult and Life Long Education (Any one of the above two)	4	100
	Practical related to HS-711/HS-712	2	50
GEC	HS-731: Adolescent Relationships	4	100
	Practical related to HS-731	2	50
VAC	VAC-7	2	50
Total		26	650

**SEMESTER VI**

Course type	Course title	Credits	Marks
Core	HS-703: Housing and Interior Decoration	4	100
	Practical related to HS-703	2	50
	HS-704: Therapeutic Nutrition	4	100
	Practical related to HS-704	2	50
DSE	HS-713: Entrepreneurship Development and Enterprise Development HS-714: Physiology and Promotive Health (Any one of the above two)	4	100
	Practical related to HS-713/HS-714	2	50
GEC	HS-732: Gender, Media and Society	4	100
	Practical related to HS-732	2	50
VAC	VAC-8	2	50
Total		26	650
Exit option with Bachelor's Degree in Home Science on completion of courses equal to a minimum of 140 credits = 3500 Marks			

**SEMESTER VII**

Course type	Course title	Credits	Marks
Core	HS-801: Adolescence, Dynamics of Marriage and Counselling	4	100
	Practical related to HS-801	2	50
	HS-802: Socio-Economic Environment	4	100
	Practical related to HS-802	2	50
DSE	HS-811: Child Rights and Gender Justice: HS-812: Ergonomic Design (Any one of the above two)	4	100
	Practical related to HS-811/Hs-812	2	50
GEC	HS-831: Appreciation of Textile Crafts	4	100
	Practical related to HS-831	2	50
Total		24	600

## SEMESTER VIII

Course type	Course title	Credits	Marks
Core	HS-803: Fashion Designing and Garment Technology	4	100
	Practical related to HS-803	2	50
	HS-804: Research Methodology in Home Science	4	100
	Practical related to HS-804	2	50
DSE	HS-813: Dissertation/Project Work/Internship	6	150
	<b>OR In lieu of Dissertation, any of one of the followings:</b> HS-814: A) Basics of Interior Design and Hospitality Management; B) Basics of Nutrition Epidemiology and Anthropology	4	100
	Practical related to HS-814	2	50
GEC	HS-832: Interior Design	4	100
	Practical related to HS-832	2	50
Total		24	600
Bachelor's Degree in Home Science with Honours (or Honours with Research) on completion of courses equal to a minimum of 182 or 200 credits = 4550/5000 Marks			

**Grand Total: Credits = 200; Marks = 5000**

## 12. Framework and Organisation of the 4 years B.Sc./B.A. Course in Home Science

The course structure of B.Sc./B.A. 4 years in Home Science has been so designed that the students are provided with a fairly wide range of branches both in pure and applied aspects of Home Sciences keeping in mind the LOCF and CBCS course structure prepared by UGC. Considerable interlinking between the pure and applied aspects of Home Sciences has been included so that students are trained with up to date knowledge of the subjects from basics to advanced knowledge.

Since there is multiple exit and entry provisions during the entire course period, every student shall have to complete a minimum number of credits for each of the exit level e.g. 48 Credits for B.Sc./B.A. Certificate, 96 credits for B.Sc./B.A. Diploma and 140 credits for B.Sc./B.A. Degree at the end of 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year respectively

### 12.1 Teaching-Learning Process

The teaching-learning process to be followed for the B.Sc./B.A. Course in Home Science is the conventional classroom lecture, demonstration in practical classes. However, various teaching aids, multimedia systems may be used including power points etc. Sometimes notes may be provided to substantiate the lecture and practical problems. Tutorials shall be arranged in order to resolve the difficulties faced by the students in certain aspects of theory and practical classes. Online classes may also be used sometimes especially during prolonged shut downs due to unavoidable reasons.

### 12.2 Assessment and Evaluation Methods

Continuous assessment is one of the key parameter of Optimal Learning Environment of NEP 2020 where the assessment process should be statistical and scientific, designed to continuously improve learning and test the application of knowledge. Higher Educational Institutions (HEIs) are supposed to move away from high-stake examinations towards a more continuous and comprehensive evaluation system. Besides, each module (paper) in the Bachelor programme/course

has its own aims, and teaching, learning and assessment methods that have been set up to facilitate its learning outcomes.

Assessment methods shall include varied aspects such as essays, short answer questions, objective multiple choice, practical reports, field/site visits, oral presentations, short articles (e.g. newspaper articles), etc. Details will be provided in Examination Ordinance of Manipur University.

### **12.3 Admission Requirement**

The Minimum Standard required for Four-Year Bachelor (UG) Programme shall be Twelve, Higher Secondary or Equivalent Examination.

### **12.4 Seminar**

In order to inculcate a sense of confidence and self reliance, and with an objective to train the student in the art of public speaking and self expression, each student shall deliver a talk on a selected topic of Home Science. Seminars shall be part of the internal assessment examinations. The topic of the seminar may be selected by the student under the advice of a faculty member. A write-up about the seminar topic shall be submitted by the student before the presentation. Multimedia/transparencies and other projections may be used by the student during presentation. The student's performance in the seminar shall be evaluated by the faculty members of the department.

Besides delivering seminar talk, students are required to attend all the seminars delivered by the other students.

### **12.5 Dissertation (if offered)**

Dissertation work opted by students in the 8<sup>th</sup> semester of B. Sc./B.A. final year may include an experimental laboratory investigation/study, field, site or case studies, and a theoretical investigation accompanied by computational work, data processing and analysis, or a combination of these. The exact nature of the project and the problem to be studied shall be decided at the end of the third year by the Head of the department in consultation with the faculty members and students. After the project is completed, the student will submit a dissertation based on the results obtained in his/her investigation/work. Finally, the student is expected to defend his/her findings as embodied in his/her dissertation before a *Board of Examiners* and take an oral examination. The panel of examiners and scheme of evaluation shall be as follows:

#### **A. Board of Examiners:**

- a) Chairman: Head of Department
- b) Expert: External Examiner
- c) Member: Supervisor/Internal Examiner

#### **B. Evaluation Scheme:**

- a) Contents, Presentation and Contribution 50%
- b) Field work / Laboratory work 30%
- c) Viva-voce 20%

# DETAILED SYLLABI OF 4 YEARS UNDERGRADUATE PROGRAMME IN HOME SCIENCE

## SEMESTER-I

### CORE COURSES

#### HS-501: FOOD AND NUTRITION

Theory: 4 Credits (100-Marks), Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit –I Introduction to Foods

- Basic terminologies of food and nutrition in relation to health.
- Classification and Functions of food- physiological, psychological and social.

#### Unit-II Role of Nutrients

- Functions, requirements, deficiency and sources of Macro and micro nutrients, Vitamins: Fat soluble and water soluble, Minerals and water.
- Digestion, absorption and metabolism of carbohydrates, fats and proteins.

#### Unit-III Food Groups, Food Preparation and Balanced Diets

- Basic five and basic seven food groups -Indian reference man and woman.
- Objectives of cooking foods.
- Some Basic terminologies used in food preparation.
- Balanced diets.
- Nutritional contribution - Enhancing nutritional quality of foods by combination, Supplementation, Germination, Fermentation, fortification, genetically modified foods.

#### Unit-IV Nutrition through different Stages of Life Cycle

- Nutrient requirement and diet during infancy, pre-school, schoolchildren, adolescents, adults and elderly.
- Diet during pregnancy and lactation.
- Weaning and supplementary foods.
- Complimentary feeding.

#### Unit-V Malnutrition and Nutrition Programmes

- Malnutrition definition, types, causes, prevalence and consequences of malnutrition in India.
- Nutrition education.
- Current nutrition programmes in India.
- National and International Organizations in community nutrition and health.

#### Practical:

1. Survey of local areas to find out some common deficiency symptoms, height, weights, etc. compare with standards and write reports.
2. Market survey of locally available food items, and their cost.
3. Weights and measures. Study of household and standard measures in the lab.
4. Food preparation of some commonly consumed local and national recipes. Hygiene in preparation area. Table setting and serving.

5. Calculation of cost of prepared food products.
6. Report/Note Book
7. Viva-voce

#### References:

1. Shubhangini A Joshi. Nutrition and Dietetics. Tata McGraw Hill Education Pvt. Ltd.
2. Mudambi Suneti R Rajgopal: Fundamentals of Food and Nutrition. Wiley Western, New Delhi.
3. Shakuntala & Shraswamy: Food Facts and Principles. New Age International, New Delhi.
4. The Educational Planning Group, Food and Nutrition. Arya Publishing House, New Delhi.
5. Bamji MS, Krishnaswamy K, Brahmam GNV (2009). Textbook of Human Nutrition, 3<sup>rd</sup> edition. Oxford and IBH Publishing Co. Pvt. Ltd.
6. Srilakshmi (2007). Food Science, 4th Edition. New Age International Ltd.
7. Wardlaw and Insel MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition. Mosby.
8. Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, New Delhi. 2015
9. Khanna K, Gupta S, Seth R, Mahna R, Rekhi T (2004). The Art and Science of Cooking: A Practical Manual, Revised Edition. Elite Publishing House Pvt Ltd.
10. Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S (2010). Basic Food Preparation: A Complete Manual, Fourth Edition. Orient Black Swan Ltd.

### HS-502: FAMILY RESOURCE MANAGEMENT

**Theory – 4 Credits (100-Marks)**

**Practical -2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

#### **Unit –I Introduction to Resource Management**

- Introduction to Home Management: Meaning, Definition, Conceptual Framework need and Philosophy
- Approaches to Resource Management – family Resource V/s Home Management
- Ethics in Management of Resources – Essential Qualities for Success

#### **Unit – II Resources**

- Understanding, Meaning, Classification, Factors affecting utilization of resources.
- Management of Resources – Time, Energy, Importance, Time-Plan, Factors to be considered, Steps and Guides, Tools of Time Management, Peak Loads, Work Curve, Leisure Time, Emergency period.
- Management of energy, importance of energy cost, effort required in Home Making, Principles and Techniques.

#### **Unit – III Functions of Management**

- Management process – Meaning and Elements of management process.
- Evaluation: Concept, Objectives, Technique, Advantages and Disadvantages
- Stages of family life cycle, types of family, life style.
- Decision making – definition, types, steps in decision making.

#### **Unit – IV Management Motivation Theory**

- Motivation Theory – Philosophy, Definition, Formation and Significance
- Values – Importance, Sources of values, Classification, Characteristics.
- Goals – Concept, Types, Goal Setting, Changing Goals, Standards

### Unit – V Equipment for the Home

- Classification of Equipment: Factors affecting the selection
- Use and Care of household equipment such as cooking ranges, oven, stoves, pressure cooker, refrigerator, washing machine, water heater, vacuum cleaner, smokeless chulab and solar cooker.

#### Practical:

1. Resource conservation and Optimisation/Green Technologists (Natural Resources).
2. Visit to families of rural and urban areas to study the work culture and writing a report.
3. Care and use of Household Equipments.
4. Planning a time for college student – Weekly / daily
5. Notebooks
6. Viva-Voce

#### References:

1. Goldstien V., Art in Everyday Life, Modriuan Co., New York.
2. Mullik P., Home Management, Kalyani Publishers, New Delhi
3. Gross, I.H.I., Grandall E.W., Kual M.M., Management of Modern Families, Prentice Hall Inc., New Jersey.
4. Varghese, M.A., Ogalle, N. & Srinivasan K., Home Management, Wiley Eastern Ltd.
5. Deshpande, R.S., Modern Indian Homes to India, United Book, Co., Pune
6. Dorsey, Nickell, Management in Family Living, Wiley Eastern Pvt. Ltd.
7. The Educational Planning Group, Home Management, Arya Publishing House, New Delhi.

### SKILL ENHANCEMENT COURSES

#### HS-521: BAKERY AND QUANTITY COOKERY

Credits: 4 (100-Marks)

#### Theory & Practical:

Lectures - 60

#### Unit-I An overview

- Introduction to food industry in India.
- Kinds of food service establishments.
- Current status of bakery industry.
- Scope and growth rate.
- Classification of baked products, Survey.

#### Unit-II Organization of a Bakery Unit

- Introduction, Organizational structure, planning, layout.
- Equipments, space, fuel management, waste disposal.
- Money, manpower, time, facilities, identifying resources.
- Functions of manager.
- Duties and responsibilities of production staff.

#### Unit-III The Baking Process

- Basic baking principles, role of ingredients, guidelines.
- Flow of work, Changes that occur during mixing, blending, adjustments.

- Hygiene and sanitation.
- Baking process- bread, bun, muffin, cakes, pastries, biscuits, chocolates, candies, toffees.

#### **Unit-IV Quality characteristics and Evaluation**

- Quality of materials, product quality characteristics, sensory evaluation.
- Nutritional quality, safety, storage, packaging.
- Product standards and regulations.

#### **Unit-V Quantity Food Production**

- Planning, budget, purchasing, receiving, storage, preparation, service, delivery.
- Production forecasting, production scheduling.
- Financial management.
- Pricing of products- cost concept and analysis, costing methods.
- Household Vs commercial cake and bread making.
- Standardization of recipes, recipe adjustments, portion control.
- Effective utilization of leftovers, Waste disposal.

#### **Practical:**

1. Survey of food production units and bakery units in your area or a specific area, Writing report.
2. Preparations of bread, bun, pastries, cakes, pizza, biscuits, cookies, candies, chocolates.
3. Cake decoration- icings and fillings.
4. Practical Record Book.
5. Viva.

#### **References:**

1. Dubey, S.C. (2017). Basic Baking, 5th Edition, Chanakya Mudrak Pvt. Ltd., New Delhi.
2. Faridi, F (2004). Dough Rheology and Baked Product Texture, CBS Publication, New Delhi
3. Knight J B & Kotschevar L H (2000): Quantity Food Production, Planning and Management.3<sup>rd</sup> edition. John Wiley & Sons.
4. Manay, S & Shanaksharaswami, M. (2014).Foods : Facts and Principles, New Age Publishers, New Delhi
5. Parvinder S. Bali, Quantity Food Production Operations and Indian Cuisine (2011), published by Oxford University Press Roday .S ( 2003) Food Hygiene & Sanitation , Tata McGraw Hill publication Ltd
6. Raina et.al. (2013). Basic Food Preparation – Complete Manual, 3rd Edition, Orient Longman Pvt. Ltd., Mumbai
7. Samuel A, Martz (2004). Bakery Technology and Engineering, PAN-TECHI International Incorporated Pvt. Ltd, Madras.
8. Sethi M. and Malhan S.M., Catering Management an Integrated approach (2015), 3rd edition, Published by New Age International Private Limited.
9. Taneja S and Gupta SL ( 2001) Entrepreneurship development, Galgotia Publishing



## HS-522: LIFE SKILL EDUCATION

Credits: 4 (100-Marks)

**Theory & Practical:**

**Lecture: 60**

### **Unit-I Introduction to Life Skill Education**

- Defining the Terms – Skills, Life Skills, Self Awareness, Life Skills, Education
- Origins of Life Skills
- Objectives of Life Skills
- Importance of Life Skills in Our daily Living

### **Unit-II Life Skill Areas**

- Problem Solving, Critical Thinking, Decision-Making
- Creative Thinking, Interpersonal Relationship Skills
- Self-Awareness Building Skills, Empathy and Coping with Stress Skills

### **Unit-III Communication in Life Skills**

- Defining and Importance, Nature and Styles of Communication
- Qualities of Good Communication Skills
- Effective Communication Skills – Thinking, Listening, Speaking, Non-Verbal Communication

### **Unit-IV Techniques Enhancing Life Skills:**

- Discussion, Debate, Story Telling, Drama, Song and Dance, Role Play
- Team Work, Poetry and Recitals and Miming

### **Unit-V Life Skills and Youth Development**

- Adolescence and Youth – Definitions, Conception – Socio-Cultural Perspective
- Positive Youth Development – Meaning, Basics, Principles, Goals
- Formal and Non-Formal Approaches to Youth Development
- Challenges of Adolescence and Youth – Managing Emotions, Developing an Identity, Resisting Peer Influence, building Relationship, Communicating and Negotiating Safer Life Situations, Education and Career, Role of Youth in Modern Society

### **References:**

1. Peace Corp., OPATS, Life Skills Manual
2. Singh, Daulet Bikkrama and Menon, Rashmi – Life Skills in India: An Overview and Current Practices in Our Education System
3. Agochiya D., Life Competencies for Adolescents, Training Manual for Facilitators, Teachers and Parents, Sage Publications.
4. World Health Organisation; Life Skills Education: Planning for Research, Geneva, WHO, 1996.

## SEMESTER-II

### CORE COURSES

#### HS-503: HUMAN DEVELOPMENT

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit – I Introduction to Human Development:

- Definition, Meaning, Concept of Human Development
- Time table of prenatal development
- Principles of Growth and Development
- Stages of Human Development
- Developmental tasks of different Stages of Human Development

#### Unit – II Infancy and Pre-school Years:

- Patterns of Development and Characteristic Behaviours
- Physical and Motor Development
- Language and Cognitive Development
- Social and Emotional Development

#### Unit – III Childhood year in the Life Span:

- Awareness of Growing understanding and significance of Childhood, need of early stimulation and interventions for optimal growth.
- Early childhood context of family, school, community and geographical areas
- Behavioural patterns

#### Unit – IV Late Childhood and Children with Special Need:

- Characteristics, social grouping and social behaviour in late childhood, influence of multiple language, regional and religious influences on children
- Role of disciplines in moral development
- Sex role typing and its effects on children
- Concept of exceptional children needs of educational and welfare provisions.
- Parental and social supports

#### Unit – V Scope of Human Development:

- Inter-disciplinary relationship with other subjects – Biology, Psychology, Sociology, Anthropology, Education, Medicine.
- Career opportunities in Human Development – Teaching, Research, Clinical and Child Counselling, Medical, Child Psychology, Human Resource Manager, Family and Social Service Worker

#### Practical:

1. Preparation of chart showing time table of prenatal development
2. Case study of different developmental patterns of childhood years (Sample from Crèche, Kids Care Centre, and Angalwadi)
3. Find out causes and remedial measures of disability.
4. Record
5. Viva-Voce

## References:

1. Hurlock, Elizabeth B., Developmental Psychology, Tata Mc Graw Hill Publishing Company, New Delhi.
2. Diane E. Papalia & Sally Wendkos Olds, (2001), Human Development, Tata Mc Graw Hill Publishing Company, New Delhi.
3. Suriyakanthi, A., Child Development, Kavita Publication, Gandhigram.
4. Devadas, Rajammal P., A Text Book on Child Development, Mc Millan India Ltd.
5. Chaube S.P. & Chaube A., Child Psychology, Laxmi Narain Agrawal Hospital Road, Agra.
6. Vatsayayan, Developmental Psychology, Kedar Nath Ram, Delhi.

## HS-504: TEXTILE, CLOTHING AND EXTENSION EDUCATION

Theory: 4 Credits (100-Marks),

Practical – 2 Credits (50-Marks)

Theory:

Lecture: 60

### Unit-I Introduction to Textile Fibres

#### a. Introduction to Textile Fibres

- Morphology of Textile Fibres.
- Fibre classification and their properties
- Preparation/ Manufacture of Vegetables, Animals and Synthetic Fibres

#### b. Production and Properties of Yarns

- Yarn construction – Mechanical Spinning (Cotton, Wool), - Chemical Spinning (wet, dry, melt), Yarn Types
- Differences between threads and yarns
- Blends: Types of blends and purpose of blending

### Unit-II Techniques of Fabric Construction

- Loom – Basic Concept, Classification, Primary Motions of Loom
- Operations and methods of the loom
- Weaving – Process of Weaving
- Classification of weaves
- Knitting – Classification of Knits – construction and Properties of warp and weft knits
- Stitches – Basic Stitches and Embroidery Stitches

### Unit-III Introduction Extension Education

- Meaning of Home Science Extension Education, Principles and Objectives of Extension Education
- Difference between Extension and Formal Education
- Qualities of Home Science Extension workers
- Meaning and Importance of Motivation in Extension
- Techniques of Motivation in Extension Work,
- Concept of need, Types of need-felt and unfelt needs

### Unit-IV Extension Teaching Methods and Aids

- Selection of effective teaching methods,
- Planning lessons, classification of extension teaching methods according to form and use.
- Individual, group and mass approach
- Lecture method, demonstration, discussion, workshop, assignment and field trip – their advantages and disadvantages.

### **Unit-V Other Teaching Aids**

- Selection of appropriate teaching aids and their classification
- Projected and non-projected aids,
- Three dimensional aids,
- Display aids, graphical aids and audio aids.

### **Practical:**

1. Identification of different Fibres by different methods.
2. Preparation a scrap book on different Basic and Embroidery Stitches.
3. Visit a selected place and examine the communication activities - writing a report and submit.
4. Prepare a teaching aid to be used in extension work
5. Practical Notebook
6. Viva-Voce

### **References:**

1. Corbman, P.B., textiles – Fibres to Fabric, Gregg division/ Mc Graw Hill Book Co, US.
2. Joseph, M.C., Essentials of Textiles, Holt, Richart and Wins ton Inc. Florida.
3. Sekhri S., Textbook of fabric Science: Fundamentals to finishing, PHI Learning, Delhi
4. Dhahama O.P. & Bhatnagar O.P., Education and Communication for Development, Oxford and IBH Publishing.
5. Chandha P.C. & Moquemuddin M., Audio Visual Education, Prakash Brothers, Ludhiana.
6. Supe, S.V., An Introduction to Extension Education, Oxford and IBH Publishing.
7. Chandra, A. Shah, A. & Joshi U., Fundamentals of Teaching Home Science, Sterling Publication, New Delhi.
8. Rathore, O.S., Dhakar, S.D., Chauhan M.S., Ohja, S.N., Handbook of Extension education, Agrotech Publishing Academy, Udaipur.

## **SKILL ENHANCEMENT COURSES**

### **HS-523: SURFACE ORNAMENTATION IN FASHION DESIGNING**

**Credits: 4 (100-Marks)**

#### **Theory & Practical:**

**Lectures: 60**

#### **Unit I Introduction**

- Value addition to Textiles
  - a. Embroidery, Trimmings and decorations, Painting and Printing, Applique, Patch & Quilting.
- Essentials of Surface ornamentation
  - a. Materials, tools, design enlargement and reduction, design placement and transfer Care of Surface embellished articles.

#### **Unit II Embroidery**

- Understanding embroidery techniques and preparation of samples:
  - a. Hand Embroidery
  - b. Machine embroidery
- Raised embroidery with- Net, sheer fabric.
- Product development
  - a. Home decor Items with Machine Embroidery (minimum two)

b. Accessories with Hand Embroidery (minimum two)

### **Unit III Ornamentation with Colours**

- Garment restyling with Fabric Painting
- Printing on Table Cloth/Stole
- Creating textures with paint, block and stencil printing on fabric

### **Unit IV Decorative Trimmings**

- Ari work with bead, sequin, mirror.
- Zardosi border
- Trims and other decorative items :shells, beads, stones, buttons, cords
- Other techniques: Layering. Patch work, cording, weaving, draw thread: Patch worked Mask, Quilted Pouch /Bag, Smocked Yoke/ Sleeve. Any novelty item
- Project: Product development based on the techniques explored in the class.
  1. Selection of theme
  2. Development of mood board
  3. Conceptualization

### **Unit V Ornamentation with Fabric Discards**

- Creation of fabric styling samples as per the selected theme and execution of the final selected design for the selected apparel style.

### **References:**

1. Abling, B., (2006), Marker rendering for fashion, accessories and home fashions, Fairchild publications, New York.
2. Abling, B., (2003), The Fairchild Encyclopedia of fashion accessories, Fairchild publications, New York.
3. Celia S., (2004), Know your fashion accessories, Fairchild publications, New York.
4. Hideaki, C., (1992), Colour Harmony-a guide to creative colour combinations, Rockport publishers, London.
5. McCall's (1982). McCall's Big Book of Needlecrafts. Chilton Book Company. Randnon, Pennsylvania. USA.
6. Readers digest complete Guide to Needle Work (1979), The Readers Digest Association, New York, and Montreal.
7. Shenai, V.A. (1981), History of Textile Design. Sevak Publication, Mumbai.
8. Skull J., (1988), Key terms in art craft and design, Elbrook press, Australia.

## **HS-524: TECHNIQUES OF FOOD PRESERVATION**

**Credits: 4 (100-Marks)**

**Theory & Practical:**

**Lectures: 60**

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

- Importance of Food Preservation. Basic Principles of Food Preservation. Types of Food spoilage by Microorganisms and by Enzymes
- 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

- Methods of drying & dehydration , different types of driers , freeze drying- lyophilisation, packing & 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 & preparation of powders- garlic, ginger, spices mix etc.

## Unit-III Preservation by Using Sugar

- 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

- 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

- 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. Learning Experiences

## References:

1. Frazier C William & Westhoff C Dennis; Food Microbiology. Mcgraw Hill Education (India) Pvt. Ltd.
2. M Swaminathan: Advanced Textbook in Food and Nutrition. Vol II. The Bangalore Printing & Publishing, Co. Ltd.
3. W Shakuntala Manay and Shadakshree Swamy: Foods, Facts and Principles. New Age International Publishers, New Delhi.
4. Manoranjan Kalia: Food Analysis and Quality Control. Kalyani Publishers.
5. Srivastava R.P. (2012): Fruit and vegetable preservation – Principles and Practices, International Book Distributing Co., (IBDC), New Delhi.
6. Maria Parloa (2009), canned fruit, preserves and jellies: Household methods of preparation, US Department of Agriculture, Washington.
7. Shafiur, Rahman, M. (2007), Handbook of Food Preservation, 2nd edition, CRC press, New Delhi

## SEMESTER-III

### CORE COURSES

#### HS-601: DYNAMICS OF COMMUNICATION AND EXTENSION

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit – I Communication

- Meaning, Definition and Importance
- Functions and Models of Communication
- Key elements of Communication process
- Impediments of Communication

#### Unit – II Communication Process

- Concepts, Classification and Methods of Communication.
- Scope of Communication – Education, Training and Learning Industry, Motivation and Management, Co-Operate, Advertising and Public Relations..
- Challenges in Communication in Contemporary Society.
- Signs, Symbols and Codes in Communication

#### Unit – III Organisation, Public and Mass Communication

- Organisational Communication: Concepts, Types, Functions and Net-Works.
- Public Communication – Concepts and techniques.
- Inter-Cultural Communication – Concepts, Stages & Barriers.
- Relationship between cultural and Communication
- Mass Communication – Concepts, Significance, Functions and Elements
- Role of Mass Media in Communication

#### Unit – IV Leadership in Extension and Extension Programme Planning

- Meaning of Leadership, Identifying Local Leaders in Extension Works.
- Panchayati Raj: Concept, Structure and Functions.
- Programme Planning: Meaning, Importance, Principles.
- Programme Projection: Meaning, Objectives, Programme Planning and Programme Projection
- Evaluation: Meaning, Purposes and Characteristics

#### Unit – V Social Survey and Social Organisation:

- Social Survey: Meaning, Importance, Types and Steps Involved.
- Tools for Data Collection: Questionnaire, Interview, Schedule and Observation.
- Difference between Questionnaire and Schedule
- Developmental Programme: IRDP, ICDS, TRYSEM, NAEP, Objectives, needs, Importance

#### Practical:

1. Developing Skills in Planning and conducting small group communication.
2. Review of Media on selected Issues.
3. Prepare a teaching aid on awareness of using ICT.
4. Conducting a social survey in rural areas and write a report.
5. Notebooks

6. Viva-Voce

**References:**

1. Devito, J., Human Communication, New York, Harper & Row.
2. Baron, Staley J., Introduction to Mass Communication, Mc Graw Hills Medical Publication.
3. Baron, Staley J., Mass Communication Theory, Wadsworth Publication.
4. Vivan, J., The Media of Mass Communication, Pearson.
5. Dominick, Joseph, R., Dynamics of Mass Communication Media i Transition, Mc Graw Hill Education.
6. Patri and Patri, Essential of Communication, Greenspan Publications.
7. O.P. Dahama and O.P. Bhatnagar , Education and Communication for Development, Oxford and IBH Publishing.
8. Rathore, O.S., Dhakar, S.D., Chauhan M.S., Ohja, S,N., Handbook of Extension Education, Agrotech Publishing Academy, Udaipur.
9. Adivi Reddy, Extension Education, Shree Lakhshmi Press, Bapatla.
- 10.G.L. Ray, Extension Communication and Management, Naya Prakash, 206, Bidhan Sarani, Kolkatta.
- 11.B.N. Ghosh, Scientific Methods and Social Research, Sterling Publications Pvt. Ltd.

**HS-602: BASICS OF FOOD SCIENCE**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

**Unit –I Physio-Chemical Properties of Foods**

- Introduction to Food Science, Importance and applications.
- Classification of organic compounds present in foods.
- Colloids, osmotic pressure, food dispersions, sols, gels.
- Emulsions, foam, hydrogen ion concentration (pH), bound water in foods.

**Unit – II Enzymes**

- Classification, Significance.
- Factors affecting rate of enzyme catalytic reactions.
- Inhibitors, Browning reactions.
- Enzymes in food processing.

**Unit – III Polyphenols**

- Pigments:- Chlorophyll, Carotenoids, Myoglobin, Haemoglobin.
- Flavanoids:- Anthocyanine, anthoxanthine, catechins, tannins, quinones, etc.
- Effect of polyphenols on food quality.

**Unit – IV Sensory Science**

- Flavours: Flavour compounds in foods, spices and condiments
- The sensation of taste, smell, visual appearance, texture and sensation.
- Physiological and chemical aspects of taste sensation.
- Sensory methods of analysis of foods.



### **Unit – V Food Fortification**

- Objectives.
- Fortification with vitamins and minerals.
- Different products fortified and made available in market.
- Special foods: infant foods, supplementary foods, tube feeding formulas, space foods.

#### **Practical:**

1. Study of Sols, gels, emulsions and foams
2. Food analysis: Moisture, pH, pH. Acidity, TSS
3. Sensory evaluation of foods
4. Evaluation of food labels. Report.
5. Notebooks
6. Viva

#### **References:**

1. Swaminathan M: Food Science, Chemistry and Experimental Foods. The Bangalore Printing & Publishing, Co.Ltd.
2. Shakuntala N & Shadaksharaswamy: FOODS: Facts and Principles. New Age International Publishers.
3. Srilakshmi B: Food Science. New Age International Publishers.
4. Swaminathan M: Advanced Text Book on Food and Nutrition. Vol-1. Bappco.
5. Norman N Potter & Joseph H Hotchkiss: Food Science. 5<sup>th</sup>Edn. CBS Publishers & Distributors.
6. Sethi Mohini and Rao E (2011). Food Science (Experiments and Applications), 2nd Edition. CBS Publishers & Distributors Pvt. Ltd.

## **HS-603: PERSONAL FINANCE AND CONSUMER STUDIES**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

#### **Theory:**

**Lectures: 60**

#### **Unit –I Management of Money**

- Family Income, Types, Sources
- Supplementing Family Income: Needs and Ways
- Maintaining household accounts and Family Expenditure
- Family Budget: Types, Objectives, Main Heads, Steps in making Family Budget
- Engels law of consumption

#### **Unit – II Savings and Investment**

- Meaning, Importance, Methods/Ways of Investment
- Principles, Needs, Channels of Investment, Tax Implications, Measures Adopted and Instruments Used to ensure tax benefits for an individual's monthly income
- Calculation of Personal income Tax

#### **Unit – III Application of Management Principles**

- Experimental House: recognition of Theory in Action, Aim and Objectives
- Roles and Responsibilities of Supervisor
- Rotation of Duties: Hostess, House Keeper, Maid, Bulletin Board, Work Plans
- Evaluation in Residence Course

#### **Unit – IV Consumer Education/Studies**

- Meaning, Aim and Objectives
- Rights and responsibilities and Guidelines for Wise Buying Practices
- Consumer Aids: ISI, FPO, AGMARK, ECO MARK, Wool Mark, Silk Mark
- Consumer Credit: Needs, Sources, Credit Cards,
- Changing Nature of the Business World, e-Commerce, e-Business

#### **Unit – V Consumer Protection**

- Problem faced by Consumer
- Consumer Organisation: Origin, Types, Role and Function
- Consumer Awareness and Redressal, Enforcement of Consumer Protection Act 1986
- Procedure for Seeking Legal Protection and Legislative measures

#### **Practical:**

1. Case study of Banks and Post Offices to understand their services.
2. Drafting Family Budget for different Income groups.
3. Detection of Food Adulteration.
4. Evaluation and Designing of Informative and Attractive labels of different type of Food Products.
5. Notebooks
6. Viva-Voce

#### **References:**

1. Mullick P., Home Management, Kalyani Publishers, New Delhi
2. Varghese M.A., Ogalle N., and Srinivasan K., Home Management, Wiley Eastern Ltd.
3. Graig and Rush, Homes with Character, D.C. Health & Co. Boston.
4. Sawhney H.K. and Mital M., Family Finance and Consumer Studies, Elite Publishing House Pvt. Ltd.
5. Khanna S.R. Hanspel S., Kapoor S. & A. Wasthi H.K., Consumer Affairs, Universities Press India Pvt. Ltd.
6. Seetharaman P., and Sethi M., Consumerism: Strength and Tactics, New Delhi, CBS Publishing

### **GENERIC ELECTIVE COURSES**

#### **HS-631: CURRENT CONCERNS IN PUBLIC HEALTH NUTRITION**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

#### **Theory:**

**Lectures: 60**

#### **Unit-I Meaning and Scope of Public Nutrition**

- Definition. Concept and Scope
- Roles and Responsibilities of Public Health Nutritionist.
- Definitions of optimum health, malnutrition (under nutrition, overweight, obesity, micronutrient deficiency), nutritional status, nutrition intervention, food and nutrient supplements, nutrition education, morbidity, mortality rates.

## **Unit-II Nutritional Problems Affecting the Community**

- Etiology, prevalence, clinical features and preventive strategies of- Communicable and Non Communicable diseases.- PEM:
- Micronutrient Deficiencies.
- Metabolic Syndrome, obesity, coronary heart disease, diabetes, Fluorosis, Dental caries, Respiratory, Intestinal, Dengue, HIV/AIDS etc.

## **Unit-III Assessment of Nutritional Status: Methods and Application**

- Introduction, Definition of Nutritional Status. Objectives and importance. Instruments.
- Methods of assessment & Comparison of indices with references.
- Direct assessment – clinical signs, nutritional anthropometry, biochemical tests, biophysical tests.
- Indirect assessments – Diet surveys, 24-hour diet recall methods; food composition methods.
- Vital Statistics, Age Specific Mortality Rate, Morbidity Rate.

## **Unit-IV Strategies for Improving Nutrition and Health Status of the Community**

- Appropriate interventions food fortification, supplementation, genetic modification, improved water and sanitation, immunization, nutrition education, GMP, diarrhoea management and prevention. Immunization schedules - National and WHO Expanded Programme on Immunization.
- Nutrition Intervention programmes: ICDS, MDMP, Supplementary Nutrition, Balbhog, Sakhibhog, Shishubhog.
- Fortification programs. National Nutritional Anaemia Control Program, Nutritional Program for Control of Anemia among Adolescent Girls, National Iron Plus Initiative (NIPI).
- Vitamin A prophylaxis programme, National Iodine Deficiency Disorders Control Programs Diarrhoea Control Program:
- ORS and National Deworming Campaign.
- POSHAN Abhiyaan.

## **Unit-V Organizations Working towards Meeting Global Nutrition Targets:**

- National organization – ICAR, ICMR, CSWB, SSWB, NNMB.
- NIPCCD and NFI, Save the Children, Tata Trusts
- International Organizations - World Bank, WHO, UNICEF, World Food Programme
- Bill and Melinda Gates Foundation
- Voluntary organizations – Global Alliance for Improved Nutrition(GAIN) Micronutrient
- CARE, World Alliance for Breastfeeding Action (WABA).

### **Practical:**

1. Assessing the nutritional status of an individual, group and community in different settings: 1- Anthropometry and Identification of clinical signs
2. Conducting 24 Hour recall method and 3 Day Weighment Survey for Individuals with specific disease.
3. Planning and conducting nutrition education programmes in a selected village for 3 days
4. Development of low cost nutritious recipes for vulnerable groups.
5. Note Book
6. Viva-Voce

### **References:**

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. ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
5. Jelliffe DB, Jelliffe ERP, Zervas A and Neumann CG (1989). Community Nutritional Assessment with special reference to less technically developed countries. Oxford University Press. Oxford.
6. World Health Organization (2006). WHO Child Growth Standards: Methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age (<http://www.who.int/childgrowth/standards/en/>).
7. Swaminathan M ( ): Advanced Textbook on FOOD & NUTRITION, Vol. II, BAPPCO
8. Raheena Begum ( ): A Textbook of Foods, Nutrition and Dietetics. Sterling Publishers Pvt. Ltd.
9. Joshi Subhangini A (2010): Nutrition and Dietetics. 3<sup>rd</sup> Edition. Tata Mcgraw Hill Education Pvt. Ltd.
10. Kishore, J. (2016). National Health Programs of India (12th ed.). New Delhi, India:Century Publications. Ministry of Women and Child Development (MWCD), Government of India. (2019).

## SEMESTER-IV

### CORE COURSES

#### HS-604: HUMAN DEVELOPMENT IN ADOLESCENCE AND ADULTHOOD

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

##### Unit-I Introduction to Adolescence

- Adolescence – Meaning, Stages, Characteristics, Development Tasks.
- Significant Physical and Physiological changes
- Social – Emotional, Cognitive Development in Adolescence.
- Needs of Adolescence – Nutrition, Exercise and Entertainment

##### Unit-II Adolescent Relationship: Family and Society

- Family Relationship – Adolescent in the Family, Parents in the Life of Adolescent and Siblings Relationship.
- Relationship with Peers and Community members.
- Causes of Family Frictions during Adolescence

##### Unit-III Early Adulthood

- Meaning, Concept, Characteristics of Early Adulthood, Physiological Development.
- Factors Affecting Selection of Life Partner, Importance of Family Relationship,
- Socio-Emotional and Cognitive Development, Challenges in Early Adulthood,
- Child Bearing, Parenting and Careers, Developing Emotional Stability.

##### Unit-IV Middle Adulthood / Middle Age

- Meaning, Definition, Characteristics of Middle Adulthood, Physiological changes during Middle Adulthood, Maintenance, Protection and Promotion of Physical Health
- Diversity in Roles and Relationship with the Family and Society, Parenting to Growing Children, Cultural Perspective.

##### Unit-V Late Adulthood / Old Age

- Meaning, Concept, Characteristics, Physical and Physiological changes,
- Cognitive and Social Development and Challenges facing the Elderly, Psychology of Aging

#### Practical:

1. Planning an Activity to Develop Socio-Emotional among the Adolescent Students.
2. Conducting a Social Survey to study the Relationship of Parents and Children in a Family.
3. Project writing on Factors Affecting Selection of Life Partner
4. Seminar Presentation on Protection and Promotion of Health during Middle Age
5. Review Health Care Service for the Elderly in Manipur
6. Note Book
7. Viva-Voce

#### References:

1. Singh, A., Foundations of Human Development: A Life Span Approach, Orient Black Swan, New Delhi.

2. Hurlock, Elizabeth B., Developmental Psychology, Tata McGraw Hill Publishing Co., New Delhi.
3. Papalia D.E. & Olds S.W., Human Development, Tata Mc Graw Hill Co., New York
4. Suriahanthi A., Child Development, Kavitha Publications, Gandhiram, Tamil Nadu.
5. Rice Philip K., Human Development, Prentice Hall, New Jersey.
6. Berk L.E., Development Through the Life Span, Pearson Education, New Delhi.
7. Web Source – <https://www.hindustan.com>
8. <https://urds.org.com>

### **HS-605: NUTRITION: A LIFE SPAN APPROACH**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

#### **Unit-I Introduction to Life Span Nutrition**

- The Lifespan Approach to Nutrition, the Concept of Balance
- Assessment of Nutrition, Dietary Reference Values

#### **Unit-II Pregnancy**

- Introduction, Physiological Demands of Pregnancy
- Nutrient Requirements in Pregnancy
- Diet in Relation to Pregnancy Outcomes
- Nausea and Vomiting of Pregnancy (NVP), Cravings and Aversions
- Gastrointestinal Disturbances in Pregnancy, High Risk Pregnancies

#### **Unit-III Lactation and Infant Feeding**

- Introduction, Physiology of Lactation, Advantages of Breast-Feeding
- Trends in Breast-Feeding Behaviour, Situations in which Breast-Feeding Behaviour is not advised.
- Alternatives to Breast-Feeding

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

- Introduction, Infancy (Birth to Five), Childhood (Five to Thirteen), Obesity in Children, Nutrition and Adolescence
- Physical Development, Psychosocial Development
- Nutritional Requirements in Adolescence, Nutritional Intakes in Adolescence

#### **Unit-V Nutrition in the Adult Years Aging and Elderly**

- The Adult Years
- Changing need for Nutrients, Guidelines for Healthy Nutrition
- Discuss States Associated with Unhealthy Nutrition and Life Style
- Nutrition, Aging and the Elderly:- Introduction, Aging Population, Aging Process, Elderly Nutrient Requirements, barriers to Healthy Nutrition in the Elderly, Common Nutrition Related Health Problems

**Practical:**

1. Planning and Preparation of a Meal for a Pregnant Lady and Nursing Mother.
2. Planning and Preparation of Balanced Diet for Infants and Pre-School Children.
3. Plan and Prepare Balanced Diet for School going Children.
4. Plan and Prepare a Lunch for a Normal Pregnant and Lactating Women.

5. Plan a Balanced Diet for Adult Male and Female Workers.
6. Plan a Balanced Diet for Old People over 60 years.
7. Plan and Prepare a Lunch for Old People
8. Note Book
9. Viva-Voce

#### References:

1. M. Swaminathan, Advanced Text-Book on Food and Nutrition, Vol. II, The Bangalore Printing and Publishing Co. Ltd., 88, Mysore Road, Karnataka 5600018.
2. M. Swaminathan, Hand-Book on Food Science and Experimental Foods, Bangalore Printing and Publishing Co. Ltd., 88, Mysore Road, Karnataka 5600018.
3. Raheena Begum, A Text Book of Foods, Nutrition and Dietetics, Sterling Publishers Pvt. Ltd.
4. W. Shakuntala Manay and Shadakshree Swamy, Food Facts and Principles, New Age International Publishers, New Delhi.
5. Norman, N., Potter, Food Science CBS Publishers and Distributors, New Delhi.
6. Food and Nutrition: The Educational Planning Group, Arya Publishing House, 3<sup>rd</sup> Edition.
7. Profit Fairfax T.P. Robinson Corinne H., Normal and Therapeutic Nutrition, Oxford and IBH, Publishing Company, New Delhi.
8. The Educational Planning Group, Food and Nutrition, Arya Publishing House, New Delhi.
9. Nutrition a Life Span a Approach, Simon Langley- Evans.

### HS-606: TEXTILE FINISHING PROCESS

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

#### **Unit-I Preparatory Process for Dyeing**

- Desizing and Determination of Starch content, Scouring of desized cotton fabrics, bleaching of scoured fabrics with hydrogen peroxide and mercerizing of cotton fabric.
- Preparatory Process of Silk Fabric – Degumming, Bleaching
- Dyeing – Meaning, Types, Methods of Dyeing.
- Suitability of different Dyes on different fabrics

#### **Unit-II Printing of Woven and Knitted Fabric using different Technique**

- Meaning, preparation of printing paste
- Printing Styles - Printing by Hand:- Stencil, Screen, Block, Batik, Eco, Tie and Dye, Stamp, Transfer, Marble
- Printing by Machine - Roller, Discharge, Resist, Duplex.
- Difference between dyeing and printing

#### **Unit-III Finishing**

- Meaning, needs and classification on the basis of degree of permanence (Permanent, Durable, Semi-durable and Temporary) and on the basis of textile processing.
- Chemical finishes – mercerising, Crease resistant, Creeping, Fire Proof, Water Proof.
- Mechanical Finishes:- Beetling, Schreinerizing, Calendaring, Sanforising, Embossing, Glazing, Moireing, Napping, Smooth Finish, Tantering Sizing and Dressing.

#### **Unit-IV Stain Removal**

- Meaning, Definition, Classification
- Principles of Stain Removal, its needs and importance
- General rules and ways of stain removal
- Methods and Techniques of stain removal

#### **Unit-V Laundering of Different fabrics**

- Meaning, principles of laundering, materials and equipments used
- Properties and effects of soap and detergents on cleaning of different fabrics
- Laundering process of cotton, wool, silk and synthetic garments.

#### **Practical:**

1. Dyeing and printing of different fabrics.
2. Removal of stains from different fabrics.
3. Articles prepared during the course.
4. Practical Notebook
5. Viva-Voce

#### **References:**

1. Hemalalitha Jain, Techniques of Dyeing and Printing, A one book Pvt. Ltd.
2. Aslim kumar Roy Choudhury, Textile Preparation and Dyeing, Science Publishers, USA.
3. Burkhard Wolfhorst, Thomas Gries, Deiter Veit, Textile Technology, Hanson Gardner Publications, Germany.
4. Dr. S.P. Mishra, Science and Technology of Textile Dyeing and Colouring, International (P) Ltd. Publisher, New Agra.
5. Corbman Bernard P., Textiles fibre to fabric, Greggy Division, Mc Graw Hill Book Co., USA

### **GENERIC ELECTIVE COURSES**

#### **HS-632: CARE AND WELL-BEING IN HUMAN DEVELOPMENT**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

#### **Theory**

**Lectures: 60**

#### **Unit-I Introduction to Care**

- Concept, Importance, Principles and Components of Care,
- Vulnerable Groups Requiring Care

#### **Unit-II Understanding Well-Being and Human Development**

- Meaning of Well-Being and Dimensions of Good Health,
- Aspects of Good Health and Human Development
- Difference between Wellness and Health

#### **Unit-III Care and Well-Being: Different Stages of Life**

- Childhood Stage (2 – 6 Years)



- Adolescence (13 – 19 Years),
- Middle Adulthood (40 – 60 Years),
- Old Age (60 Years till Death)

#### **Unit-IV National Services and Programme**

- School Health Programmes – Supplementary Nutrition Programme, Mid-Day Meal Programme.
- Programme for Adolescent and Youths – Menstrual Hygiene Scheme (MHS), Rastriya Kishor Sevasthya Karyakram (RKSK)
- Service Programme for Aged People – National Policy for Older Person (NPOP), National Old Age Pension Scheme (NOAP)

#### **Unit-V Counselling and Yoga**

- Importance of Health Counselling for one's Wellness
- Yoga – Role of Yoga in Reducing Stress
- Physical Exercise – Importance of exercise for Weight Loss

#### **Practical:**

1. Observation of Children in the Age Group of 2-6 Years to understand their Care Needs. (10-Marks)
2. Participation of Yoga for Stress Management. (10-Marks)
3. Conducting Health Awareness Programme to Senior Citizen Home and Writing Reports. (10-Marks)
4. Articles Prepared during the course (10-Marks)
5. Visit Report/Notebooks (5-Marks)
6. Viva-Voce (5-Marks)

#### **References:**

1. Dhiren, Educational Guidance and Curriculum Construction, Modern Book Agency.
2. Singhi P., Child Health and Well-Being: Psycho-Social Care within & beyond Hospital walls.
3. T.S. Saraswati, Culture, Socialization and Human Development, New Delhi
4. Santrock J.W., Life Span Development: A Tropical Approach, Tata Mc Graw Hill, New Delhi

## SEMESTER-V

### CORE COURSES

#### HS-701: LIFE SCIENCES

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

##### Unit-I Botany

- Basics of Botany – Definition, History and Branches of Botany
- Importance of Studying Botany
- Medicinal and Aromatic Plants – Definition, Significant difference of Medicinal and Aromatic Plants and History of Medicinal Plants in India
- Medicinal Aromatic Plants found in Manipur and their Uses

##### Unit-II Microbiology

- Definition, Scope, and Branches of Microbiology
- Food Spoilage and its causes, Microbiology of Milk – Sources of Contamination, Pathogens in Milk
- Kinds of Organisms in Air and Water – Air Borne and Water Borne infections
- Characteristics and Economic importance Bacteria, Yeast, Fungi, and Algae
- Application of Microbiology – Environment, Medium, and Research

##### Unit-III Ecology

- Defining the Terms – Ecology, Ecosystem, Environment – Physical Environment, Biological Environment
- Objectives, Scope and Types of Ecology
- Practical Application and Importance of Ecology in everyday life.

##### Unit-IV Genetics

- Basic Concepts of Genetics, Heredity, Inheritance, Variation
- Genetic Diseases and Sex Linked Inheritance
- Importance of Genetic Counselling

##### Unit-V Biochemistry

- Definition, Objectives, Inter-Relationship between Biochemistry and other Biological Science
- Classification and Structure of Carbohydrates, Protein and Fats.
- Structure and Biochemical role of Fat Soluble and Water Soluble Vitamins
- Digestion and Absorption of Carbohydrates, Proteins and Fats
- Biological role of inorganic elements – Iron, Calcium, Potassium and Iodine.

#### Practical:

1. Quantitative Estimations of Glucose, Sucrose and lactose by titrimetric method.
2. Preparing Album of some locally available medicinal and aromatic plants of Manipur.
3. Collecting some pictures of Genetic Disorders.
4. Articles prepared
5. Practical Notebook
6. Viva-Voce

## References:

1. Anna K. Joshua, Microbiology, Popular Book Depot, Medras.
2. Sharma P.D., Microbiology, Rastogi Publication, Meerut
3. Raven P. & Johnson G., Biology, Mc Graw Hill Science.
4. Winchester A.M., Genetics, Oxford and IBH Publishing Co.
5. Lehninger A.L., Nelson D.L. & Cox M.M., Principles of Biochemistry, CBS Publishers.
6. Sundaraj P. & Siddhu A., Quantitative Procedures in Biochemistry, Elite Publishing House Pvt. Ltd., New Delhi
7. Soni N.K. & Soni V., Fundamentals of Botany, Tata Mc Graw Hill Education

## HS-702: PHYSICAL SCIENCES

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

### Section-A: Chemistry

#### Unit-I Carbohydrates

- Structure and classification.
- Monosaccharides- Biose, Trioses, Tetroses, Pentoses, Hexoses.
- Oligosaccharides- Disaccharides, Trisaccharides, Tetrasaccharides.
- Polysaccharides- Pentosans, Hexosans (starch, dextrans, glycogen, hellulose).
- Oxidation of sugars, reduction of sugars, reducing properties of sugars, formation of disaccharides, reducing and non-reducing disaccharides.

#### Unit-II Proteins and Lipids

- Structure of amino aids. Peptide linkage, Zwitter ion, Ninhydrin test, Sangers test.
- Protein structure – Levels of organization – primary, secondary, tertiary and quaternary structure; of proteins.
- Enzyme and concept of Lock & Key and Induced Fit Theory.
- Structure and classification.
- Simple lipids, compound lipids, waxes, derived lipids.
- Building blocks of lipids – fatty acids, glycerol.

### Section-B: Physics

#### Unit-III House hold Equipments and Awareness

- Motorized equipments: Vacuum cleaners, Clothes washing machine, Dish washers, Food processors, Electric chimney.
- Heating appliances: Electric irons, Electric water heaters, Gas and electric cooking ranges, Gas meter, temperature control in household gadgets – various types of thermostats, Solar Energy and its applications.
- Cooling appliances: Refrigeration and air conditioning, Various types of Refrigerators, air conditioners and air coolers, Basic knowledge of ducting.
- Guarantee and warranty of all household equipments, Precautions while using equipments and servicing of equipment used.

#### Unit-IV Electricity, Sound and Light

- Generation and efficient transmission of electricity.

- Safety features in household electric wiring – fuse, MCB, Earthing. Electric meter: Concept – Battery charger, Inverter, UPS, Voltage stabilizer.
- Lighting fixtures in the home – Incandescent lamp, Fluorescent tube, CFL, LED, Halogen lamp.
- Knowledge of sound, echo and their uses.
- Recording and reproduction of sound – various methods.

#### **Unit-V Modern Physics, Electronics and Biophysical Techniques**

- Television – Transmission and reception, concept of colour television.
- Geostationary satellites.
- Radioactivity – concept and application, Nuclear Energy.
- Concept of Laser and its applications.
- Basic principles of electromagnetic radiation: Energy, wavelength, wave numbers and frequency.
- Basic Knowledge of: X-Rays, Ultra sound and MRI.
- Harmful effect of radiations.

#### **Practical:**

##### **PART-A: Chemistry**

1. Volumetric Analysis/ Titration (Estimate amount of salinity in a given solution using silver nitrate) and (Determination of hardness of water)
2. Qualitative tests for carbohydrates
3. To determine the concentration of sugar in a sugar solution by using a Polari meter.

##### **PART-B: Physics**

1. To study the sensitivity of different measuring instruments and determine the thickness of a glass plate using (i) Vernier Calipers and (ii) Screw Gauge
2. To study household electrical wiring and fix a bedside switch in the circuit.
3. To repair and test an electric iron, chord, fuse and test them.
4. Refractive index of a liquid by 36ravelling microscope.
5. Focal length of a convex lens- Displacement method.

#### **References:**

1. Shakuntala and Shadaksharaswamy: FOODS-Facts and Principles. New Age International Publishers.
2. Swaminathan: Advanced Textbook on Food & Nutrition. Vol I. Bappco.
3. Graham Solomon, T.W. Organic chemistry 10<sup>th</sup> Ed. (2009) John Wiley and sons, Inc.
4. Nelson, D.L. and Cox, M.M., Lehninger's principles of Biochemistry, 6<sup>th</sup> edition, (2012) W.H. Freeman.
5. Household Physics (2012), Claude H. Brechner, Hardpress.
6. Applied Photography Optics, 3<sup>rd</sup> Edition, Sidney E. Ray, Focal Press 2002.
7. Modern Physics, Murugesan, S. Chand and Co., 2002.
8. Engineering Physics: Fundamentals and modern applications, P. Khare and A. Swarup, Jones and Barlett Publishers, 2010.
9. Principles of Instrumental Analysis, 6<sup>th</sup> edition (2006), D.A. Skoog et. Al., Saunders College Publishing.
10. Bhatia, K.B., Elements of Electrical Gadgets, Arya Book Depot, 1993.
11. Practical Organic Chemistry by Vogel A. I., Orient Longmans Limited.
12. Ahluwalia, V. K., Dhingra, S., Gulati, A., College Practical Chemistry, University Press (India) Pvt. Ltd. (2005)

13. B.Sc. Practical Chemistry by P. L. Soni and S. C. Jain, Sultan Chand and Sons (1978).  
14. College Practical Physics by Khanna and Gulati, S. Chand and Co., (1999)

## **DISCIPLINE SPECIFIC ELECTIVES**

### **HS-711: COMMUNICATION FOR DEVELOPMENT**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

#### **Theory:**

**Lectures: 60**

#### **Unit –I Communication**

- Meaning, Process, Forms of Communication:- Small group Communication, Public Communication, Mass Communication, Verbal & Non-Verbal Communication.
- Traditional Methods and Materials of Communication, Modern Methods and Materials of Communication

#### **Unit – II Development Communication**

- Meaning, Communication in Developing Societies, Various Strategies for Developmental Communication.
- Development Support Communication:- Population and Family Welfare, Health Education and Society – Environment.
- Multi-Media Approach to Development Communication

#### **Unit – III Media, Children, Adolescent and Family**

- Influence of Media on Growth and Development of Children
- Role of Media in the lives of Adolescents with Special reference to use of internet
- Parental perception about media and children, Media Literacy for Family and Children.

#### **Unit – IV Behaviour Change Communication (BCC)**

- Concept and Relevance of BCC: BCC and Advocacy, Approach to BCC, Types and Steps of Advocacy, BCC – Strategy, Design and Implementation.
- Role of BCC in Promoting Health, Environmental Sustainability, Peace and Human Rights

#### **Unit – V Broadcasting Media and Web**

- Writing for job, characteristics of web writing, Technical Writing, Blogs, Online Journalism for development, Developing Newsletter, Ethics of Media, Selecting Agenda for Publication and Broadcasting, Developing a PSA (Public Service Announcement).

#### **Practical:**

1. Analysis of Media on Selected Issues.
2. Apply the Traditional Media in Women's Issues.
3. To learn the process of BCC Campaigns
4. Design and Use of Graphic Media
5. Visit Report/Notebooks
6. Viva-Voce

#### **References:**

1. Keval J. Kumar, Mass Communication in India, Jaico Publishing, Mumbai

2. Anderson, Kennet, Introduction of Communication: Theory and Practice, Cummings Publishing Co., California.
3. Narula, Uma, Development Communication, Hariand Publication, New Delhi.
4. Servaes, Jan, Communication for Development and Social change, Sage Publication, New Delhi
5. Strasburger, V.C. and Wilson B.J., Children, Adolescents and the Media, Sage Publications.

### **HS-712: NON-FORMAL, ADULT AND LIFE LONG EDUCATION**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

**Unit –I Non-Formal Education**

- Meaning, Importance, Objectives, Types, Characteristics, Advantages and Disadvantages, Principles of Non-Formal Education,
- Difference between Formal and Non-Formal Education, its Key Elements
- Scope of NFE in Communities, Techniques of Community Study

**Unit – II Adult Education**

- Adult Education – Meaning, Concept, Scope, Objective
- Teaching and Evaluation Method of Adult Education
- Characteristics of Adult Learners, Difference between Adult and Child Learning
- History of Adult Education – Pre-Independence and Post-Independence
- Government Structure for Implementation for Adult Education Programme – Contribution of NGO's in National Adult Education Programme (NAEP)
- Motivating and Sustaining Adult Learners

**Unit – III Life Long Education**

- Life Long Education – Concept, Meaning, Theories, Components and Objectives
- Scope of Life Long Education and Skill Development
- Historical Background of Life Long Learning
- Role of Government, Universities in Implementation of Life Long Education in UGC Vision

**Unit – IV Methods & Materials for Non-Formal/Adult/Life Long Education**

- Methods and Approaches for Organising NFE Programmes for different Target Groups
- Scope of Communication Methods and Materials for Adult Learning

**Unit – V Programme of Non-Formal, Adult and Life Long Education**

- National and International Programmes
- Local, State, National and International Agencies – Policy and Programmes
- Monitoring and Evaluation of NFE/Adult/Life Long Education

**Practical:**

1. Visit to different NGO's Involved in NFE/Adult/Life Long Education
2. Group Discussion by Inviting Experts to Share their Experiences of NFE/Adult/Life Long Education
3. Write a report of Literacy News, Events from News Papers & Periodicals
4. Organise a Programme in Selected area about Adult Learning System and Write a brief evaluation of the programme
5. Visit Report/Notebooks

## 6. Viva-Voce

### References:

1. Singh N.K., Adult Education, Saurah Publishing House, New Delhi
2. Khajuria D.P., New Trends in India Education, Narendra Publishing House, Jalandhar
3. Singh M., New Companion to Adult Education, International Institute of Adult and Life Long Education, New Delhi
4. Mishra L., Adult Education: A Study of the Trails, APH Publishing Co., New Delhi
5. Chandra A., Shah A., Non-Formal Education for All, Sterling Publishers, New Delhi
6. Rajani R. Shirur, Adult Learning, Sterling Publishers Pvt. Ltd., New Delhi
7. Jayagopa R., Adult Learning, Psycho Social Analysis, University of Madras Publications

## GENERIC ELECTIVE COURSES

### HS-731: ADOLESCENT RELATIONSHIP

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit –I Understanding Adolescence

- Adolescence – Definition, General Characteristics, Stage of Identity Searching, Emotional Turmoil, Idealism, Sociability
- Need to Understand Adolescence

#### Unit – II Adolescence: Individual Difference

- Meaning of Individual Difference, Factors Affecting Individual Difference – Hereditary and Environment
- Developmental Task – Definition, Preparing for career and Achieving Emotional Independence

#### Unit – III Adolescence in the Family: Building Relationships

- Family – Meaning, Importance of Family
- Family Interaction – Meaning and Purpose of Family Interaction
- Adolescent Interaction with Siblings
- Importance of Grandparents during Adolescence

#### Unit – IV Adolescent: Peer Relationships

- Peer Group – Types, Importance of Peer Group in the life of Adolescent
- Peer Relationship – Identity formation and Social-Emotional Development

#### Unit – V Adolescent Well-Being

- Exercise – Types, Importance of Exercise of One’s Well-Being, Factors Affecting Exercise during adolescence
- Entertainments – Common Entertainments Adolescents Generally Indulge in

#### Practical:

1. Writing a report on the relationship of a close friend

2. Submitting a report on your participation in any family activities
3. Listing down the things you can do for your Grand-Parents
4. Articles Prepared during the course
5. Visit Report/Notebooks
6. Viva-Voce

**References:**

1. Jenson Cyril, Larry – Adolescence: Theories, Research, Applications, International Edition, West Publishing Co.
2. Devdas Rajammal P. – A Text Book on Child Development, Mc Millan India Ltd.
3. Hurlock, Elizabeth B., Developmental Psychology, Tata Mc Graw Hill Publishing Co.
4. Erickson, E.H., Identity, Youth and Crisis, New York, Norton
5. Sharma, N., Understanding Adolescence, National Book Trust, New Delhi



## SEMESTER-VI

### CORE COURSES

#### HS-703: HOUSING AND INTERIOR DECORATION

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit-I Housing

- Functions of House, Selection of Site, Principles of Planning a House.
- House plan for different Income Groups and Grouping different Rooms, Storage Areas.
- Building materials for Construction of a House.
- Kitchen Arrangement – Principles of Planning Kitchen, Types of Kitchen

#### Unit-II Design Fundamentals

- Life Space and Proximics – Significance in Interior Space Designing
- Concept and Meaning of Aesthetics, Perception and Good taste in Designing, Interior Design v/s Interior Decoration
- Definition, Meaning and Classification of Design, Types – Structural Design and Decorative Design.
- Elements of Art, Principles of Design
- Colour – Qualities of Colour, Use of Colour in Interior Decoration for different Rooms.
- Colour Harmonies – Monochromatic, Analogous, Complementary, Double Complementary, and Split Complementary Triad.

#### Unit-III Home Lighting and Interior Accessories

- Study of Lighting in Interior Decoration, Types of Lighting, Sources, Kinds and Types of Lighting Used/Role Brightness – Measurements for Adequacy, avoidance of glare and shadow
- Accessories: Concept, Selection and Placement of Accessories – Pictures, Antique and Indoor Plants.
- Importance of Accessories in Home Decoration.

#### Unit-IV Flower and Floor Arrangement

- Principles, different Styles, Shapes.
- Methods of Drying Flower and Foliage.
- Selection of Flowers, Vases and Tools needed, Techniques Creation of Basic Shapes.
- Floor Decoration – Rangoli, Alpana, Kolam.

#### Unit-V Furnishings and Equipments

- Factors influencing Furnishing of Interiors Space – Climate, Family needs and Preference
- Materials availability, Design, Principles, Cost, Durability.
- Furniture Construction, Selection, Use, Care and Maintenance.

#### Practical:

1. House Plan for different Income Groups (Low/Middle/High) with Diagram
2. Flower arrangement.
3. Different Types of Kitchen plans – U-Shape, L – Shape, One-Walled and Two-Walled.
4. Colour Harmonies – Application of Colour in the given Picture
5. Practical Notebook
6. Viva-Voce

## References:

1. Agarwalla, S.C., Interior Decoration, Dhanpat Rai and Co. Delhi.
2. Alexander M.J., Designing Interior Environment, Alan Blane, B.T., Batsford Ltd. London.
3. Faulkner R., and Faulkner S., Inside Today's Home, Holt Rinechart and Winston, London.
4. Rutt A., Home Furnishing, Wiley Eastern Pvt. Ltd., New Delhi.
5. Deshpande, R.S., Modern Indian Homes to India, United Book Corporation, Pune.
6. Goldstein H., Goldstein V., Art in Everyday Life, Modriuan Co., New York.

## HS-704: THERAPEUTIC NUTRITION

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

### **Unit-I Introduction and Basic Modifications in Hospital Diets**

- Nutritional care, Role of Doctor, Dietician and Nurse in feeding a patient.
- Collection of background data, medical history, dietary history.
- Modifications in diet: In consistency- clear fluid, full fluid, soft, bland.
- Modification in nutrients- In carbohydrate, fat, protein, vitamin, fibre contents.
- Special feeding methods: Intravenous feeding, Tube feeding, Composition of intravenous & tube feeds.

### **Unit-II Principles of Dietary Management in Gastro Intestinal, Liver and Kidney Diseases**

- Peptic Ulcer, Gastritis, Ulcerative colitis, Diarrhoea and Constipation.
- Jaundice, Viral Hepatitis, Cirrhosis, Hepatic failure, Pancreatitis, Gall bladder problems- cholecystitis.
- Diets in Kidney diseases: Nephritis (Type I & II), Uraemia (acute and chronic), Renal failure, Renal Calculi.

### **Unit-III Dietary Management in Cardiovascular Diseases and Metabolic Disorders**

- Diet in Coronary heart disease, hypertension, congestive cardiac failure, myocardial infarction. Importance of sodium restriction.
- Dietary management in Diabetes Mellitus (Type I & II). Dietary management in Obesity and Underweight.
- Diet in Gout and Arthritis.

### **Unit-IV Diet in Fevers, Infections, Cancer and Surgeries**

- Dietary management in Typhoid, Tuberculosis and other Fevers.
- Diet in Immune system dysfunction- HIV/AIDS, Allergies.
- Nutritional care for patients undergoing treatment for Cancers (Types).
- Diet in pre and post-operative care.

### **Unit-V Diet in Endocrine Disorders, Nutritional Deficiency Diseases, Nervous System Disorders and others**

- Dietary management in Hypo and Hyper Thyroidism, PEM, Anaemia.
- In Anorexia nervosa, Bulimia nervosa.
- Feeding of pre-term babies, spastics, children with cleft palate.

**Practical:**

1. Planning, Calculation of nutrients, and preparation of the following therapeutic diets: -High protein, -Low protein, -high calorie, -low calorie, -high fibre, -low fibre, -low fat, -high iron, -low sodium
2. Planning, calculation of nutrients of the following diseases: -Gastro intestinal diseases, -Liver diseases, -Kidney diseases, -Diabetes Mellitus, PEM -Anaemia
3. Survey of some patients in a hospital setting and writing report
4. Record
5. Viva

**References:**

1. Swaminathan M: Advanced Textbook on Food & Nutrition. Vol II. Bappco.
2. Shubhangini A Joshi: Nutrition and Dietetics. With Indian case studies. 3<sup>rd</sup>edn. Tata McGraw Hill Education Pvt. Ltd
3. Mudambi S R & Rajagopal M V: Fundamentals of Foods, Nutrition and Diet Therapy. New Age International Publishers.
4. Srilakshmi B: Dietetics. New Age International Publishers.
5. Profit Fairfax T P & Robinson Corrine H: Normal and Therapeutic Nutrition. Oxford and IBI Publishing Co. New Delhi.
6. Indian Dietetics Association (2018): Clinical Dietetics Manual, 2<sup>nd</sup>edn. Elite Publishing House Pvt. Ltd.
7. Khanna K, Gupta S, Seth R, Passi S J, Mahna R, Puri S (2013): Textbook of Nutrition and Dietetics. Phoenix Publishing House.

**DISCIPLINE SPECIFIC ELECTIVES****HS-713: ENTREPRENEURSHIP DEVELOPMENT AND ENTERPRISE DEVELOPMENT****Theory: 4 Credits (100-Marks),****Practical: 2 Credits (50-Marks)****Theory:****Lectures: 60****Unit –I Concept of Entrepreneurship**

- Meaning, Definition, Need, Role, Importance and Scope of Entrepreneurship
- Meaning, Functions, Types, Characteristics of an Entrepreneur
- Form of Organisation – Sole Proprietorship, Partnership, Joint Stock Company
- Relationship between the term Entrepreneur, Entrepreneurial and Entrepreneurship
- Role of Entrepreneur in Economic Development
- Factors influencing the Emergence of Entrepreneurship: The Internal and External Factors

**Unit – II Establishing a Small Scale Enterprise**

- Meaning, Classification – Product Identification and Selection
- Sources of Business Ideas – Technical and Market Sources
- Infra-Structure: Place, Location, Land, Building, Water and Power
- Difference between Idea and Opportunities of Business
- Various Sources of Business Identification Opportunity, Systematic Innovation, Trade Fair and Exhibitions, Positioning.

### **Unit – III Institutional Support**

- Role of Government and Non-Governmental Agencies in Promoting Entrepreneurship in India.
- Institutional Support: Entrepreneurship Development Programmes (EDP's), Khadi and Village Industries Commission (KVIC), The National Institute for Entrepreneurship and Small Business Development (NIESBUD), Small Industries Development Corporation (SIDC), District Industries Centre (DIC), Small Industry Extension Training Institute (SIETI), Small Industries Development Organisation (SIDO), National Small Industries Co-Operation Ltd. (NSIC), Small Industries Development Bank of India (SIDBI), Industrial Development Bank of India (IDBI), ICICI, LIC, NAYE, IIBI, Objective and Functions.
- Commercial Banks: Role, Schemes etc.

### **Unit – IV Project Formulation**

- Meaning, Definition, Classification:- Quantifiable and Non-Quantifiable, Sectoral Projects, Techno-Economic Projects.
- Project Life Cycle: Pre-Investment Phase, Construction Phase, Normalisation Phase.
- Meaning of Project Appraisal, Methods of Evaluating a Project Appraisal: Pay-Back Period, Return on Investment (ROI), Discounted Cash Flow, Internal Rate of Return (IRR), Net Present Value (NPV), and Profitability Index (PI).
- Project Report and Preparation of Project Report

### **Unit – V Financial and Economic Feasibilities**

- Classification of Financial Needs: Fixed, Working Capital, Long Term & Short Term Finance.
- Sources of Finance: Internal and External Sources.
- Requirements of Funds at different Stages of Business – Early Stage Financing, Expansion or Development Financing, Acquisition Financing.
- Methods of Evaluating Financial Feasibility

### **Practical:**

1. Visit to Enterprises and observe the working principles of an enterprise.
3. Prepare a case study of successful Entrepreneur.
4. Lectures on rules and regulations for financial support to entrepreneurs & Prepare a report
5. Prepare a model project report
6. Visit Report/Notebooks
7. Viva-Voce

### **References:**

1. Jayshree Suresh, Entrepreneurial Development, Margham Publication, Chennai.
2. Khanka, S.S., Entrepreneurial Development, S. Chand & Co., New Delhi
3. Radha, V., Entrepreneurial Development Prasanna Publishers and Distributors, Chennai
4. Sundara Pandian, P., Entrepreneurship Development, Vinudhunagar, M.M. Publishers
5. Gordon E., and Nataranjan, K., Entrepreneurship Development, Himalaya Publishing House, Mumbai.
6. Anilkumar, S., Poornima, S.C., Meira K., Abraham and Jayashree, K., Entrepreneurship Development, New Age International Publishers Pvt. Ltd., New Delhi.

## HS-714: PHYSIOLOGY AND PROMOTIVE HEALTH

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

### Theory:

Lectures: 60

#### Unit – I Basic Concepts

- Introduction to Physiology, The various systems of the body.
- Body organs, the cell, characteristics and classification, nucleus, the tissues, cellular organelles, functions.
- Blood and Lymphatic system.
- Blood- composition, function, components, coagulation, blood groups.

#### Unit – II Cardiovascular, Respiratory, Digestive and Excretory system

- Heart- structure, primary functions, circulation, blood pressure, co-ordination of heartbeat. Lungs- structure, functions, capacity, mechanism of respiration, factors affecting transport of gases.
- Gastro intestinal tract - structure, functions, stomach, liver, gall bladder, pancreas, intestines.
- Kidney- structure, function, urine formation, composition of urine.

#### Unit – III Endocrine, Reproductive, Muscular and Skeletal System

- Structure and functions of endocrine glands (pituitary, thyroid, pancreas, ovary, testes), effects of hypo and hyper secretion.
- Overview of reproductive system, functions, physiology of pregnancy and lactation, menstruation and menopause.
- Muscles- functions, types, concept of bones, ligaments, tendons, joints.
- Position, attachment and functions, rigor mortis. Skeleton- functions, basic structure.
- Disorders in bones, Fractures.

#### Unit – IV Special Sense Organs

- Structure and functions of- Eye, lens, retina, rods, cones, secretion of tears, physiology of vision, common eye diseases.
- Tongue- physiology of taste sensation.
- Nose, structure, perception of smell.
- Ear- parts, structure, physiology of hearing.
- Skin- structure, functions, mechanism concerned with regulation of body temperature, physiology of pain.

#### Unit – V Promotive Health

- Concepts of Health, promotion.
- WHO definitions - Public health, Diseases and preventive measures.
- Immunization - Communicable diseases - modes of transmission, prevention and control.
- TB, Enteric fever, Dengue, HIV/AIDS, Non Communicable diseases - general risk factors, prevention.
- Diabetes, Hypertension, Cancer.
- Mental health, psychosis, drug abuse, alcoholism.
- Maternal health- antenatal care, family planning.

### Practical:

1. Basic concept and testing of blood groups
2. Microscopic examinations: Blood- fresh and stained. Bleeding and clotting time.
3. Hemoglobin estimation

4. Measurement of pulse rate (at rest & after exercise), Blood Pressure.
5. Measurement of body temperature- mouth and armpit
6. Basic First Aid Procedures, Burns, CPR.
7. Project on birth control methods.
8. Project on Ante natal care of women.
9. Practical Record/ Note book
10. Viva.

#### References:

1. Atul Deura & Surendra H Bodakhe: Basics of Human Anatomy and Physiology. Piyush publications.
2. Ganong WF (2003). Review of Medical Physiology, 21st ed. McGraw Hill.
3. J.E. Park and K. Park (2009). Park's Textbook of Preventive and Social Medicine, 20th edition. M/s Banarsi Das Bhanot, Jabalpur.
4. Ross and Wilson (1973). Foundation of Anatomy and Physiology, Medical Division of Longman Group Ltd.
5. Yash Pal Bedi (1980). A Handbook of Social and Preventive Medicine, Atma Ram and Sons.
6. Chaudhari S K (2000) Concise Medical Physiology. 3rd Edition Central.
7. Guyton A.C. and Hall J.E. (2000) Textbook of Medical Physiology. 10th ed. India: Harcourt Asia.
8. Jain A. K (2014) Human Physiology for BDS (5th Edition), Publisher: Avichal Publishing Company; ISBN: 9788177394337 .
9. Marieb E.N (2001) Human Anatomy and Physiology (5<sup>th</sup>ed) Pearson Education, Inc, publishing as Benjamin Cummings.
10. West J.B. (1996): Physiological Basis of Medical Practice. 12th Edition. B. I. Waverly Pvt. Ltd

#### GENERIC ELECTIVE COURSES

##### HS-732: GENDER, MEDIA AND SOCIETY

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

#### **Unit –I Gender and Society**

- Gender as a Social Construction
- Gender, Sex, Sexuality, Third Gender
- Gender Stratification and Inequality
- Ideas and Discrimination on LGBT
- Patriarchal and Matriarchal System

#### **Unit – II Gender and Development**

- Meaning of Gender Development
- Issues of Women: Education, Health, Household Work and Work place, Leadership and Culture
- Development and Implementation of Welfare Programmes for Women
- Gender Mainstreaming: Meaning, Policies and Programmes

#### **Unit – III Gender and Media**

- Social Construction of Gender Reality by Contemporary Media
- Mainstream Media and Gender

- Representation of Women in Media in Political, Cultural and Social Landscape
- Researching and Analysing Media from a Gender Perspective: In Broadcast, Print, New Media

**Unit – IV Social Stratification – Feminism and Gendered**

- Feminism: Meaning, Growth of Feminist Theories – Liberal perspectives
- Gender Stereotyping and Socialization
- Gender Role, Female Infanticide

**Unit – V Gender Rights and the Law**

- Right to Property, Personal Laws, Violence against Women, Sexual Harassment
- Basic Concepts of Ethics

**Practical/Tutorials:**

1. Gender Based Analysis of Media with Special reference to Portrayal of Women
2. Participation in Campaigns for Empowering Women
3. Case studies for Programmes and Campaign for Women’s Empowerment

**References:**

1. Bhasin, Kamala, Understanding Gender, Kaalia for Women, New Delhi
2. Goel A. Kaur, & Sultana A., Violence against Women: Issues and Perspectives, Deep & Deep Publisher, New Delhi
3. Sohoni K. Neeraj, Studies of Girls in Development Strategies, Har Anand Publications, New Delhi
4. Stevenson N., Understanding Media Studies: Social Theory and Mass Communication, Sage Publications
5. Vivian J., The Media of Mass Communication, Pearson
6. Dubey S.N., Administration of Social Welfare Programme in India, Somaiya Publishers, Bombay
7. Holmes, Mary, Gender and Everyday Life: London, Routledge
8. Anil Dutta Mishara, Pattern of Gender Violence, Radha Publications
9. Gibson M.A. Deborah T., & Jonathan Alexander, Finding out: An Introduction to LGBT Studies, Sage Publications
10. M. Chaudhuri, Feminism in India: Issue in Contemporary Indian Society, Kali for Women, New Delhi
11. Dube L., Structures and Strategies – Women, Work and Family, sage Publication, New Delhi

## SEMESTER-VII

### CORE COURSES

#### HS-801: ADOLESCENCE, DYNAMICS OF MARRIAGE AND COUNSELLING

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit-I Understanding Adolescence

- Moral Development, Development of Self-Concept during Adolescence – Factors Influencing Self-Concept.
- Sex Education – Need and Importance of Sex Education in Adolescence, Methods of Imparting Sex Education.
- Problems of Adolescence – Use of Intoxicants, Juvenile Delinquency.

#### Unit-II Adolescent Interests

- Sex Interest and Sex Behaviour during Adolescence.
- Educational Interest – Factors influencing Adolescent Attitudes toward Education.
- Vocational and Religious Social Interest in Adolescence – Parties, Drinking, Drug, World Affairs Conversations.

#### Unit-III Marriage

- Definitions, Functions, Preparation for Marriage – Physical, Emotional, Social, Intellectual Maturity, Economic Independence.
- Marital Adjustment – In-Laws, Sex, Adjustment to mate, Adjustment to Parenthood.
- Marital Disharmony – Divorce, Separation, Infertility.

#### Unit-IV Family

- Definitions, Functions, Types – Nuclear, Joint, Extended and Single Parent Families – Merits and Demerits.
- Role of Family in Inculcating Civic sense and Values.
- Maternal Employment – Effect on Children

#### Unit-V Guidance and Counselling

- Guidance – Definition, Nature, Need, History of Guidance Movement in India.
- Techniques of Guidance – Observations, Questionnaire and Self-report Technique.
- Counselling – Definitions, Characteristics, Types of Counselling – Directive and Non-Directive, Qualities of a Good Counsellor.
- Areas of Counselling – Personal and Group Counselling, Marriage and Family Counselling, Career Counselling.

#### Practical:

1. List the Ways to Promote Self-Concept of Adolescent.
2. Interviewing married couples of different age group on family adjustment and writing report.
3. Organising workshop or seminar presentation on common problems faced by an adolescent boy/girl.
4. Visit to any guidance or counselling centre and writing report.
5. Observation of roles of each member in a family and writing report.



6. Practical Note Book
7. Viva-voce.

### References:

1. Hurlock, Elizabeth B., Developmental Psychology, Tata Mc Graw Hill Publishing Co., New Delhi.
2. Devdas, Rajammal P., A Text Book on Child Development, Mc Millan India Ltd.
3. Garu W. Peterson, Kevin R. Bush, Handbook of Marriage and the Family, Springer Science & Business, Media Copyright.
4. Rice F.P., Adolescent: Development, Relationships and Culture.
5. Santrock, J.W., Life Span Development: A Tropical Approach, Tata Mc Graw Hill, New Delhi.
6. Nayak A.K., Guidance and Counselling, APH Publishing Co.
7. Sister Mary Vishala, Guidance and Counselling, S. Chand & Co. Pvt. Ltd.

## HS-802: SOCIO-ECONOMIC ENVIRONMENT

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

### Unit-I Introduction to Sociology

- Definition, Scope, Importance and Relationship of Sociology to other Social Sciences.
- Society & Culture:- Meaning, Characteristics and Culture of Culture and Civilization.
- Social Institutions:- Types, Characteristics and Functions and their Impact on Indian Society.
- Cultural Diversity in Contemporary Life

### Unit-II Emergence of New Ideological Orientation

- Social change and Social Organisation, Social Organisation:- Meaning, Types
- Sociological Studies of Children, Youth and Women; Problems and Challenges.
- Social Disorganisations:- Meaning, Types and change in Rural Social Organisations in India

### Unit-III Rural Sociology & Rural Community

- Rural Sociology: Definition, Nature, Scope, Importance and Main features
- Rural Community: Meaning, Characteristics of Rural Community.
- Social Stratification: Definition, Causes and Remedies of Casteism, Value and Beliefs, Social System Norms.
- Rural Problems: Rural Poverty, Rural Unemployment, Indebtedness, Measures to Solve Rural Problems.
- Rural Reconstructions: Meaning, Importance and Aim of Rural Reconstruction, Governmental Efforts for Rural Reconstruction

### Unit-IV Introduction to Economy

- Economic Development: Meaning, Types, Phases of Economic Development in India –post Independent and Post 1991 phase.
- Role of Agriculture of Rural Economy, Need for Food Security in India – Role of ODS, Rural Credit Institutions – RRB's, Commercial Banks and NABARD.
- Micro-Finance – Meaning, Definition

### Unit-V Indian Economic Environment

- Indian Economy: Meaning, Changing Structures, Economic Planning
- Growth and Development Indications

- Constraints on Growth: Issue of Population, Income Distribution of Poverty, Inequality and Migration, Health, Education, Genders & Environment.
- Impact of Globalisation and WTO – their Impact on Indian Agriculture and Agro-Based Industries.
- Current Development Policies of the Government of India

#### **Practical:**

1. Organizing Workshop/Seminar on family Roles and Responsibility in Society.
2. Discussion on various Economic Issues.
3. Field visit on different Communities and Write a report.
4. Case Studies Narratives, Films to study different Culture in Manipur
5. Practical Notebook
6. Viva-Voce

#### **References:**

1. Abraham, M.F., Contemporary Sociology: In Introduction to Concepts and Theories, New York, Oxford University Press.
2. Das, V.(Ed.), The Oxford Companion to Sociology and Social Anthropology: Vol. 1 & 2, Oxford University Press, New Delhi.
3. Dais, K., Human Society, University of California, Berkeley.
4. Beatlie, J., Other Cultures, Cohen and West.
5. Ahuja H.I., Modern Micro-Economies, Sultan Chand & Sons (Bilingual)
6. Misha & Puri, Indian Economy, Himalaya Publishing House.
7. Sharma, K. & Suresh, Rural Development in India, International Publishing House, New Delhi.
8. Misha, A., Indian Rural Economy, Serials Publications, New Delhi.
9. Ahuja, A., Agriculture and Rural Development in India, New Century Publications.
10. Devi, S., Environment and Rural Development, Sarup and Sons, New Delhi.
11. Shankar Rao, C.N., Sociology of Indian Society, S Chand & Co Ltd., New Delhi.
12. Sandhya, N. Indian Society, Urinda Publications Ltd., Delhi.
13. Vatsyaya, Rural Sociology, Kedar Nath Rama Nath, Meerut

### **DISCIPLINE SPECIFIC ELECTIVES**

#### **HS-811: CHILD RIGHTS AND GENDER JUSTICE**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

#### **Unit –I Understanding Child Rights**

- Meaning, Concept and Important of Child Rights in current times
- History of Child Rights in Indian Context

#### **Unit – II Children in Difficult Circumstances**

- Definition, Causes, Categories
- Description of selected categories – Orphaned or abandoned children, trafficked children, child abuse, children of sex workers, migrant or refugee child

### **Unit – III Child Protection Laws**

- Convention on the rights of the child, Role of the state, Family and school in protecting rights.
- State policy for children rights in Manipur

### **Unit – IV Conceptualizing Gender**

- Definition, Terms – Sex, Gender, Gender Identity, Masculinity, Femininity, Gender Roles, Gender Stereotypes
- Feminism – Meaning, Origin and Growth of Feminist thought.
- Patriarchy and Social Institution – Definitions, Functions and Types of Social Institutions

### **Unit – V Gender Justice**

- Meaning, Causes and Importance of Gender Justice
- Issues and concerns related to Women and Girl in India
- Gender Justice and Law in India

### **Practical:**

1. Organising Classroom discussion with a Resource Person on Child Rights and Report Writing.
2. Writing a Report/Biography on any one of the Child Right Activity of Manipur.
3. Poster or Chart making on Gender Equality.
4. Articles prepared during the course
5. Visit Report/Notebooks
6. Viva-Voce

### **References:**

1. Sen, Gupta, Gender Studies, Pearson, Darling Kindersley (India) Pvt. Ltd.
2. Bajpai A., Child Rights in India: Law, Policy and Practice, Oxford University Press
3. Agnes, F., Law and Gender Inequality: The Politics of Women's Rights in India, Oxford University Press.
4. Kishwar, M., Off the Beaten Track; Rethinking Gender Justice for Indian Women, New Delhi, Oxford University Press

## **HS-812: ERGONOMIC DESIGN**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

### **Theory:**

**Lectures: 60**

### **Unit –I Introduction**

- Ergonomic – Concepts, Principles, Significance, Areas of Ergonomics, Application in Design and Work Efficiency
- Anthropometric Measurements – History and Solution and its Application in Interior Designing for different work areas and workers.
- Waste management: Home Level Solid and Liquid Waste Management practices
- Occupational Health Hazards – Sources, Problem and Solutions

### **Unit – II The User Information**

- The Users – Components of Worker input – Effective, Cognitive, Temporal and Physical (Physical, Physiological, Psycho-Physiological) aspects of work.

- Control – Types of Controls – Relationship between Information and Operation – Expectation, help.

#### **Unit – III Work Environment**

- Functional Design and Arrangement of Work places
- Work Study – Time, Motion and Energy Study
- Indices of Indoor comfort, Ventilation, Lighting, Temperature, noise

#### **Unit – IV Landscaping Ergonomics**

- Concepts, Factors, significance
- Landscaping for forward bending, lifting and carrying, pulling and pushing
- Advantages and disadvantages of landscaping ergonomics

#### **Unit – V Product Design and Development**

- Concept, Stages Design Development
- Design Communication – Specific Product design features (controls and display), Socio-Psychological aspects of Product Design

#### **Practical:**

1. Basic Anthropometry – Space Norms / Stands.
2. Time and Motion Study.
3. Designing Products – Furniture (Multi-Purpose & Modular)
4. Space Design – Preparing Floor and Elevation Plan – Kitchen, Work Stations
5. Portfolio of any Products from Ergonomic Perspective
6. Viva-Voce
7. Records

#### **References:**

1. Routledge, Human Factors and Ergonomics, Book Series
2. Marcelo M. Soares, Ergonomics on Design Methods and Techniques
3. Baiche B. & Walliman N., Ernest and Peter, Blackwell Science, Neufort Edition, Indian reprint
4. Dalela S., Text Book of Work Study, 3<sup>rd</sup> Edition, Standard Publishers & Distributors.
5. Steidl & Bratton, Work in Home, John Willey & Sons, New York

### **GENERIC ELECTIVE COURSES**

#### **HS-831: APPRECIATION OF TEXTILE CRAFTS**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

#### **Theory:**

**Lectures: 60**

#### **Unit –I Introduction to Textile Crafts**

- Concepts, Classifications, Materials Used, Importance, Production Centres, Techniques, Designs, Colours and Products

### **Unit – II Traditional Textiles in India**

- Baluchars and Jamdani of West Bengal, Kani and Jamawar Shawls of Kashmir, Venkatagiri Saree of Andhra Pradesh, Bandhanis of Gujarat
- Leirumpee, Khamen Chatpa, Lasing Phee, Hijamayek, Sami Lami Phee.

### **Unit – III Traditional Embroideries in India**

- Phulkari of Punjab, Chikan Kari of Uttar Pradesh, Kashida and Namdas of Kashmir, Chamba Rumal of Himachal Pradesh, Akoybi, Tingdongbi of Manipur

### **Unit – IV Painted, Printed and Dyed Textiles in India**

- Kalamkari of Andhra Pradesh, Ajrakh and Patola of Gujarat..
- Dabu and Bandhani of Rajasthan, Batik of Maharashtra, Bandhas of Odisha.

### **Unit – V Status of Traditional Textiles in Modern India**

- Socio-Economic significance of Handloom and Handicraft in the National movement.
- Sustaining changes in traditional Textiles in generation gap.

### **Practical:**

1. Demonstration of Home Textiles Products.
2. Visit to Craft Centres and Writing Report.
3. Learning the Techniques of following Traditional Embroideries with Emphasis on base material, threads and motifs used.
  - a. Chamba of Himachal Pradesh
  - b. Phulkari of Punjab
  - c. Embroideries of Manipur
4. Articles prepared
5. Record/Notebooks
6. Viva-Voce

### **References:**

1. Chatto Padhaya, K.D., Handicrafts of India, Weley Eastern Limited, New Delhi.
2. Das, Shukla, Fabric Art – Heritage of India, Abhinav Publications, New Delhi.
3. Mutuwa Bahadur, Traditional Textiles of Manipur, Mutuwa Museum Imphal.
4. Dr. K. Sobita Devi, Traditional Dress of the Meiteis, Bhivban Publishing House
5. Shailaja D. Naik, Traditional Embroideries of India, APH Publishing Corporation, New Delhi

## SEMESTER-VIII

### CORE COURSES

#### HS-803: FASHION DESIGNING AND GARMENT TECHNOLOGY

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

#### Theory:

Lectures: 60

#### Unit-I Garment Manufacturing Process

- Pattern making – Concept, Function, Different Terminologies
- Drafting, Basic Bodice for Pattern making,
- Sewing Machine – Concept of sewing Machine at Associated Work Aids
- Properties of Seam, Types of Seams and Stitch.

#### Unit-II Elements and Principles of Designing

- Concept, Elements of Design – Line, Space, Shape, Form, Texture, Colour.
- Principles of Design – Balance, Proportion, Rhythm, Emphasis, Unity, Harmony.
- Colour – Theory, Colour Wheel, Harmony.

#### Unit-III Fashion Designing

- Terminology, Types, understanding Fashion Trend Life Cycle, Principles of Fashion Designing
- Main Social Factors favouring and Affecting Fashion, Specific Role of a Designer.
- Methods and Techniques of Fashion Design

#### Unit-IV Fashion Marketing and Merchandising

- Definition, Terminologies, Types of Merchandising, Merchandise Planning, its Importance
- Fashion Retailing, Fashion Merchandising, Firms and Designers, Levels of Merchandising, Merchandising Rights, Marketing of Fashionable Garments.

#### Unit-V Fashion Entrepreneurship

- Concept, Merits and Demerits, Business Skills, Planning, Product Identification,
- Right Locations, Merchandise Assortment
- Building Financial Plans

#### Practical:

1. Drafting and stitching of Saree Blouse.
2. Identification of Garment Components.
3. Interpretation of elements and principles of design concepts from print and visual mediums.
4. Study of collection of famous designer.
5. Practical Notebook
6. Viva-Voce

#### References:

1. Lislle Davis Burns, Katty K. Mullet, "The Business of Fashion, Fair Child Books.
2. Tate SC. Edwards M.S., The Complete Book of Fashion Design, Harper & Row Publications, New York.
3. Kapil Dev, Meenakshi Singh, Fashion Design and Technology, Computech Publications Ltd.
4. Neetu Azad Raman, Fashion Design and Technology Theory, ITI Publications, India.

5. Manmeet Sodhia, History of Fashion, Kalyani Publishers, Ludhiana.
6. Cockling Gerry, Garment Technology for Fashion Designer, OM Book Service, N-Delhi.
7. Aldrech W., Metric Pattern Cutting, OM Book Service, New Delhi

### **HS-804: RESEARCH METHODOLOGY IN HOME SCIENCE**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

#### **Unit-I Research**

- Meaning, Definition, Types, Importance, Characteristics, Objectives of Research
- Qualities of a Good Researcher
- Difference between basic or Fundamental and Applied Research
- Essential Steps of Research Process
- Pilot Study: Meaning, Importance, Significance
- Role of research in different Areas of Home Science

#### **Unit-II Hypothesis**

- Meaning, Functions, Characteristics, Types and Forms of Hypothesis
- Formulation of a good Hypothesis
- Uses of Hypothesis in different types of Research
- Sources of Formulation of Hypothesis

#### **Unit-III Tools and Techniques of Research**

- Meaning, Classification of Tools: Questionnaire, Schedule, Interview and its Forms, Advantages and Disadvantages
- Difference between Schedule and Questionnaire
- Techniques of Data Collection: Primary and Secondary Data
- Scaling Techniques: Types of Scales, Steps in Construction of Scales

#### **Unit-IV Statistical Analysis**

- Importance of Statistical Measure
- Statistical Application: Measures of Central Tendency – Mean, Median and Mode
- Measures of Dispersion: Quartile Deviation, Standard Deviation and their Related Measures
- Correlation: Concept of Correlation, Elements of Data Analysis
- Role of Statistics in data Analysis

#### **Unit-V Research Design**

- Meaning, Nature, Major Functions, Types of Research Design
- Survey Design, case Study Design, Experimental Design, Ex-Post Facto Design
- Preparation of Project Proposal and Scientific Report Writing: Basic Steps of Writing a Research Proposal
- Computer Application in Research: Steps of Slide Preparation for Power Point Presentation, Online Research paper submission

**Practical:**

1. Designing Data Collection Tools, and Planning their Analysis

2. Conducting case Studies
3. Prepare a Project Proposal
4. Practical Note Book/Report
5. Viva-voce.

**References:**

1. Verma S.P., Practical Approach to Research Methodology, Akansha Publishing House, New Delhi
2. Kothari C.R., Research Methodology – Methods and Techniques, New Age International Publishers, New Delhi
3. Ahuja R., Research Methods, Rawat Publications, Jaipur.
4. Agarwal J.C., Education Research – An Introduction, Arya Book Depot, New Delhi
5. Gupta S.P., Statistical Methods, Sultan Chand & Co., New Delhi

**DISCIPLINE SPECIFIC ELECTIVES**

**HS-813: DISSERTATION, PROJECT WORK OR INTERSHIP IN HOME SCIENCE**

**Theory and Practical: 6 Credits (150-Marks),**

A student in the 4 yr B.Sc./B.A. Course in Home Science may choose to undertake a dissertation work in the 8<sup>th</sup> semester of the 4<sup>th</sup> year degree course in lieu of the DSE. The dissertation/project may be an experimental investigation, field work and laboratory studies, a theoretical investigation accompanied by computational work, data processing and analysis, or a combination of these. The exact nature of the project and the problem to be studied shall be decided at the end of the third year by the student(s) in consultation with the faculty members and Head of the Department. After the project is completed, the student will submit a dissertation based on the results obtained in his/her investigation/work. Finally, the student is expected to defend his/her findings as embodied in his/her dissertation before a *Board of Examiners* and take an oral examination.

**HS-814: DISCIPLINE SPECIFIC ELECTIVE (DSE) IN LIEU OF DISSERTATION**

**HS-814A: BASICS OF INTERIOR DESIGN AND HOSPITALITY MANAGEMENT**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

**Unit –I Basic Design**

- Concept, Objectives, and Types Design: Functionalism and Expressiveness
- Elements of Content: Line, Shape, Colour, Texture, Space and Light.
- Elements of Order: Scale, Similarity, Proximity, Sequence, Trends, Theme, Geometrical Organisation
- Principles of Design: Balance, Rhythm, Proportion, Emphasis and Harmony (Unity)



### **Unit – II Colour and its Application**

- Concepts, Importance, Dimension of Colour and its Role in creation of the Design
- Colour system and Theories
- Colour Harmonies: Principles of Design as Applied to Colour Use
- Psychology of Colour in Interior Design; Concepts, Role of Different Colours.

### **Unit – III Accessories in Interiors**

- Accessories: Definition, Importance, Classification – Functional, Decorative and Both
- Selection and Placement of Accessories – Pictures as Accessories – Types, Selection, Framing, and Hanging
- Art object as Accessories – Wall hanging and Paintings
- Crafts as Accessories – Pottery, Wood-Crafts, Basket making
- Indoor Plants and Flower as Accessories

### **Unit – IV Hospitality Management**

- Conceptual meaning, Function and Objectives of Hospitality Management.
- Main Responsibilities of a Hospitality Managers, Significance, Scope, Application
- Department involved in Hospitality Management of an Organisation
- Hospitality in Marketing and Sales
- Service Quality management, difference between Hospitality and Hotel Management, Areas of Work, Important Sector, a Thriving and Accessible Sector,
- Career Opportunities

### **Unit – V Functions of House Keeping Departments**

- Cleaning Public Areas and Guest-Room, House-Keeping Control Desk, Housekeeping Management, Horticulture and Flower Arrangement Team
- Different Management Type: Restaurant, Hotel, Travel Agencies, Hospitality Industry
- Functions of Housekeeping Department: Cleaning of Public Works and Supply, Upkeep of laundry and Exchange of various Linen and Uniforms
- Co-ordination of Communication with other Department such as Front Office, Engineering, Accounting etc., through Control Desk, Pest Control

### **Practical:**

1. Developing Design using basic Motif for various application in Interiors minimum five applications
2. Designing Greeting Cards for different Occasions – any five Occasions
3. Colour Harmonies in different Rooms
4. Visit a Hotel/Resort/Marketing Place and writing a report
5. Viva-Voce
6. Records

### **References:**

1. Batt P., Foundation of Art and Design, The Lakhani Book Depot, Mumbai
2. Chandhari S.N. Interior Design, Aavishar Publishers
3. Craig H. & Rush O., Homes with Character, Universal Book Store, New Delhi
4. De Van D.S., Darlene M.K., Logan K.C. Szekely L., Introduction to Interior Design, Mc Milan Publishing Co, New York

## HS-814B: BASICS OF NUTRITION EPIDEMIOLOGY AND ANTHROPOLOGY

Theory: 4 Credits (100-Marks),

Practical: 2 Credits (50-Marks)

**Theory:**

**Lectures: 60**

### **Unit –I Epidemiology in Nutrition**

- Definition and Scope of Epidemiology, Health and Nutritional Epidemiology
- Determinants of MCH & Indicators commonly used to Track Maternal/Child Health & Nutrition
- Definitions of Commonly used epidemiological indicators like Crude Death Rate, IMR, U5MR, Birth rate, Fertility Rate, Maternal Mortality Rate/ Ratio etc
- Disease frequency, Causes and Prevention – Population at Risk, Incidence and its Comparison.

### **Unit – II Epidemiology of Major Public Health and Nutrition Problems in India**

- Status of Maternal and Child Nutrition/Health as per latest Surveys
- Studying the Key Indicators of Vulnerable Age Groups NNMB, Sample Registration Systems (SRS), District Level Household Survey (DLHS), Multiple Indicator Culture Surveys (MICS), NFHS I, II and III
- Vital Statistics and Causes of IMR, NMR, MMR, U5MR and its Relationships with Nutrition

### **Unit – III Introduction of Anthropology and its Relevance to Nutrition**

- Definition and Application of the Discipline of Anthropology as Applied to:
  - a. Health and Disease
  - b. Nutrition and nutritional Status
- Historical Development of Nutritional Anthropology: Evolution from a Biomedical to a Socio-Cultural View of Nutrition
- Emic v/s Etic Perspective

### **Unit – IV Cultural Interpretation of Malnutrition and Rural/Urban Differences**

- Prevention and Treatment of under Nutrition and Micro Nutrient Deficiencies, PEM, IDA, VAD, in Children's and Women's
- Ethno-Physiology: Cultural Perception of Body Physiology in different Stages of the Life Cycle (Child, Adolescent, Adult) and its Impact on Home Level Nutrition and Health Care

### **Unit – V A) Comparing Rural v/s Urban Differences as Regards**

- Time and Activity patterns: Workload of Men and Women and its Impact on Food Intake and Nutritional Status (Especially Vulnerable Groups)
- Health Care Seeking Behaviours – Treatment of Illness
- Complementary Feeding and Breast Feeding Practices; Family Support
- Seasonal variations in Malnutrition and Morbidity

#### **B) Factors Affecting Food Choice and Household Level Practices**

- Ecological and Geographical,
- Poverty and Economic Status,
- Socio-Cultural, Education, Ethnic and Religious Factors
- Sensory Qualities of Foods and Culture
- Girl Child and Women
- Intra-Household Distribution of Food

**Practical:**

1. Assessing the Health problems in Vulnerable groups of the Population in an Area.
2. Comparing the Frequency of Occurrence & Writing Reports

3. Study of Research Tools and Methods
  - A. Focus Group Discussion
  - B. Open ended Interviews
  - C. Various types of Observation Methods
4. Records
5. Viva-Voce

**References:**

1. Basic Epidemiology, R. Bonita, R. Beaglehole, T. Kjellstrom
2. Moon G., Gould M., Epidemiology: An Introduction, Philadelphia, Open University Press
3. Lillian Langseth, Nutritional Epidemiology: Possibilities and Limitations, ILSI Press
4. Peltó GH, Peltó RJ & Messer E., Research Methods in Nutritional Anthropology, United Nations University, Tokyo, Japan.
5. Mother Care, Behavioural Determinants of Maternal Health Care Choice in Developing Countries, Mother Care, USA.
6. Lawrence, M., Public Health Nutrition
7. Lal S., Text Book of Community Medicine, CBS Publications

**GENERIC ELECTIVE COURSES**

**HS-832: INTERIOR DESIGN**

**Theory: 4 Credits (100-Marks),**

**Practical: 2 Credits (50-Marks)**

**Theory:**

**Lectures: 60**

**Unit –I Historical Perspective & Contemporary Trends**

- Architectural Styles – Based on Themes and main Periods, Like Post Renaissance and Modern Style
- Contemporary Trends in Interior Design with respect to Furniture, Furnishings and Accessories

**Unit – II Furniture in the Life Space**

- Importance of Furniture in relation to Interiors, Silent Features of Traditional, Contemporary and Modern Styles in Furniture
- Furniture Types – Modular Furniture and Mobile Furniture: Case Goods and Upholstered Furniture, Multi-Purpose Furniture

**Unit – III Furniture Selection and Arrangement**

- Factors considered in Selection of Furniture to Suit different Space and Purposes
- General Guiding Concepts in Arrangement of Furniture
- Arrangement of Furniture in different Rooms
- Trends in Furniture – Impact of Materials and Methods
- Ergonomics, Space Savings and Innovations etc.

**Unit – IV Furnishings for Designing Life Space**

- Conceptual meaning of Furnishings – Definition and Classification – Soft, Hard, Resilient, Selection and Basic use in Life Space
- Home Furnishing as Occasions, Floor, Wall and Ceiling Decorations, Selection and Use

- Types of Window, Window Treatment – Hard (Shutters, Rollers, Blinds, Shades) Soft (Curtains Draperies, Sewage, valences)

#### **Unit – V Selection of Finishing Based on Background Walls, Floors and Ceilings**

- Selection, care and Maintenance of different Home Furnishing – Slip Covers, Cushion Covers, Bed Linen both Linens and Kitchen items
- Role of Accessories as Furnishing Components – Function and Decorative – Fabric based Lamps, Painting, Wall Hanging and Soft Toys.
- Alternate means of Improving Home Furnishing conditions: Elimination, Arrangement and Supplementation.

#### **Practical:**

1. Visit to a manufacturing unit of a Furniture Shop and observing the construction of case Goods and Upholstered Furniture.
2. Listing Furniture requirements for various activities carried out in a Household.
3. Arranging Furniture for different Rooms in a living Space using cut outs.
4. Survey of Consumers to find out the Factors considered while selecting Furniture.
5. Visit Report/Notebooks
6. Viva-Voce

#### **References:**

1. Stepat D.V., Introduction to Home Furnishings, Mc Millan Co., New York, London.
2. Arora S.P. & Bindra S.P., Building Construction, Dhanpat Rai Publication, Delhi.
3. Bhavikatt S.S. & Chitawadagi M.V., Building Planning and Drawing, Hubli, Dreamtech Press.
4. Gandotra V., Shukul M., & Jaiswal N., Introduction to Interior Design and Decoration, Dominant Publishers, New Delhi, India
5. Stuart L., Furniture Design: An Introduction to Development, Materials and Manufacturing, Laurence King Publishing, London