

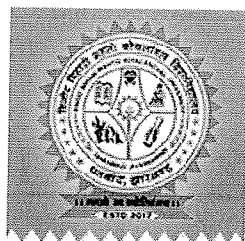
**SYLLABUS FOR FOUR YEAR UNDER GRADUATE  
PROGRAMME (FYUGP)**

**HOME SCIENCE**

**(UNDER CHOICE BASED CREDIT SYSTEM)**

**As per provision of NEP-2022**

**ACADEMIC SESSION: w.e.f. 2022-26**



For

All Constituent/Affiliated Colleges Under Binod Bihari  
Mahto Koylanchal University,  
Dhanbad



**Notification**

In exercise of the powers vested in him under the Jharkhand State Universities Act 2000 as amended up-to-date, the Vice-Chancellor is pleased to constitute a Board of Studies (BOS) for the Department of Home Science, comprising of following members for a period of one year from the date of notification :

**For Under Graduate**

1. Dr. Seema Kumari - Chairperson  
Head, University Department of Home Science,  
BBMKU.
2. Dr. Manju Kumari - External Member  
University Department of Home Science ,  
Ranchi University, Ranchi
3. Dr. Reshma Xalxo - External Member  
University Department of Home Science ,  
Ranchi University, Ranchi
4. Dr. Chanchala Verma - Member  
University Department of Home Science, BBMKU.
5. Mrs. Asha Singh - Member  
Dept. of Home Science , Bokaro Mahila College,  
Bokaro
6. Dr. Anju Verma - Member  
Dept. of Home Science , BSSM College, Dhanbad
7. Dr. Shanta Badaik - Member  
Dept. of Home Science , SSLNTM College, Dhanbad
8. Dr. Susmita Kumari - Member  
Dept. of Home Science , SSLNTM College, Dhanbad


By order of the Vice-Chancellor  
Sd/-


Registrar  
Date ...14/07/2023

Memo No. BBMKU/R/...1231/2023

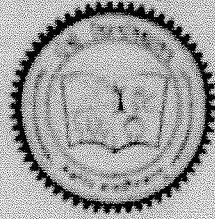
Copy to: -

1. Persons concerned.
2. Dean, Faculty of Science, BBMKU.
3. Establishment Section, BBMKU, Dhanbad.
4. P.A. to VC/PVC/F.A./R for information to VC/PVC/F.A./R.
5. Guard File.

  
Registrar  
BBMKU, Dhanbad.

  
14.07.23

Dr. (Mrs.) Reshima Xalvo  
M.A., Ph.D.  
Associate Professor  
U.G. Deptt. of Home Science  
Ranchi University  
Ranchi-834008, Jharkhand



Residence:  
"Ashirwad"  
C/o Mr. Shital Oraon  
209C, Behind Rahul Automobile  
Karamtoli, Bariatu Road, Ranchi-8  
(Jharkhand) Ph: 09431101818

Ref. No.

Date 25/07/2023

This is to certify that syllabus for 4 years Under Graduate program (FYUGP) course in Home Science (Honors) at BBMK University Dhanbad MDC Course, Major, Minor course and Advance Major Course under U.G NEP 2022 purposed syllabus are approved.

External Member

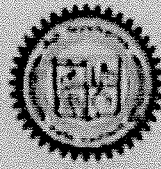
*Reshima Xalvo*  
25/07/2023

Dr. Reshima Xalvo  
Associate Professor  
University Department of  
Home Science  
Ranchi University,  
Ranchi

*Dr. Manju Kumari*

*Ph.D., D.Litt.*

Associate Professor  
University Dept. of Home Science  
Ranchi University, Ranchi-834008



Residence :

KARNIK COTTAGE  
A/5, Gauri Enclave, Maitri Marg,  
Bariatu, Ranchi-9 (Jharkhand)  
Phone : 0651-2541319  
Cell. : 9431585498

Ref. ....


Date : 25 | 07 | 2023

This is to certify that 4 years Under Graduate program course in Home Science (Honors) at BBMK University Dhanbad MDC Course, Major , Minor course and Advance Major Course under U.G NEP 2022 purposed syllabus are approved.

External Member  
*Manju Kumari*  
Dr. Manju Kumari  
Associate Professor  
University Department of Home Science  
Ranchi University, Ranchi.

**Members of Board of Studies of Four Years Under-Graduate Programme (FYUGP) syllabus as per Guidelines of the (NEP-2022) Binod Bihari Mahto Koyalanchal University, Dhanbad**

1. Chairman : Dr. Seema Kumari
2. External expert member : Dr. Manju Kumari
3. External expert member : Dr. Reshma Xalxo
4. Members : Dr. Chanchala Verma

  
(Dr. Seema Kumari) 22/07/2023

Head

University Department of Home Science  
BBMKU, Dhanbad

**Dr. Seema Kumari**  
Head of the P.G. Deptt. of Home Science  
B.B.M.K. University  
Dhanbad-826001 (Jharkhand)

## Course Structure for Four Year Undergraduate Programme in Home Science

**Semester wise Course Code, Marks, Credit Points:**

### Course Structure for Undergraduate Certificate Programme (Semester I & II)

Semester	Course Code	Name of Paper	Credit	Full Marks	Internal Theory (Mid-Sem)	End Sem Theory (U & E)	End Sem Practical	Pass Marks		
								Internal Theory Mid Sem	End Sem. Theory	End Sem. Pract.
I	AEC-I	Ability Enhancement Course-I	2	50	-	50	-	-	20	-
	VAC-I	Value added course-I	4	100	-	100	-	-	40	-
	SEC-I	Skill Enhancement Course-I	3	75	-	75	-	-	30	-
	MDC-I	Multi-disciplinary Course-I	3	75	-	75	-	-	30	-
	MN-1A	Minor from Discipline-I	3+1	100	15	60	25	-	30	10
	MJ-I Theory	Major paper-I (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
II	AEC-2	Language and Communication Skills (Eng.)	2	50	-	50	-	-	20	-
	SEC-2	Skill Enhancement Course-2	3	75	-	75	-	-	30	-
	MDC-2	Multi-disciplinary Course-2	3	75	-	75	-	-	30	-
	MN-2A	Minor from Vocational Studies/Discipline-2	4	100	-	100	-	-	40	-
	MJ-2 Theory	Major paper-2 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-3/Practical-I	Major Paper Practical-I	4	100	-	-	100	-	-	40
III	AEC-3	Language and Communication Skills (MIL-2; Modern Indian Language including TRL)	2	50	-	50	-	-	20	-
	SEC-3	Skill Enhancement Course-3	3	75	-	75	-	-	30	-

	MDC-3	Multi-disciplinary Course-3	3	75	-	75	-	-	30	-
	MN-1B	Minor from Discipline-I	3+1	100	15	60	25	-	30	10
	MJ-4 Theory	Major paper-4 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-5:Practical-2	Major Paper Practical-2	4	100	-	-	100	-	-	40
IV	AEC-2	Language and Communication Skills (MIL-2/English-2)	4	100		100	-		40	-
	VAC-2	Value Added Course-2	2	50	-	50	-	-	20	-
	MN-2B	Minor from Vocational Studies/Discipline-2	4	100		100	-		40	-
	MJ-6 Theory	Major Paper-6 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-7 Theory	Major Paper-7 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-8:Practical-3	Major Paper Practical-3	4	100	-	-	100	-	-	40
V	MN-IC	Minor from Discipline-1	3+1	75	15	60	25	-	30	10
	MJ-9 Theory	Major Paper-9 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-10 Theory	Major Paper-10 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-11 Practical	Major Paper Practical-11	4	100	-	-	100	-	-	40
	IAP	Internship/Dissertation/Project work	4	100	-	100	-	-	40	-
VI	MN-2C	Minor form Vocational Studies	4	100		100	-		40	-
	MJ-12 Theory	Major Paper-12 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-13 Theory	Major Paper-13 (Disciplinary/Interdisciplinary Major)	4	100	25	75	-	10	30	-

	MJ-14 Theory	Major Paper-14 (Disciplinary/Int erdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-15 Practic al-5	Major Paper Practical-15	4	100	-	-	100	-	-	40
VII	MN-1D	Minor from Discipline-I	3+1	75	15	60	25	-	30	10
	MJ-16 Theory	Major Paper-16 (Disciplinary/Int erdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-17 Theory	Major Paper-17 (Disciplinary/Int erdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-18 Theory	Major Paper-18 (Disciplinary/Int erdisciplinary Major)	4	100	25	75	-	10	30	-
	MJ-19 Practic al-6	Major Paper Practical-19	4	100	-	-	100	-	-	40
VIII	MN-2D	Minor from Vocational Studies/Discipli ne-2	4	100	-	100	-	-	40	-
	MJ-20 Theory	Major Paper-20 (Disciplinary/Int erdisciplinary Major)	4	100	25	75	-	10	30	-
	RC/ Theory	Research Internship/Filed Work/Dissertati on OR	12/ Theory	300						
	AMJ-1 Theory	Advanced Major paper-1	4	100	25	75	-	10	30	-
	AMJ-2 Theory	Advanced Major paper-2	4	100	25	75	-	10	30	-
	AMJ-3 Practic al	Advanced Major practical- 3	4	100	-	-	100	-	-	40
		<b>Total Credit-</b>	<b>160</b>							



## **Abbreviations:**

AEC – Ability Enhancement Courses

SEC – Skill Enhancement Courses

IAP – Internship/Apprenticeship/Project

MDC – Multi Disciplinary Courses

MJ – Major Disciplinary/Interdisciplinary Courses

DMJ – Double Major Disciplinary/Interdisciplinary Courses

MN – Minor Disciplinary/Interdisciplinary Courses

MN – Minor Vocational Courses

AMJ – Advance Major Disciplinary/Interdisciplinary Courses

RC – Research Courses

# **UNIVERSITY: Binod Bihari Mahto Koylanchal University, Dhanbad**

## **Semester wise courses in Home Science**

### **Four year under graduate programme (2022 onwards)**

**Major/Advanced Major Paper**

**Credits: 4 (Theory:4, Practical: 4)**

<b>Courses</b>			<b>Examination Structure</b>			
<b>Sem</b>	<b>Code</b>	<b>Paper Title</b>	<b>Credit</b>	<b>Mid Sem Theory (F.M.)</b>	<b>End Sem Theory (F.M.)</b>	<b>End Sem Prac/Viva (F.M.)</b>
<b>I</b>	MJ-1	Fundamental of food and nutrition	4	25	75	-
<b>II</b>	MJ-2	Introduction to human development	4	25	75	-
	MJ-3	Practical-I	4	-	-	100
<b>III</b>	MJ-4	Fundamental of family resource management	4	25	75	-
	MJ-5	Practical-II	4	-	-	100
<b>IV</b>	MJ-6	Introduction to clothing and textile	4	25	75	-
	MJ-7	Introduction to extention education	4	25	75	-
	MJ-8	Practical-III	4	-	-	100
<b>V</b>	MJ-9	Applied food and nutrition	4	25	75	-
	MJ-10	Family relationship	4	25	75	-
	MJ-11	Practical-IV	4	-	-	100
<b>VI</b>	MJ-12	Early childhood care and education	4	25	75	-
	MJ-13	Food preservation and processing	4	25	75	-
	MJ-14	Home decoration	4	25	75	-
	MJ-15	Practical-V	4	-	-	100
<b>VII</b>	MJ-16	Communication process in development	4	25	75	-
	MJ-17	Nutritional management	4	25	75	-
	MJ-18	Advance clothing and textile	4	25	75	-
	MJ-19	Practical-VI	4	-	-	100
<b>VIII</b>	MJ-20	Advance human physiology	4	25	75	-
	RC-1	Research methodology Home Sc.	4	25	75	-
	RC-2	Project work/dissertation/research internship/field work	8	-	-	200
	OR AMJ-1	Community nutrition	4	25	75	-
	AMJ-2	Therapeutic nutrition	4	25	75	-
	AMJ-3	Practical-VII	4	-	-	100

### **Year wise structure of U.G. Programme in Home Science**

**UNIVERSITY: Binod Bihari Mahto Koylanchal University, Dhanbad**

**Subject: Home Science**

**Minor Paper**

**Credits: 4 (Theory:3, Practical: 1)**

Courses			Examination Structure			
Sem	Code	Paper Title	Credit	Mid Sem Theory (F.M.)	End Sem Theory (F.M.)	End Sem Prac/Viva (F.M.)
I	MN-1A	Human nutrition	3+1	15	60	25
III	MN-2A	Therapeutic nutrition	3+1	15	60	25
V	MN-3A	Introduction to textiles & clothing	3+1	15	60	25
VII	MN-4A	Introduction to Home Management and Interior decoration	3+1	15	60	25

**MDC (Multi Disciplinary Courses)**

**Credits : 3**

Courses			Examination Structure			
Sem	Code	Paper Title	Credit	Mid Sem Theory (F.M.)	End Sem Theory (F.M.)	End Sem Prac/Viva (F.M.)
	MDC-1	Introduction to Home Science	3	-	75	-

**Year wise structure of U.G. Programme in Home Science**

- **Learning Outcome Based Approach to Curriculum Planning**

The degree is awarded on the basis of demonstrated achievement of outcomes of knowledge, skill and community interventions and academic standards expected from Home Science. Learning outcomes specify what graduates completing a particular programme of study are expected to know, understand and be able to do at the end of their programme of study.

**The main objectives of the U.G. Home Science Programme are :-**

- Enable students with knowledge, skills, attitudes and values to do community work in all areas of Home Science.
- Ensure global competitiveness and excellence in theory and practice
- Prepare the students for higher education.
- Train the students to take science from lab to community to improve quality of life of people.

**Some of the characteristics attributes of U.G. Home Science include:-**

- **Disciplinary Knowledge:** Students are able to demonstrate comprehensive knowledge and understanding of major concepts of the five Home Science disciplines (Food & Nutrition, Human Development & Childhood Studies, Fabric & Apparel Science, Development Communication & Extension, Resource Management & Design Application) with support of different allied subjects of Life Science, Physical Science and the Social Science.
- **Communication Skills:** Students are competent in public speaking, writing and inter personal skills. Students are exposed to technical and soft skills. Communication is a core area in the discipline of Home Science.
- **Critical thinking:** Students develop critical sensitivity towards both community issues and process. They learn to do lateral thinking developing out of the box solution and effective problem solving skills to address community issues.
- **Cooperative/team work:** Students have basic management skills for independently organizing events, resource mobilization and leading community based projects and initiatives.
- **Multicultural competence:** Students are confident of working in diverse socio-cultural contexts. They are able to effectively engage with multicultural groups and teams. They have sensitivities of cross cultural and ethnic diversity which they can apply to different settings.
- **Lifelong learning:** Students are capable to self-directed/paced learning for the continued learning and holistic development for meeting their professional and personal needs in varying environment and changing contexts.

## **Program Outcomes (POs)**

- The program has been framed in such a manner that students receive real feel of quality education by touching all aspects of human lifecycle.
- Designed to enhance the capacity of students to understand universal and domain-specific values in Home Science.
- Develop the ability to address the complexities and interface among of self, social and national priorities.
- Inculcate both generic and subject-specific skills to succeed in the employment market and standards of life.
- Promote research and innovation and design (product) development favouring all the disciplines in Home Science.
- This programme develops scientific and practical approach among the students which helps in their day-to-day life.
- Develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development.

# Syllabus for Undergraduate Certificate Programme

## Semester-I

### Major Theory Paper - I

#### Home Science

#### Fundamentals of Food and Nutrition

HSC-MJ-1(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### Objectives:

1. To understand the basic concept of Food and Nutrition.
2. Develop the understanding of the role of various nutrients & their requirements, deficiency, excess and metabolism of nutrients.
3. To learn about nutritional contributions of different food stuffed.
4. To learn about different methods of improving nutritional quality of food.

#### Theory :

**Unit-I Meaning and Definition of Nutrition-** Optimum nutrition, Good nutrition and Balance diet.

**Meaning and Definition of Nutrients –** Classification of nutrients :  
Macronutrients and Micro nutrients.

**Functions of food and its significance –** Physiological functions, social work and psychological functions.

#### **Unit-II Macronutrients :**

**Carbohydrate :** Introduction structure, classification, function, dietary sources, recommended dietary allowances, clinical signs and symptoms of deficiency and excess.

**Protein** : Introduction structure, classification, function, dietary sources, recommended dietary allowances, clinical signs and symptoms of deficiency and excess.

**Fat**: Introduction structure, classification, function, dietary sources, recommended dietary allowances, clinical signs and symptoms of deficiency and excess.

### **Unit-III Micronutrients :**

**Minerals**: Introduction structure, classification, function, dietary sources, recommended dietary allowances, clinical signs and symptoms of deficiency and excess of calcium, iron, iodine, sodium, potassium, phosphorous and zinc.

**Vitamins** : Fat soluble vitamins (A, D, E, K) : Introduction, functions, dietary sources, recommended dietary allowances, clinical signs and symptoms of deficiency.

Water soluble vitamins (Thiamine, Riboflavin, Niacin, Pyridoxine, Folic Acid & Vitamin C) : Introduction, functions, dietary sources, recommended dietary allowances, clinical signs and symptoms of deficiency.

**Unit-IV Water** : Introduction, structure, properties and function, water balance in body, water activity, quality of drinking water.

### **Unit-V Digestion, Absorption and Metabolism :**

**Carbohydrate** : Digestion in mouth, stomach, duodenum, small intestine, large intestine, absorption of carbohydrate and metabolism of carbohydrate.

**Protein**: Digestion in mouth, stomach, duodenum, small intestine, large intestine, absorption of protein and metabolism of protein.

**Fat**: Digestion in mouth, stomach, duodenum, small intestine, large intestine, absorption of fat and metabolism of fat.

### **Recommended Books:**

- |                             |                   |
|-----------------------------|-------------------|
| 1. Food & Nutrition         | M Swaminathan     |
| 2. Food Science             | Mudambi, S.R.     |
| 3. Nutritional Science      | B. Sri Lakshmi    |
| 4. Aahar & Poshan           | Verma & Pandey    |
| 5. Aahar evam Poshan Vigyan | Dr. Aasha Kumari  |
| 6. Aahar & Poshan           | Dr. Reena Khanuja |

# **Syllabus for Undergraduate Certificate Programme**

## **Semester-II**

### **Major Theory Paper - II**

#### **Home Science**

#### **Introduction to Human Development**

**HSC-MJ-2(T)**  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### **Instructions to Question Setter for Semester Internal Exam**

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

#### **Instructions to Question Setter for End Semester Exam (ESE):**

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Objectives:**

1. To learn about basic concepts of human development and their stage & principles.
2. To understand pre-natal and post-natal development of children.
3. To sensitize the students towards intervention in the field of human development.
4. Develop an understanding about the need and importance of studying human growth and development across life span.

#### **THEORY**

##### **Unit – I Human development:**

- Historical backgrounds of human development.
- Meaning and definition of human development
- Scope or subject matter of human development
- Characteristics and importance of human development.

##### **Unit- II Growth and development :**

- Meaning and definition of growth and development
- Different aspects of growth
- Principles of development
- Factors affecting growth and development.
- Difference between growth and development.



#### **Unit-II Prenatal development :**

- **Conception & Characteristics of prenatal development.**
- **Stages of prenatal development: Period of ovum, period of embryo, period of foetus.**
- **Emotional and motor development in prenatal stage.**
- **Factors affecting prenatal development.**

#### **Unit-IV Various aspects of human development :**

- **Infancy and childhood**

**Physical development :** Development of external and internal organs, factors affecting the physical development.

**Motor Development :** Meaning and kinds of motor development, importance of motor development in life, development of different motor abilities and factor affecting motor development.

**Social Development :** Meaning and the process of social development, factors affecting social development.

**Emotional Development :** Meaning and definition of emotion, characteristics of emotional behaviour, factors affecting emotional development and types of emotions.

**Language Development :** Meaning, importance of language development, stages in speech development, disorder of speech, factors affecting language development.

**Cognitive Development :** Meaning, intelligence, piagets principles of cognitive development, factors influencing the intelligence.

- **Adolescence :** Introduction, Characteristics and factors affecting physical development, social development, emotional development, cognitive development and moral development.

#### **Unit-V Personality development :**

Meaning and definition of personality, types of personality, characteristics of personality development of infancy, childhood and adolescence. Factors influencing the development of personality.

#### **Recommended Books:**

1. Bal Vikas & Parivarik Sambandh : Dr. Mathureshwar Parik.
2. Mantrikala & Shishu Klayan : Dr. G.P. Shairi
3. Manav Vikash : Barma & Pandey
4. Parivarik Sambandh : Barma & Pandey
5. Child Development : Hurlock, E.B.
6. Bal Vikas : Nita Agarwal

# Syllabus for Undergraduate Certificate Programme

## Semester-II

### Major Practical Paper – I

#### Home Science

HSC-MJ-3(P)

Full Marks:100

Credit: 04(Lecture 120)

Pass Marks: 40

Hours: 6

Instruction to Question Setter for

#### End Semester Examination (ESE):

There will be one Practical Examination of 6Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment	= 70 marks
Practical record notebook	= 10 marks
Specimen	= 10 marks
Viva-voce	= 10 marks

#### PRACTICALS

**UNIT- I :** Classify food on the basis of nutrients : Protein, Iron, Calcium, Vitamin-A, Vitamin-C, Carbohydrate.

**UNIT- II :** Food preparation, understanding the principles involved, nutritional quality and protein size (5-7). Commonly consumed recipes in each food group :

- Cereals : Rice, Pulao, Chapati, Paratha, Poori, Pastas, Poha
- Pulses : Whole, dehusked dal, Sambhar, Chole, Rajmah, Dhokla
- Vegetable : Vegetable soup, dry preparation, vegetable curries.
- Milk and Milk products : Kheer, Custard, Gulab-Jamun.
- Meat, Fish and Polutry preparations.
- Egg preparations : Boild, Poached, fried.

**UNIT- III :** Preparation of an Album of :

- a. Height and weight chart of growing children.
- b. Visit to an Aanganwadi.
- c. Pictorial chart of motor development for the child of zero to one year.

**UNIT- IV :** Preparation of balanced diet of one day for :

- Infancy
- Early childhood (preschool child)
- Late childhood (school going child)
- Adolescents.

**UNIT- V** : Preparation an album to show the :

- Characteristics features and patterns of children's clothes.
- Characteristics features and patterns of children's books.

**UNIT- VI** : Write a report on the personal and social development of adolescents.

**Note** : No Internal Examination.

# Syllabus for Undergraduate Diploma Programme

## Semester-III

### Major Theory Paper - IV

#### Home Science

##### Fundamentals of Family Resource Management

HSC-MJ4-(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

##### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. **Group A is compulsory** which will contain two questions. **Question No. 1 will be of very short answer type** consisting of five questions of 1 mark each. **Question No. 2 will be short answer type** of 5 marks. **Group B will contain descriptive type** two questions of 10 marks each, out of which any one to answer. **Class attendance score** of 5 marks.

##### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

##### **Objectives:**

1. To understand about management process and family resource.
2. To learn about management of money and energy.
3. Comprehending the purpose of managing resources
4. Setting realistic goals and being practical and prudent in the use and management of limited resources by making intelligent decisions.

##### THEORY

##### UNIT-I Home Management:

- Meaning and definition of home management.
- Characteristics of home management
- Importance and objectives of home management.
- Qualities of a home maker.

##### Unit-II Decision making process :

- Definition and characteristics of decision making
- Steps of decision making
- Types of decision making

- Factors affecting decision making process

**Unit-III Motivating factors of management :**

- Value : Origin and development of values, types of values.
- Goals : Meaning, classification of goals
- Standards : Meaning, classification, factors affecting standard.

**Unit IV (A) Family Resources :** Meaning, types (Human and Non-Human), characteristics of resources, importance of family resources, factors affecting family resources.

**(B) Money Management :**

- Family Income : Characteristics, types, factors affecting family income, sources of family income.
- Family expenditure : Types, factors affecting family expenditure.
- Family Budget : Definition, importance, types, important point of budget, steps in preparing a budget.
- Saving : Meaning, importance, factors affecting saving, means of saving i.e. Bank, Post office, Life insurance, private and public sector scheme, provident fund scheme (function, objective)
- Investment : Meaning, importance, types of investment, factors affecting investment.

**Unit-V – Management of Energy:**

Meaning, definition, fatigue and its types, measures to avoid fatigue, definition of work simplification, method of simplification of various family activities. Steps of management of energy.

**Recommended Books:**

- |  |                      |
|--|----------------------|
| 1. Grih Prabandh                                       | : Dr. G.P. Shairi    |
| 2. Grih Sazza & Grin Vayvastha                         | : Dr. S.P. Sukhiya   |
| 3. Parivarik Sadhno ki Vavyastha                       | : Barma & Pandey     |
| 4. Home Management                                     | : Vargese M.A.       |
| 5. Management in family living                         | : Nickell and Dorsey |
| 6. Family Resource Management<br>& Interior Decoration | : B. Bhagava         |

# Syllabus for Undergraduate Diploma Programme

## Semester-III

### Major Practical Paper – II

#### Home Science

HSC-MJ-5(P)

Full Marks:100

Credit: 04(Lecture 120)

Pass Marks: 40

Hours: 6

Instruction to Question Setter for

#### End Semester Examination (ESE):

There will be one Practical Examination of 6Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment = 70 marks

Practical record notebook = 10 marks

Specimen = 10 marks

Viva-voce = 10 marks

#### PRACTICALS

UNIT-I: Preparation of family budget for :

Lower income group

Middle income group

High income group

UNIT- II: Comprehend and give a write up on values held values held and goals set for

Infancy

pre school children

school going children

adolescents

UNIT- III: Identify resources in and around your family, their uses and benefits accrued.

UNIT- IV: Time and Motion studies for simplifying work – Flow process chart.

**UNIT- V :** Survey on the service in context of saving and investment.

Bank – Account opening, Account handling, cheque books & their operation, closure of account.

LIC – Policies, premium and benefits of LIC

Post Office – Operation of different saving accounts.

**UNIT- VI :** Prepare a pattern of family account keeping.

**Note :** No internal Examination.

# Syllabus for Undergraduate Diploma Programme

## Semester-IV

### Major Theory Paper - VI

#### Home Science

##### Introduction to Clothing and Textile

HSC-MJ-6(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

##### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

##### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

##### **Objectives:**

1. To get acquaint with different textiles and their performances.
2. Impart knowledge on different textiles.
3. Develop to skills for identification of different fibers and fabrics
4. Understand different types of yarns and weaves.

##### **THEORY**

**UNIT-I Textile:** Importance of clothes, history of textile and importance of textile.

Classification of textile fibres : Filament, staple fibres. Natural and artificial fibres.

**Unit-II Natural Fibres :** Vegetable fibres: Cotton fibres : History, process of manufacturing of cotton textile, properties of cotton fibres.

**Linen :** History, manufacturing of linen, properties of linen fibres, finishing.



**Animal Fibres : Silk :** Origin and history, manufacturing of silk fibres, types of silk, properties of silk fibre.

**Wool :** History, sources of wool, classification of wool, types of woollen clothes, manufacturing of wool, properties of wool.

**Unit-III (A) Man made Fibres :**

**Rayon :** History, production of rayon, properties of rayon fibres.

**(B) Synthetic fibres :**

**Nylon :** History, manufacturing of nylon fibre, types of nylon fibres, properties of nylon fibres.

**Polyester :** History, properties of polyester fibres.

**Unit-IV Yarn construction :** Spinning, yarn construction from fibres, different stages of yarn construction.

**Weaving :** Loom, types of weaving, points to be considered while weaving.

**Unit-V Finishes :** Meaning and definition, aims of finishing, factors influence the type of finish, methods of finishing – Mechanical and Chemical.

**Recommended Books:**

- |   |                    |
|---|--------------------|
| 1. Vastr Vigyan ke Sidhant                  | : Dr. Rani Khanuja |
| 2. Vastr Vigyan                             | : Barma & Pandey   |
| 3. Textile Technology                       | : N.N. Mahapatra   |
| 4. Introduction of Textile Science          | : S.J. Kadolph     |
| 5. Fundamentals of Textiles<br>& their care | : S. Dantyagi      |

# **Syllabus for Undergraduate Diploma Programme**

## **Semester-IV**

### **Major Theory Paper - VII**

#### **Home Science**

##### **Introduction to Extension Education**

HSC-MJ-7(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

##### **Instructions to Question Setter for Semester Internal Exam**

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

##### **Instructions to Question Setter for End Semester Exam (ESE):**

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

##### **Objectives:**

1. Learn about the concept of extension, extension approaches and models.
2. Be aware of the extension models in practice and their scope in facilitating development.

##### **THEORY**

**UNIT I** Meaning, definition, need, scope, objectives and importance of extension education. History of extension education.

**UNIT-II** Characteristics of extension education, philosophy of extension education, principles of extension education.

**UNIT-III** Extension teaching Methods:

Difference between formal education and extension (informal) education.

Steps in extension teaching.

Classification of extension teaching methods according to use and according to form or nature, combined use of extension teaching methods, factors affecting choice and use of extension teaching methods.

#### **UNIT-IV Rural Sociology:**

Meaning, definition, characteristics of rural life.

**Extension Worker** : Functions and role of extension worker, qualities of extension worker.

**Rural Leadership** : Meaning, definitions, importance and need, characteristics of rural leader, role and functions of leader.

#### **Recommended Books:**

1. Understand Extension Education : M. Nisha
2. Extension Education : U.K. Singh & A.K. Nayak
3. Prasar Shiksha & Sanchar Vayvastha : Shaw & Shaw
4. Prasar Shiksha : Dr. Harpalani
5. Grin Vigyan Prasar Shiksha : Verma & Pandey

# Syllabus for Undergraduate Diploma Programme

## Semester-IV

### Major Practical Paper – III

#### Home Science

HSC-MJ-8(P)

Full Marks:100

Credit: 04(Lecture 120)

Pass Marks: 40

Hours: 6

Instruction to Question Setter for

#### End Semester Examination (ESE):

There will be one Practical Examination of 6Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment	= 70 marks
Practical record notebook	= 10 marks
Specimen	= 10 marks
Viva-voce	= 10 marks

#### PRACTICALS

UNIT- I : Weaving :

Loom (different parts of Loom and their functions.

Different types of weaving – Plain, Rib, Basket, Twill, satin, satain.

UNIT- II : Identification of Textile Fibres :

Visual or appearance test, length and diameter test, feeling test, fibre breaking test, burning test.

UNIT- III : Prepare a chart to show the classification of different types of textile fibres.

UNIT- IV : Preparation of posters, flash card and puppets.

UNIT- V : Analysis of different programmes: Visit to specific measures for women and children such as ICDS, Aanganwadi.

UNIT- VI : Leaflet making.

**Note :** No Internal Examination.

# **Syllabus for Bachelor's Degree Programme**

## **Semester-V**

### **Major Theory Paper - IX**

#### **Home Science**

#### **Applied Food & Nutrition**

HSC-MJ-9(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### **Instructions to Question Setter for Semester Internal Exam**

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

#### **Instructions to Question Setter for End Semester Exam (ESE):**

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Objectives:**

1. To study the different methods of cooking foods and their effect of nutritive value of different nutrients.
2. Obtain knowledge of different good groups their composition and nutrients present in the food.
3. To study the methods of improving nutritional quality of food.

#### **THEORY**

##### **UNIT- I- Composition and Nutritional Contributions.**

**Cereals :-** Structure, Nutritional composition, effect of germination and fermentation on cereals.

**Pulses & legumes :-** Nutritional composition, effect of heat, germination and fermentation, importance of pulses in human nutrition.

**Vegetables:-** Composition, Nutritional value, type of vegetables, effect of heat on vegetables.

**Fruits :-** Types, Nutritional composition, effect of heat, uses of fruits in daily diet.

**Milk and Milk Products :-** Nutritional composition, type of milk, milk products like curd, butter, ghee, paneer, cheese.

**Nuts & Oilseeds :-** Nutritional composition, types of nuts, types of oil seed.

**Meat, Fish, Poultry eggs :** Structure, Nutritional composition, factors effecting coagulation of egg protein.

**Sugar, beverages :-** Nutritional composition types of sugar and beverages.

**Spices & Condiments :-** Nutritional composition, major and minor spices of India.

**Unit-II - Cooking :-** Introduction, different methods of cooking :

Through water, oil, steam, pressure cooking, air cooking.

**Unit-III- Advantages of cooking, Disadvantages of cooking:**

Effect of cooking and heat on nutritive value of carbohydrate, protein, fat, minerals and vitamins.

**Changes take place during cooking :** Changes in colour, shape, texture, smell and taste.

**Unit-IV- Methods of Improving Nutritional quality of food :**

**Germination :** Method, changes in the nutritive value of different nutrients.

**Fermentation :** Method, changes in the nutritive value of different nutrients.

**Fortification and Enrichment :** Method, changes in the nutritive value of different nutrients.

**Supplementation :** Method, changes in the nutritive value of different nutrients.

**Recommended Books:**

- |                        |                   |
|------------------------|-------------------|
| 1. Food & Nutrition    | : MS. Swaminathan |
| 2. Food Science        | : Mudambi, S.R.   |
| 3. Nutritional Science | : B. Srilakshmi   |
| 4. Aahar & Poshan      | : Barma & Pandey  |
| 5. Poshan Vigyan       | : S.P. Sukhiya    |
| 6. Aahar Postan Vigyan | : Dr. Asha Kumari |

# Syllabus for Bachelor's Degree Programme

## Semester-V

### Major Theory Paper - X

#### Home Science

#### Family Relationship

HSC-MJ-10(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Objectives:**

1. To Acquire knowledge and insight about marriage and family systems in India.
2. To Become aware of the changing roles and relationship within family.
3. To Understand the families in crisis.

#### **THEORY**

**UNIT –I - The Family:** Origin, meaning, definition, characteristics of family, Family as a Basic social institution.

**Types of family:** Joint family & nuclear family (characteristics merits and demerits). Difference between nuclear family and joint family, functions of family.

**UNIT-II – Interrelationship within family :** Family life cycle, its importance, place of members in the family, their role in changing society.

**Family relationship :** Introduction, parent child relationship, sibling relationship, relationship with in-laws.

### **UNIT-III- Families and Problems :**

(A) Marital disharmony, families in distress, violence, dowry, struggle for existence.

(B) **Intervention for families in trouble** : Need, counselling (premarital and post marital). Family welfare and rehabilitation policies and programmes implemented by government.

**UNIT-IV- Marriage** : Meaning, definition, motives and functions of marriage. Types of marriage, present condition of marriage in India, challenges in marriage.

**UNIT-V- Education & Counselling for marriage and family life.**

### **Recommended Books:**

1. The Urban family: A study of Hindu social system: A. K. Lal
2. Parivarik Sambandh : Barma & Pandey
3. Family Dynamics : Debolina Sahay



# **Syllabus for Bachelor's Degree Programme**

## **Semester-V**

### **Major Practical Paper – IV**

#### **Home Science**

**HSC-MJ-11(P)**

**Full Marks:100**

**Credit: 04(Lecture 120)**

**Pass Marks: 40**

**Hours: 6**

**Instruction to Question Setter for**

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

There will be one Practical Examination of 6Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment	= 70 marks
Practical record notebook	= 10 marks
Specimen	= 10 marks
Viva-voce	= 10 marks

#### **PRACTICALS**

**UNIT I :** Nutritional contribution of different types of salad

Vegetable Salad

Fruit Salad

Mixed Salad

Beverages : Tea, Coffee, Soup (Veg & Non-Veg)

**UNIT II :** Development of food products by germination : Sprouts

**UNIT III :** Development of food products by fermentation : Idli, Dhokla

**UNIT IV :** Nutritional contribution of multigrains products like chapatti, puree, dhuska, chila.

Nutritional contribution of milk and milk products : Kheer, Curd, Paneer

**UNIT V :** A comparative study of rural and urban family under following perspectives : Social, Economical and Religious.

**UNIT VI:** A survey on the problems of women in society

- A survey on the marital status and adjustments problem in the modern era.
- Prepare a report by interviewing the old age people to show their adjustments and difficulties in family relationship.

**Note :** No Internal Examination.

# Syllabus for Bachelor's Degree Programme

## Semester-VI

### Major Theory Paper - XII

#### Home Science

#### Early Childhood Care & Education

HSC-MJ-12(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Objectives:**

1. To gain knowledge about different day care services provided for children.
2. To understand about importance of early childhood education.
3. To understand importance of play & family relationship in the development of children.

#### UNIT

- I. **Child rearing practices:** Introduction, need, different technique of child rearing. National policy on education 1986 and Early childhood care and education-ECCE, Objective and services of ICDS.
- II. **Early childhood Education :** Introduction, need, importance.  
School : Need and Importance of school, role of school, nursery, Montessori system, Aanganbadi, kindergarten method, Balwadi Education Method.
- III. **Child parent relationship:** Introduction, causes and impact of under protection and over protection.

IV. **Play:** Introduction, definition, types of play, characteristics of child play, importance of play in development. Theory of play, factors effecting the play activities of the children.

**Substitute care at home & outside :** Introduction, need, importance and different types of substitute care like day care centre or crèche etc.

**Recommended Books:**

1. Bal vikash & parivarik Sambandh : Dr. Mathureshwar Parik.
2. Matrikala & Shishu Kalyan : Dr. G.P. Shairi
3. Manav Vikash : Barma & Pandey
4. Parivarik Sambandh : Barma & Pandey
5. Child Development : Hurlock, E.B.
6. Bal Vikas : Nita Agarwal

# Syllabus for Bachelor's Degree Programme

## Semester-VI

### Major Theory Paper - XIII

#### Home Science

#### Food Preservation & Processing

HSC-MJ-13(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain **descriptive type** two questions of 10 marks each, out of which any one to answer. **Class attendance score** of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Objective :**

1. To gain the knowledge of role of microorganism in human being.
2. To understand the importance of microorganism in food spoilage.
3. To understand methods of food preservation.
4. To understand fruits and vegetables processing.

#### **UNIT-I (A). Food preservation :**

- Definition and importance of food preservation.
- Principle of food preservation
- Food which need to be preserved at various seasons.

(B) **Methods of food preservation** : Physical methods, drying, heat treatment, irradiation, high pressure processing, chemical preservatives and normal anti microbial compounds, biologically based preservation, system and probiotic bacteria.

**UNIT-II (A). Food Spoilage :** Causes of food spoilage, spoilage of different groups of food.

(B) Introduction and importance of microorganisms in food. Advantages and disadvantages of microorganisms in food.

**UNIT-III Fermentation technology :** Introduction of fermentation, types of fermentation. Use of yeast, milk product, fermented vegetable, beer, vinegar, fermented soya products.

**UNIT-IV (A). Food Processing :** Meaning and definition of food processing. Effect of food processing on nutritive value.

**Fruits and vegetable processing :** Canning with special reference to fruit and vegetables. Syrup and canned food, precaution to be taken.

Methods of Fruit concentration – Jam, Jelly.

(B) **Packaging :** Pickles, chutney, sauces.

**Recommended Books:**

- |                        |                   |
|------------------------|-------------------|
| 1. Food & Nutrition    | : MS. Swaminathan |
| 2. Food Science        | : Mudambi, S.R.   |
| 3. Nutritional Science | : B. Srilakshmi   |
| 4. Ahhar & Poshan      | : Barma & Pandey  |
| 5. Poshan Vigyan       | : S.P. Sukhiya    |
| 6. Aahar Postan Vigyan | : Dr. Asha Kumari |

# Syllabus for Bachelor's Degree Programme

## Semester-VI

### Major Theory Paper - XIV

#### Home Science

#### Home Decoration

HSC-MJ-14(T)  
Credit -04 (Lecture-60)

Full Marks 100  
SIE-25  
ESE-75  
Pass Marks-40  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. Group A is compulsory which will contain two questions. Question No. 1 will be of very short answer type consisting of five questions of 1 mark each. Question No. 2 will be short answer type of 5 marks. Group B will contain descriptive type two questions of 10 marks each, out of which any one to answer. Class attendance score of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Learning Objectives:**

1. To understand about interior decoration
2. To understand about different types of flower arrangement
3. To understand about furniture and furnishing materials.
4. To understand different types of designs.

#### **THEORY**

##### **UNIT-I-** Interior Decoration :

Introduction, Meaning, Definition and Objectives of Home Decoration.

**Principles of Art** : Harmony, Balance, proportion, rhythm and emphasis.

**Elements of Art** : Line, Shape, Texture, Design, Light, Colour and Space

**Design** : Meaning and Types of design: Structural and decorative design, Difference between the designs.

##### **UNIT-II-** Colour and its role in home decoration :

Meaning of colour, functions and principles of colour – prang colour system, effect of colour on human mind, factors affecting the selection of colours in home decoration. Colour wheel.

**UNIT-III-** Light Management :

Meaning, types and need of light. Lighting arrangement in different rooms.

**UNIT-IV-** Flower Arrangement :

History and need, Home decoration by flowers, principle of art in flower arrangement. Types of flower arrangement.

**UNIT-V-** Furniture and furnishing :

Brief history of furniture, importance of furniture, selection of furniture, types of furniture, factors affecting purchase of furniture and furnishing materials.

Accessories of home decoration, care of furniture and furnishing materials.

**Recommended Books:**

1. Grih Prabandh :Dr. G.P. Shairi
2. Grih Sazza & Grih Vayvastha : Dr. S.P. Sukhiya
3. Parivarik Sadhno ki vavyastha : Verma & Pandey
4. Home Management : Vargesa M.A.



# Syllabus for Bachelor's Degree Programme

## Semester-VI

### Major Practical Paper – V

#### Home Science

HSC-MJ-15(P)

Full Marks:100

Credit: 04(Lecture120)

Pass Marks: 40

Hours: 6

Instruction to Question Setter for

#### End Semester Examination (ESE):

There will be one Practical Examination of 6Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment	= 70 marks
Practical record notebook	= 10 marks
Specimen	= 10 marks
Viva-voce	= 10 marks

#### PRACTICALS

**UNIT 1 :** Preparation of suitable play material for early childhood stage.

**UNIT 2 :** Preparation of food items for children of nursery school.

**UNIT 3 :** Survey and report writing on the work culture of Aanganbadi.

**UNIT 4 :** Preparation of Jam & Jelly.

**UNIT 5 :** Preparation of pickles, Chutney and Sauce.

**UNIT 6 :** Preparation of food items through fermentation technique: Idle, Dhokla, Uthapam.

**UNIT 7 :** Preparation of different food items by using different methods of preservation.

**UNIT 8 :** Different types of flower arrangement by using natural and artificial flower, presentation of Ikebana flower style.

**UNIT 9 :** Preparation of colour wheel on chart paper.

**UNIT 10 :** Market survey and report writing on different types of furnitures and furnishing materials.

**UNIT 11 :** Preparation of a chart on lighting arrangement of different rooms.

**Note :** No Internal Examination

# Syllabus for Under Graduate Certificate Programme of Home-Science

## Semester-I

### Minor Theory Paper - IA

#### Human Nutrition

HSC-MN-1A(T)  
Credit -03 (Lecture-45)

Full Marks 75  
SIE-15  
ESE-60  
Pass Marks-30  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. **Question No. 1** will be very short answer type in Group A consisting of five questions of 1 mark each. **Group B** will contain descriptive type two questions of 5 marks each, out of which any one to answer. **Class attendance score** of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type five questions of fifteen marks each, out of which any three are to answer.

#### **Learning Objectives:**

1. To understand the vital link between foods, nutrition and health.
2. Gain knowledge on functions, requirement and effects of deficiency of nutrients.
3. To understand the basic concept of food and nutrition, role of various nutrients and their requirement, deficiency and excess.

#### **THEORY**

##### **UNIT-I-** Basic concepts of nutrition

- Basic terms used is nutrition
- Understanding relationship between food, nutrition and health
- Function of food : physiological, psychological and social
- Basic food groups and concept of balanced diet.

##### **UNIT-II-** Nutrients

- Energy – Functions, sources and concept of energy balance.
- Functions, recommended dietary allowances, dietary sources, effects of deficiency and excess consumption on health of the following nutrients.
- Carbohydrates and dietary fibre.
- Lipids
- Fat soluble vitamins – A, D, E and K

- Water soluble vitamins – Thamin, Riboflavin, Naicin, Pyridoxine, Vitamin-B,12 and Vitamin-C
- Minerals – Calcium, Iron, Zinc and Iodine.

**UNIT-III-** Nutritional requirements for the following life stages :

- Infant
- Pre-school children
- School going children
- Adolescent children
- Adult men/women
- Old age
- Pregnant woman and lactating woman

**Recommended Books:**

1. Food & Nutrition : MS. Swaminathan
2. Food Science : Mudambi, S.R.
3. Nutritional Science : B. Srilakshmi
4. Aahar & Poshan : Barma & Pandey
5. Poshan Vigyan : S.P. Sukhiya
6. Aahar Poshan Vigyan : Dr. Asha Kumari.

# Syllabus for Under Graduate Certificate Programme of Home Science

## Semester-I

### Minor Paper Practical – IA

HSC-MN-1A(P)

Full Marks:25

Credit: 01(Lecture 30)

Pass Marks: 10

Hours: 4

Instruction to Question Setter for

#### End Semester Examination (ESE):

There will be one Practical Examination of 4Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

#### PRACTICALS

**UNIT-I** – Identification and preparation of chart on following nutrients :

Energy, Protein, Calcium, Fiber, Vitamin-A, Ascorbic acid and Vitamin-B.

**UNIT-II** – Presentation of all the basic food groups on chart paper.

**UNIT-III** – Meal Planning and Preparation of food items by using basic food groups for :

- Adult man/woman of different activity levels
- Pre-school children
- School going children
- Adolescent children
- Pregnant woman
- Infancy.

**Note :-** No Internal Examination

# Syllabus for Under Graduate Diploma Programme of Home-Science

## Semester-III

### Minor Theory Paper - IB

#### Therapeutic Nutrition

HSC-MN-1B(T)  
Credit -03 (Lecture-45)

Full Marks 75  
SIE-15  
ESE-60  
Pass Marks-30  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. **Question No. 1** will be very short answer type in Group A consisting of five questions of 1 mark each. **Group B** will contain descriptive type two questions of 5 marks each, out of which any one to answer. **Class attendance score** of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type five questions of fifteen marks each, out of which any three are to answer.

#### **Learning Objectives:**

1. To gain knowledge about therapeutic nutrition in different disease.
2. To understand mode of different feeding methods.
3. To understand about normal diet and modified diet.

#### **THEORY**

##### **UNIT-I-** Therapeutic nutrition :

- Introduction and definition of therapeutic diet.
- Principles of diet therapy
- Importance of diet therapy
- Objectives of diet therapy

##### **UNIT-II-** Modification of diet : Type and importance.

- Different types of therapeutic diet: Normal diet, soft diet, clear fluid diet, liquid diet and bland diet.

##### **UNIT-III-** Feeding methods : Introduction and types.

- Different feeding methods – Oral feeding, (Nasal) Tube feeding and nerve feeding.

**UNIT-IV-** Therapeutic Adaptation of the normal diet :

- Altering food composition.
- By changing the amount of nutrients in food.
- Change in calories
- Altering meal times
- By changing nutrition methods.

**UNIT-V-** Etiology, clinical features, nutritional management and diet planning for :

- Under weight and over weight
- Typhoid
- Constipation
- Heart disease : Hypertension
- Diabetes
- Peptic ulcer
- Hepatitis
- Kidney disease
- Tuberculosis

**Recommended Books:**

- |                        |                    |
|------------------------|--------------------|
| 1. Food & Nutrition    | : MS. Swaminathan  |
| 2. Food Science        | : Mudambi, S.R.    |
| 3. Nutritional Science | : B. Srilakshmi    |
| 4. Aahar & Poshan      | : Barma & Pandey   |
| 5. Poshan Vigyan       | : S.P. Sukhiya     |
| 6. Aahar Poshan Vigyan | : Dr. Asha Kumari. |

# **Syllabus for Under Graduate Diploma Programme of Home Science**

## **Semester-III**

### **Minor Paper Practical – IB**

**HSC-MN-1B(P)**

**Full Marks:25**

**Credit: 01(Lecture 30)**

**Pass Marks: 10**

**Hours: 4**

**Instruction to Question Setter for**

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

There will be one Practical Examination of 4Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

#### **PRACTICALS**

**UNIT-I – Planning, Preparation and Service of diets for the following :**

Normal diets, soft diets, liquid diets and bland diets.

**UNIT-II – Prepare modified diet for :**

- Constipation
- Diabetes
- Cardio vascular disease

**UNIT-III – Planning a day meal for deficiency disease**

- Vitamin 'A' deficiency
- Calcium deficiency
- Anaemia
- Protein calorie malnutrition

**Note :- No Internal Examination.**



# Syllabus for Under Graduate Bachelor's Degree of Home-Science

## Semester-V

### Minor Theory Paper - IC

#### Introduction to Textiles

HSC-MN-1C(T)  
Credit -03 (Lecture-45)

Full Marks 75  
SIE-15  
ESE-60  
Pass Marks-30  
Hours:3

#### Instructions to Question Setter for Semester Internal Exam

There will be two groups of questions. **Question No. 1** will be very short answer type in Group A consisting of five questions of 1 mark each. **Group B** will contain descriptive type two questions of 5 marks each, out of which any one to answer. **Class attendance score** of 5 marks.

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type five questions of fifteen marks each, out of which any three are to answer.

#### **Learning Objectives:**

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

#### THEORY

##### UNIT-I- Introduction to textile fibres :

- Morphology of textile fibres
- Physical and Chemical properties of fibres
- Classification of textile fibres

##### UNIT-II- Production, manufacturing process, properties and usages of fibres:

- Natural fibre : Cotton, Flax, Silk and Wool
- Man made fibres : Rayon, Nylon, Polyester and Acrylic.

##### UNIT-III- Production and properties of yarns :

- Yarns construction

- Types of yarns : Staple and Filament
- Simple yarns, complex yarns
- Yarns properties
- Difference between threads and yarns.

#### **UNIT-IV- Techniques of fabric construction**

##### **Weaving :**

- Looms and its parts
- Classification of Basic Weaves – Plain, Twill, Satin.
- Novelty Weaves – Pile, Leno-Gauze, Honeycomb.
- Uses of fabrics with different weaves.

##### **Knitting :**

- Classification of knitting
- Construction and properties of warp and weft knitting
- Non-Wavers.

#### **UNIT-V- Coloration and finishing of textiles :**

##### **Dyes :**

- Fundamentals of dyeing
- Classification of dyes -  
Direct, Act, Basic and Reactive dyes

##### **Printing :**

Styles of printing modern methods of printing

##### **Finishing :**

- Introduction of finishing
- Objective of finishing
- Classification and uses of finishing

#### **Recommended Books:**

1. Vastra Vigyan ke Sidhanth :Dr. Reena Khanuja
2. Vastra Vigyan : Verma & Pandey
3. Vastra Vigyan evam Paridhan : Dr. Brinda Singh

# Syllabus for Under Graduate Bachelor's Degree of Home-Science

## Semester-V

### Minor Paper Practical – IC

HSC-MN-1C(P)

Full Marks:25

Credit: 01(Lecture 30)

Pass Marks: 10

Hours: 4

Instruction to Question Setter for

#### End Semester Examination (ESE):

There will be one Practical Examination of 4Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

#### PRACTICALS

**UNIT-I – Fibre identification test :** Identification of natural and manmade fibers by following four methods.

- Visual test
- Burning test
- Microscopic test
- Chemical test

**UNIT-II – Yarn identification :** Single, Cord, Textured, Elastic, Monofilament and multifilament.

**UNIT-III – Dyeing :**

- Dyeing of cotton yarn and fabric with direct dyes.
- Dyeing of silk, wool and nylon yarn and fabrics with basic and acid dyes.
- Dyeing of polyester yarn and fabric with disperse dyes

**UNIT-IV – Printing of fabrics :** Batik and Block printing.

**Note :-** No Internal Examination.



**Syllabus for Under Graduate Bachelor's Degree Hons/Hons with  
Research of Home-Science**

**Semester-VII**

**Minor Theory Paper - ID**

**Interior Decoration**

HSC-MN-1D(T)  
Credit -03 (Lecture-45)

Full Marks 75  
SIE-15  
ESE-60  
Pass Marks-30  
Hours:3

**Instructions to Question Setter for Semester Internal Exam**

There will be two groups of questions. **Question No. 1 will be very short answer type** in Group A consisting of five questions of 1 mark each. **Group B will contain descriptive type** two questions of 5 marks each, out of which any one to answer. **Class attendance score** of 5 marks.

**Instructions to Question Setter for End Semester Exam (ESE):**

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question nos. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type five questions of fifteen marks each, out of which any three are to answer.

**Learning Objectives:**

1. To understand about interior decoration
2. To understand about different types of flower arrangement
3. To understand about furniture and furnishing materials.
4. To get acquainted with different types of accessories for home decoration.
5. To understand different types of design.

**THEORY**

**UNIT-I- Interior Decoration :**

Introduction, Meaning and Definition, Objectives of Home Decoration.

**Principles of Art** : Harmony, Balance, proportion, rhythm and emphasis.

**Elements of Art** : Line, Shape, Texture, Design, Light, Colour and Space

**Design** : Meaning and Types of design structural and decorative design and difference between the designs.

**UNIT-II- Colour and its role in home decoration :**

Meaning of colour, functions and principles of colour – prang colour system, effect of colour on human mind, factors affecting the selection of colours in home decoration. Colour wheel.

**UNIT-III- Light Management :**

Meaning, types and need of light. Lighting arrangement in different rooms.

**UNIT-IV- Flower Arrangement :**

History and need, Home decoration by flowers, principle of art in flower arrangement. Types of flower arrangement.

**UNIT-V- Furniture and furnishing :**

Brief history of furniture, importance of furniture, selection of furniture, types of furniture, factors affecting purchase of furniture and furnishing materials.

Accessories of home decoration, care of furniture and furnishing materials.

**Recommended Books:**

1. Grih Prabandh :Dr. G.P. Shairi
2. Grih Sazza & Grih Vayvastha : Dr. S.P. Sukhiya
3. Parivarik Sadhno ki vavyastha : Verma & Pandey
4. Home Management : Vargesa M.A.

**Syllabus for Under Graduate Bachelor's Degree Hons/Hons with  
Research of Home-Science**

**Semester-VII**

**Minor Paper Practical – ID**

HSC-MN-1D(P)

Full Marks:25

Credit: 01(Lecture 30)

Pass Marks: 10

Hours: 4

**Instruction to Question Setter for**

**End Semester Examination (ESE):**

There will be one Practical Examination of 4Hrs duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment = 15 marks

Practical record notebook = 05 marks

Viva-voce = 05 marks

**PRACTICALS**

**UNIT-I – Flower arrangement in different styles : Natural flowers, artificial flowers and with the mixture of both, Ikebana flower arrangement.**

**UNIT-II – Preparation of a chart on colour wheel.**

**UNIT-III – Writing a report on the market survey of different types of furniture and furnishing materials.**

**UNIT-IV – Preparation of a chart on lighting arrangement in different rooms.**

**Note – No Internal Examination.**

# Syllabus for Four Year Under Graduate Programme of Home-Science

## Multi Disciplinary Courses-I (MDC)

### Introduction of Home Science

HSC-MDC-I(T)

Credit-03 (Lecture-45)

No Internal Examination

Full Marks 75

Pass Marks-30

Hours:3

#### Instructions to Question Setter for End Semester Exam (ESE):

There will be two group of questions Group A is compulsory which will contain three questions. Question no, 1 will be very short answer type (MCQs, True/False, Fill in the blanks etc.) consisting of five questions of 1 mark each. Question No. 2 and 3 will be short answer type of 5 marks each. Group B will contain Descriptive type six questions of fifteen marks each, out of which any four are to answer.

#### **Learning Objectives:**

1. To make students enable to understand the domains if Home Science as a subject.
2. To make students aware of basics of Nutrition for a healthy life.
3. To make an understanding of life and Human Development.
4. To Develop understanding of resources and their utilisation.
5. To get acquainted with textile and their uses.
6. To understand Home Science extension education system for better community outreach programme.

#### **THEORY**

##### **UNIT-I-** Food and Nutrition :

Basic understanding of foods, nutrition. Health and its relationship.

Function of food, food groups as sources of various nutrients.

Macro and Micro nutrients, water

Principles of Meal Planning

A brief knowledge of nutrition during infancy, childhood, adolescence, adulthood, old age, pregnancy and Lactation.

##### **UNIT-II-** Human Development :

Definition, Introduction and importance of Human development.

Pre-natal development, stage and factors affecting pre-natal development.

Various developments during Infancy, childhood. Adolescence, adulthood, old age. (Physical, mental, social, emotional)



### **UNIT-III- Family resource management :**

Concept, Definition and Scope of Home management.

Family as resource, meaning, classification and characteristics of resource, factor affecting, utilisation of resources.

Availability and management of resources of family – Money, time and energy.

### **UNIT-IV- Textiles and Clothing :**

Textile fibers – its importance, properties and classification.

Uses of natural and manmade fiber.

Basic concept of yarn and fabric manufacturing process

Factors affecting selection of clothes.

Care and storage of clothes.

### **UNIT-V- Extension Education :**

Definition, concept, nature, philosophy and principles of Home Science extension education.

Methods and Types of Communication, Elements of communication.

Audio visual aids – concept, classification, characteristics.

Extension teaching methods-according to use and nature.

### **Recommended Books:**

1. Sri Lakshmi Food Science : New Age International Ltd.
2. Chadha R and Mathur P Nutrition : A life cycle approach Orient Blackswan,  
New Delhi.
3. Singh, A, Foundation of Human  
Development : A Life Span approach, New Delhi
4. Parivarik Shanshashan : Dr. Reena Khanuja
5. Sekhri S Textbook of fabric science
6. Prasar Shiksha : Dr. Geeta Pushp Shaw
7. Paralikar, Kalpana, R The Arts of  
Teaching Home Science : Evira Publication, Baroda.

# FORMAT OF QUESTION PAPER FOR SEMESTER INTERNAL EXAMINATION



Binod Bihari Mahato Koylanchal University, Dhanbad

## Question format for 10 Marks:

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

## FORMAT OF QUESTION PAPER FOR SEMESTER INTERNAL EXAMINATION



**Binod Bihari Mahato Koylanchal University, Dhanbad**

**Question format for 20 Marks:**

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

**FORMAT OF QUESTION PAPER FOR END SEMESTER UNIVERSITY EXAMINATION**



**Binod Bihari Mahato Koylanchal University, Dhanbad**

**Question format for 50 Marks:**

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

**FORMAT OF QUESTION PAPER FOR END SEMESTER UNIVERSITY EXAMINATION**



**Binod Bihari Mahato Koylanchal University, Dhanbad**

**Question format for 60 Marks:**

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

**FORMAT OF QUESTION PAPER FOR END SEMESTER UNIVERSITY EXAMINATION**



**Binod Bihari Mahato Koylanchal University, Dhanbad**

**Question format for 75 Marks:**

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

**FORMAT OF QUESTION PAPER FOR END SEMESTER UNIVERSITY EXAMINATION**



**Binod Bihari Mahato Koylanchal University, Dhanbad**

**Question format for 100 Marks:**

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