

RANCHI WOMEN'S COLLEGE

RANCHI



B.A. (HONS.) HOME SCIENCE SYLLABUS
FOR
THREE YEARS DEGREE COURSE
(APPLICABLE FROM 2021-2024)
UNDER

CHOICE BASED CREDIT SYSTEM (CBCS)
IN SEMESTER SYSTEM

Ranchi Women's College, Ranchi. A constituent unit of Ranchi University, Ranchi

Department of Home Science Ranchi Women's College, Ranchi.

A virtual meeting of Board of Studies of Department of Home Science was held on 25th June 2021 at 11.00 am, through Google Meet (Online Board of Studies Meeting Of Department of Home Science, RWC, Ranchi, Wednesday, June 25 · 11:00am – 12:00pm, Google Meet joining info Video call link: <https://meet.google.com/nhv-ydxa-idy>) with following members present in the meeting

- | | |
|------------------------|------------------------|
| 1. Chairperson, Head | - Dr. Kiran Kumari |
| 2. University Member | - Dr. Reshma Xalxo |
| 3. PG Head | - Dr. Asha Prasad |
| 4. External Expert | - Dr. Seema Dey |
| 5. Member Teacher | - Dr. Shipra Kumari |
| 6. Member Teacher | - Dr. Renu Kumari |
| 7. Member Alumni | - Dr. Minakshi Akhauri |
| 8. Member Student (PG) | - Ms. Riya Kumari |
| 9. Member Student (UG) | - Ms. Shraddha Manik |

Kiran Kumari
Reshma Xalxo
Asha Prasad
Seema Dey
Shipra Kumari
Renu Kumari
Minakshi Akhauri
Riya Kumari
Shraddha Manik

Agenda: To review and approve B.A. (Honours) Home Science syllabus under Choice Based Credit System which will be implemented from July 2021- 2024 session.

Resolution: The existing syllabus of B. A. Home Science (Honours) under Choice Based Credit System was reviewed and following changes made were approved by Board of Studies.

- Discipline Specific Outcome, Program Outcome of Undergraduate in Home Science (H) and Course Outcome has been added.
- The Credit requirements to obtain B.A. Home Science (H) Degree has been increased from 140 to 164 Credits.
- Elementary Computer Application Software Course has already been added as an additional SEC I course in Semester III of Home Science (H) course.
- The course course CC9 has been rescheduled (from existing 4th semester to 2nd semester) as CC3 and simultaneously CC3 is now in semester 4 as CC9.
- The new syllabus will be implemented from July 2021- 2024 session under semester system.

- Chairperson, Head
- University Member
- PG Head
- External Expert
- Member Teacher
- Member Teacher
- Member Alumni
- Member Student (PG)
- Member Student (UG)

Kiran Kumari
Reshma Xalxo
Asha Prasad
Seema Dey
Shipra Kumari
Renu Kumari
Minakshi Akhauri
Riya Kumari
Shraddha Manik

Shipra Kumari
Member Secretary
Academic Council
Ranchi Women's College

Shraddha Manik
CHAIRPERSON
ACADEMIC COUNCIL
RANCHI WOMEN'S COLLEGE

Detail Credit Distribution of B.A. Home Science (Hons.) Courses

Semester	Compulsory Core Course (Each course of 6 credit of 4 Theory + 2 credit Practical) (Marks 75 TH + 25 Pr.)	Ability Enhancement Compulsory Courses (Each Course of 2 credit) (Marks 75 Th + 25 Pr.)	Skill Enhancement Courses (Each Course of 2 credit) (Marks 75 Th + 25 Pr.)	Discipline Specific Elective (Each course of 6 credit of 4 Theory + 2 credit Practical) (Marks 75 TH + 25 Pr.)	Generic Elective (Each course of 6 credit of 4 Theory + 2 credit Practical) (Marks 75 TH + 25 Pr.)
I	CC1 – Resource Management	English/MIL/MIL+ NH			GE1 – Human Nutrition
	CC2 – Food and Nutrition				
II	CC3 – Nutrition: a lifecycle approach	Environmental Science/Yoga/Health Science and Beauty Culture			GE2 – Entrepreneurship for small catering units
	CC4 – Introduction in Textile				
III	CC5 – Human Development: The childhood years		SEC1 A – Home Based Catering Or SEC1 B – Surface Ornamentation SEC 1C – Computer Science Course		GE3 – Current Concern in Public Health Nutrition
	CC6 – Apparel production				
	CC7 – Food Science				
IV	CC8 – Development in Adolescence and adulthood		SEC2 A – Maternal and Child Nutrition Or SEC2 B – Image Styling		GE4 – Care and Well Being in Human development
	CC9 - Dynamics of Communication and extension				
	CC10 – Fashion Design concepts				
V	CC11- Science and Home Sciences			DSC 1: Interior Design and Decoration	
	CC12 – Personal Finance and Consumer Studies			DSC 2: Textile Processing	
VI	CC13 – Research Methodology in Home Science			DSC 3: Public Nutrition	
	CC14 – Communication System and Mass Media			DSC 4: Commercial Clothing	
Total 140 Credits	14x6 = 84 Credits	2x2 = 4 Credits	2x2 = 4 Credits	4x6 = 24 Credits	4x6 = 24 Credits

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Riya Kumari

Course Structure and Scheme of Examination of B.A. (Hons) Home Science Under CBCS

Semester	Core course CC -14 FM (Mid+End=Total) (Credits)	Ability Enhancement Compulsory Course AECC-2 End Sem. Exam. (Credit)	Skill Enhancement Course SEC -2 End Sem. Exam.(Credit)	Discipline Specific Electives DSE -4 FM (Mid+End=Total) (Credits)	Generic Elective GE-4 Interdisciplinary End Sem. Exam.(Credit)
I	CC3-75(MT15+ET60)(4) CC2-75(MT15+ET60)(4) Practical CC 1+CC 2=50(4)	Eng./MILHn Communication=ET(100)(2)			Subject I GE 1=6Cr Subject II GE 1=6Cr
II	CC3-75(MT15+ET60)(4) CC4-75(MT15+ET60)(4) Practical CC 3+CC 4=50(4)	Environmental Science=ET(100)(2)			Subject I GE 2=6Cr Subject II GE 2=6Cr
III	CC5-75(MT15+ET60)(4) CC6-75(MT15+ET60)(4) CC7-75(MT15+ET60)(4) Pract.CC5+CC6+CC7=75(6)		SEC 1=ET(75Th+25PR) (2)		Subject I GE 3=6Cr Subject II GE 3=6Cr
IV	CC8-75(MT15+ET60)(4) CC9-75(MT15+ET60)(4) CC10-75(MT15+ET60)(4) Pract.CC8+CC9+CC10=75(6)		SEC 2=ET(75Th+25PRS) (2)		Subject I GE 4=6Cr Subject II GE 4=6Cr
V	CC11-75(MT15+ET60) (4) CC12-75(MT15+ET60)(4) Practical CC11+CC12=50(4)			DSE1-75(MT15+ET60) (4) DSE2-75(MT15+ET60)(4) PracticalDSE1+DSE2=50(4)	
VI	CC13-75(MT15+ET60)(4) CC14-75(MT15+ET60)(4) Practical CC 13+CC14=50(4)			DSE3-75(MT15+ET60)(4) DSE4-75(MT15+ET60)(4) PracticalDSE3+DSE4=50(4)	
Total 164 Credits	14 CC X 6 credits = 84 credits	2 AECC X 2 Credits = 4 Credits	2 SEC X 2 Credits = 4 Credits	4 DSE X 6 Credits = 24 Credits	8 GE X 6 Credits = 48 Credits

As per Ranchi University Guidelines Undergraduate students have to study two Generic Elective subjects (Apart from Honours subjects) each of 24 credits. Thus, undergraduate students have to complete total 164 credit to earn bachelor's degree.

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CORE COURSES

1. Food and Nutrition :

Learning objectives:

- ☐ Study the different methods of cooking foods
- ☐ Obtain knowledge of different food groups, their composition and nutrients present in the foods.
- ☐ Understand the vital link between foods, nutrition and health
- ☐ Gain knowledge on functions, requirements and effects of deficiency of nutrients
- ☐ Study the growth and development during various stages of life span
- ☐ Understand the basics for recommending the dietary allowances
- ☐ Study nutritional needs at different stages of life span
- ☐ Gain experience in planning adequate diets for different age groups and for different income groups.

Learning outcome:

A successful completion of this course will enable students to

- ☐ Summarize and critically discuss and understand both fundamental and applied aspects of Food Science and nutrition.
- ☐ Able to explain functions of specific nutrients in maintaining health
- ☐ Identifying nutrient specific force and apply the principles from the various factors of foods and related disciplines to solve practical as well as Real world problems
- ☐ Use current information Technologies to locate and apply evidence-based guidelines and protocol and get imported with critical thinking to take leadership roles in the field of health, diet special nutritional needs and nutritional counseling.
- ☐ Design food plans and assess the adequacy of diets to meet the nutritional needs of humans at various stages of life cycle.
- ☐ Assess nutrition issues and conditions and also recommend nutrition intervention and support to promote the health and wellbeing.
- ☐ Have the knowledge, both to develop and critique nutritional interventions designed to improve human health and well-being at specific age associated time points.
- ☐ On completion of the course students will be able to critically assess nutritional requirements and nutritional health status of an individual.

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2. Mother Craft and Child Development :

Learning Objectives

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

Learning Outcomes

- Explain the need and importance of studying human growth and development across life span.
- Identify the biological and environmental factors affecting human development.
- Describe the characteristics, needs and developmental tasks of different stages in the human life cycle
- Explain the broad theoretical perspectives and frameworks of HDFS
- Apply the theoretical approaches to work with human being across life span

3. Textile and Clothing :

Learning Objectives:

- ☐ Obtain a broad understanding of textiles
- ☐ Develop understanding of technical terms involved in textiles.
- ☐ Get acquainted with the properties and uses of various textile fibers.
- ☐ Develop the skills for identification of fibers and fabrics
- ☐ Understand different types of yarns, weaves and finishes.
- ☐ Develop skills in making wise selection of textiles.
- ☐ Acquire knowledge of methods of laundry and stain removal.
- ☐ Learn the methods of dyeing, printing, and finishing of fabrics.
- ☐ Develop an understanding about the basics of clothing construction
- ☐ Learn about the principals involved in clothing construction.
- ☐ Know about various sewing equipment that are essential in a sewing room.
- ☐ Learns to construct articles.
- ☐ Develop skill in coordinating fabrics, patterns and supportive materials

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Learning Outcomes:

- ☐ Develop an understanding of concepts and basics of textiles.
- ☐ Understands and define the key textile terms.
- ☐ Develop critical understanding of the techniques of yarn and fabric manufacture.
- ☐ Identify the fibres, yarn and fabrics for its appropriate use.
- ☐ Analyze and assess dyed and printed textiles.
- ☐ Recommend the dyes, printing and finishing of textiles for specific use.
- A successful completion of this course will enable students to
 - ☐ Understand basic principles of clothing construction.
 - ☐ Comprehend the importance and function of clothes.
 - ☐ Identify the common fabrics used for clothing construction
 - ☐ Utilize design components in garment construction
 - ☐ Gain an insight of various sewing machines and other sewing equipment's available in the market, their functioning & common problems faced while usage.
 - ☐ Understands various garment construction process.
 - ☐ Co-ordinates fabrics, patterns and supportive materials
 - ☐ Construct the garment

4. Family Resource Management :

Learning Objectives

- Learning to identify and manage the use of resources available for functional use
- Comprehending the purpose of managing resources
- Setting realistic goals and being practical and prudent in the use and management of limited resources by making intelligent decisions
- Becoming money, time and energy conscious in daily living
- Provide situations to understand significance of family income and expenditure and saving for future
- Register and react as responsible consumers
- Analyse relevance of consumer movement in India
- Gain knowledge on consumer protection Laws and Acts and reflect

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upon personal rights and responsibilities

Learning outcomes

- ☐ Understanding on the concepts related to family resource management
- ☐ Appreciation of the significance of management process in efficient use of resources
- ☐ Imbibing nuances of human values and standards for successful management and decision making
- ☐ Focus on management of human energy as a family resource
- Becoming familiarized to the changing trends in consumerism
- Enriched Knowledge on market systems
- Emerge as informed consumers
- Review the benefits of planned financial management

5. Extension Education :

Learning Objectives

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

Learning Outcomes

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













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Discipline Specific Elective (DSE)

1. Interior Design and Decoration :

Learning Objectives

- Gain knowledge and interpret the elements and principles of art in interior design
- Use the elements and principles to create beautiful designs and interiors
- Apply theoretical knowledge for practical situations
- Decipher the nuances of Indian interior design

Learning Outcomes

- Appreciate growth and development of interior design and decoration in India
- Enabling students distinguish between Interior decoration and Interior design
- Analyze place of elements and principles in interior designing
- Gain knowledge on Institutes offering Interior design as professional Courses

2. Textile Processing and Commercial Clothing :

Learning Objectives:

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

Learning Outcomes:

A successful completion of this course will enable students to

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

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3. Public Nutrition :

Learning objectives:

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

Learning outcomes:

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

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CORE COURSES
Core Course 1: RESOURCE MANAGEMENT
(CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

Instruction to Question Setter for
Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Introduction to Resource Management	18
	<ul style="list-style-type: none"> • Concept, universality and scope of management • Approaches to management • Ethics in Management • Motivation Theory 	
Unit II:	Resources	20
	<ul style="list-style-type: none"> • Understanding meaning, classification and characteristics of resources, factors affecting utilization of resources. • Maximizing use of resources and resource conservation. • Availability and management of specific resources by an individual/family Money, Time, Energy, pace • Application of Management Process in: - Event Planning & Execution 	
Unit III:	Functions of Management: An overview	22
	<ul style="list-style-type: none"> • Decision Making • Planning • Supervising • Controlling • Organizing • Evaluation 	

PRACTICAL

1. Resource conservation and optimization/green technologies (natural resources): Portfolio 02
2. Identification and development of self as a resource. 3
 - SWOT analysis- who am I and Micro lab
 - Building Decision Making abilities through management games
3. Preparation of time plans for self and family 3
4. Time and Motion Study 2
5. Event planning management and evaluation-with reference to Managerial process
Resource optimization - time, money, products, space, human capital

RECOMMENDED READINGS:

1. Koontz H and O' Donnel C., 2005, Managenent - A systems and contingency analysis of managerial fuctions, New York.: Mc. Graw Hill Book Company
2. Kreitner 2009, Management Theory and Applications, Cengage Learning: India
3. Rao V.S and Narayana P.S., Principles and Practices of Management, 2007, Konark Publishers Pvt. Ltd

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CORE COURSES
Core Course 2: FOOD AND NUTRITION
(CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

Instruction to Question Setter for
Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Basic Concepts in food and nutrition	5
	<ul style="list-style-type: none"> • Basic terms used in study of food and nutrition • Understanding relationship between food, nutrition and health • Functions of food-Physiological, psychological and social 	
Unit II:	Nutrients	20
	Functions, Dietary Sources and clinical manifestations of deficiency/excess of the following nutrients: <ul style="list-style-type: none"> • Energy, Carbohydrates, lipids and proteins • Fat soluble vitamins- A, D, E and K • Water soluble vitamins- thiamin, riboflavin, niacin, pyridoxine, folate, vitamin B12 and vitamin C • Minerals – calcium, iron, zinc and iodine 	
Unit III:	Methods of cooking	5
	<ul style="list-style-type: none"> • Dry, moist, frying and microwave cooking • Advantages, disadvantages and the effect of various methods of cooking on foods 	
Unit IV:	Food Groups	25
	<ul style="list-style-type: none"> • Structure, composition, products, nutritional contribution, selection and changes during cooking of the following food groups: • Cereals • Pulses • Fruits and vegetables • Milk and milk products • Eggs 	

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- Meat, poultry and fish
- Fats and oils
- Spices and herbs
- Beverages

Unit V: Nutrient losses in cooking and enhancing the nutritional quality of foods 5

- Supplementation, Germination, Fermentation, Fortification and GM foods

PRACTICAL

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|--|----|
| 1. Weights and measures: table setting | 1 |
| 2. Food preparation, understanding the principles involved, nutritional quality and portion size | 13 |
- Beverages: Hot tea/coffee, milk shake/lassi, fruit based beverages
 - Cereals: Boiled rice, pulao, chapatti, parantha, puri
 - Pulses: Whole, dehusked
 - Vegetables: Curries, dry preparations
 - Milk and milk products: Kheer, custard
 - Meat, fish and poultry preparations
 - Egg preparations: Boiled, poached, omelettes, egg pudding
 - Soups: Broth, plain and cream soups
 - Baked products: Biscuits, cookies, cream cakes
 - Snacks: Pakoras, cutlets, samosas, upma, poha, sandwiches
 - Salads: Salads and salad dressings
 - Fermented products: Idli, dosa, batura, dhokla

RECOMMENDED READINGS:

1. Bamji MS, Krishnaswamy K, Brahmam GNV (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Srilakshmi (2007). Food Science, 4th edition. New Age International Ltd.
3. Wardlaw and Insel MG, Insel PM (2004). Perspectives in nutrition, Sixth Edition. Mosby.
4. Chadha R and Mathur P (eds). Nutrition: A Lifecycle approach. Orient Blackswan, New Delhi. 2015
5. 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.
6. 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.

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CORE COURSES**Core Course 3: NUTRITION: A LIFE CYCLE APPROACH
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

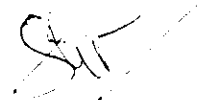
End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Principles of meal planning	12
	<ul style="list-style-type: none"> • Food groups and Food exchange list • Factors affecting meal planning and food related behaviour • Methods of assessment of nutrient requirements • Dietary guidelines for Indians 	
Unit II:	Nutrition during adulthood	20
	Physiological changes, RDA, nutritional guidelines, nutritional concerns, energy balance and healthy food choices.	
	<ul style="list-style-type: none"> • Adults • Pregnant women • Lactating mothers • Elderly 	
Unit III:	Nutrition during childhood	20
	Growth and development, growth reference/standards, RDA, nutritional guidelines, nutritional concerns, and healthy food choices.	
	<ul style="list-style-type: none"> • Infants • Preschool children • School children • Adolescents 	
Unit IV:	Nutrition for special conditions	08
	<ul style="list-style-type: none"> • Nutrition for physical fitness, sport, floods and war. • Feeding problems in children with special needs 	



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PRACTICAL

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| 1. Introduction to meal planning | 2 |
| • Rich sources of nutrients | |
| • Use of food exchange lists | |
| 2. Planning nutritious diets for: | 10 |
| • Young Adult | |
| • Pregnant/Lactating woman | |
| • Pre-schooler | |
| • School age child/ Adolescent | |
| • Elderly | |
| 3. Planning nutrient rich snacks/dishes for: | 2 |
| • Infants (Complementary foods) | |
| • Children/Adults | |

RECOMMENDED READINGS:

1. Bamji MS, Krishnaswamy K, Brahman GNV (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Khanna K, Gupta S, Passi SJ, Seth R, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House.
3. Wardlaw GM, Hampl JS, DiSilvestro RA (2004). Perspectives in Nutrition, 6th edition. McGraw Hill.
4. Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, Delhi. 2015
5. Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.
6. Seth V and Singh K (2005). Diet Planning through the Life Cycle: Part 1 Normal Nutrition. A Practical Manual. Elite Publishing House Pvt. Ltd. New Delhi.

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CORE COURSES
Core Course 4: INTRODUCTION TO TEXTILES
(CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

Instruction to Question Setter for
Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Introduction to textile fibres	08
	<ul style="list-style-type: none"> • Morphology of textile fibres • Primary and secondary properties • Fibre classification 	
Unit II:	Production, chemistry, properties and usage of fibres	16
	<ul style="list-style-type: none"> • Natural Fibre: Cotton, Flax, Silk and Wool • Man-made Fibres: Rayon, Polyamides, Polyester, Acrylic, Olefins (Polyethylene and Polypropylene) and elastomeric fibres 	
Unit III:	Production and properties of Yarns	10
	<ul style="list-style-type: none"> • Yarn construction <ul style="list-style-type: none"> • Mechanical spinning (cotton system, wool system, Worsted system) • Chemical Spinning (Wet, Dry, Melt) • Types of Yarns: Staple and Filament, Simple yarns, Complex yarns • Yarn Properties -Yarn Numbering, Yarn Twist • Textured Yarns: Types and properties • Difference between Threads and Yarns • Blends Types of blends and purpose of blending 	
Unit IV:	Techniques of fabric construction	12
	<ul style="list-style-type: none"> • Weaving <ul style="list-style-type: none"> • Parts of a loom • Operations and motions of the loom • Classification of weaves- construction, characteristics and 	

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	usage	
	• Knitting	6
	• Classification of knits	
	• Construction and properties of warp and weft knits	
	• Non-woven	3
	• Types	
	• Construction	
	• Properties and usage	
Unit V:	Basics of Wet Processing	5
	• Classification and usage of finishes	
	• Fundamentals of dyeing and printing	

PRACTICAL

1. Fibre identification tests - Visual, burning, microscopic and chemical	2
2. Yarn identification – Single, ply, cord, textured, elastic, monofilament, multifilament and spun yarn	2
3. Thread count and balance	2
4. Dimensional stability	2
5. Weaves – Identification and their design, interpretation on graph	2
6. Fabric analysis of light, medium, heavy weight fabrics (five each)	2
• Fibre Type	
• Yarn Type	
• Weaves	
• GSM	
• End Use	
• Trade Name	
7. Tie and Dye	3

RECOMMENDED READINGS:

1. Corbman, P.B., (1985) Textiles- Fiber to Fabric (6th Edition), Gregg Division/McGraw Hill Book Co., US.
2. Joseph, M.L., (1988) Essentials of Textiles (6th Edition), Holt, Rinehart and Winston Inc., Florida
3. Vilensky G., (1983) Textile Science, CBS Publishers and Distributors, Delhi.
4. Tortora, G. Phyllis, Understanding Textiles, McMillan Co. USA
5. Sekhri S., (2013) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi

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CORE COURSES**Core Course 5: HUMAN DEVELOPMENT I: THE CHILDHOOD YEARS
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Introduction to Human Development	15
	<ul style="list-style-type: none"> • Definition and history of Human Development • Scope and importance of Human Development • Principles of Growth and Development • Stages and Factors affecting Development 	
Unit II:	Prenatal Development, Birth and the Neonate	15
	<ul style="list-style-type: none"> • Reproductive health • Conceptions, pregnancy – sign and complications, birth process and types of delivery • Stages and Factors affecting pre-natal development • Capacities and care of new born 	
Unit III:	Infancy and Pre-school years	15
	<ul style="list-style-type: none"> • Physical and motor development • Social and Emotional development • Cognitive and language development 	
Unit IV:	Middle Childhood years	15
	<ul style="list-style-type: none"> • Physical and motor development • Social and Emotional development • Cognitive and language development 	

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PRACTICAL

1. Methods of study and their use
 - Interview
 - Observation
 - Narratives
2. Audio and video sources of studying prenatal development, infancy, early childhood and middle childhood period
3. Cultural practices related to pregnancy and infancy
4. Plan and develop activities to facilitate development in different domains. Preparation of material for parents-children (poster, toys etc.)
5. Study the role of salient others in child's life – familial and non-familial

RECOMMENDED READINGS:

1. Bee, H. (1995). The Developing Child, Harper Collins.
2. Berk, L. E. (2007). Development through the lifespan, Delhi: Pearson Education.
3. Rice, F.P. (1998). Human Development, A lifespan approach, New Jersey Prentice Hall
4. Santrock, J.W. (2007). A topical approach to lifespan development. New Delhi: Tata McGraw Hill
5. Singh, A. (Ed.) 2015. Foundations of Human Development: A lifespan approach: New Delhi Orient Black Swan

The bottom section of the page contains several handwritten signatures and initials. On the left, there is a large, stylized signature, possibly 'Shraddha', followed by a smaller signature 'sh' and another 'sh' below it. In the center, there is a signature 'Shraddha' and a small 'X' mark. To the right, there is a signature 'Khan' and a signature 'Shraddha Malik' with a large 'RC' above it. At the bottom right, there is a signature 'Riya Kumari'.

CORE COURSES
Core Course 6: APPAREL PRODUCTION
(CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

Instruction to Question Setter for
Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Introduction to pattern making	10
	<ul style="list-style-type: none"> • Importance of taking body measurements • Importance of patterns and pattern information • Methods of pattern making • Rules of pattern making • Principles of pattern making 	
Unit II:	Preparatory steps for garment construction	12
	<ul style="list-style-type: none"> • Fabric grain • Preparatory steps- preshrinking, straightening and truing • Layouts for Patterns - general guidelines, basic layouts - lengthwise, partial lengthwise, crosswise, double fold, open, combination fold • Pinning, marking and cutting • Layouts for fabrics - Unidirectional, bold and large prints, plaids, stripes and checks, various widths of fabrics 	
Unit III:	Seams and finishing of raw edges	12
	<ul style="list-style-type: none"> • Types of seams- Plain and its finishing, flat, ridge, decorative • Additional seam techniques: clipping, notching, grading, trimming, easing, under-stitching, stay stitching, trimming a corner • Crossway strips - importance and applications • Finishing of hemlines 	
Unit IV:	Study of garment components: application and construction	15
	<ul style="list-style-type: none"> • Classification and application of sleeves, cuffs, collars, necklines, plackets, pockets, yokes, trims and accessories 	
Unit V:	Design and Fit	11

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- Designing for different figure types
- Fit: Fitting area, fitting guidelines, fitting procedure

PRACTICAL

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|--|---|
| 1. Development and identification of seams, plackets, fasteners, edge finishing (binding, facing) pleats and gathers | 3 |
| 2. Development of bodice, skirt and various sleeves and collars for self | 3 |
| 3. Develop style variations in adult bodice using dart manipulation on half scale standard block | 3 |
| 4. Adaptation of basic skirt block into style variations (Half scale) | 1 |
| 5. Construction of skirt for self | 2 |
| 6. Construction of skirt top/ kurta for self | 3 |

RECOMMENDED READINGS:

1. Armstrong, H.L. Pattern Making for Fashion Design, Harper Collins Publishers Inc. New York
2. Stamper, AA, S. H. Sharp and LB. Donnell, 1986, Evaluating Apparel Quality, Fairchild Publications, America
3. Liechty, E.G. Potterberg, D.N., Rasband, J.A., 2010, Fitting and Pattern Alteration: A Multimethod Approach, Fairchild Publications, New York.

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CORE COURSES
Core Course 7: FOOD SCIENCE
(CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

**Instruction to Question Setter for
 Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Introduction to food science	6
	<ul style="list-style-type: none"> • Definition, importance and applications • Basic terminology used in food science 	
Unit II:	Basic food chemistry	10
	<ul style="list-style-type: none"> • Sources, Chemistry and functional properties of Carbohydrates, Lipids and proteins • Colloidal chemistry: Definition, classification, properties and applications of sols and gels • Foams and emulsions 	
Unit III:	Basic food microbiology	08
	<ul style="list-style-type: none"> • Introduction to yeast, mould and bacteria, Characteristics and their role in preservation and spoilage of food • Hygiene and sanitation practices in food processing and waste disposal 	
Unit IV:	Preservation techniques, principles and their applications	20
	<ul style="list-style-type: none"> • high temperature, low temperature, removal of moisture, irradiation and additives • Food packaging and labelling: FSSAI, Codex 	
Unit V:	Sensory science	08
	<ul style="list-style-type: none"> • Sensory evaluation and attributes of food, Assessment - subjective and objective. 	
Unit VI:	Food Laws and Quality Assurance	08
	<ul style="list-style-type: none"> • National and International food laws- FSSAI, BIS, AGMARK, Codex and ISO: 22000, ISO: 9000, ISO: 14000. • Quality Assurance procedures GMP, GHP, HACCP 	

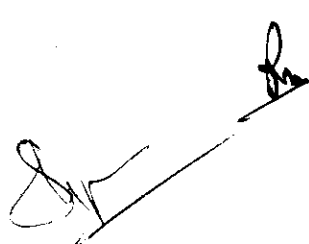
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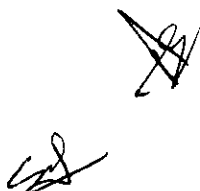
PRACTICAL


1. Preparation of Jam and Jelly
2. Preparation of Various Recipe through fermentation
3. Study of microscopic structure of different food starches and their gelatinization properties
4. Assessment of hygienic practices of food handlers
5. Preservation of food using different methods (Blanching, Dehydration, Freezing)
6. Basic principles involved in food preservation using additives.
7. Evaluation of Food labels

RECOMMENDED READINGS:

1. Frazier W C and Westhoff DC (1988). Food Microbiology, 4th Edition.
2. Manay S. and Shadaksharaswamy, M (2002) – Foods Facts and Principles. Wiley Eastern Ltd
3. Potter, H. (1995). Food Science, 5th Edition. CBS Publishers & Distributors.
4. Srilakshmi (2007). Food Science, 4th Edition, New Age International Ltd.
5. www.fssai.gov.in
6. Raina, U. Kashyap, S. Narula, V., Thomas, S, Suvira, Vir S., Chopra S (2010) Basic Food Preparation
7. A Complete Manual, Fourth Edition. Orient Black Swan Ltd.
8. Sethi Mohini and Rao E (2011). Food Science (Experiments and Applications), 2nd Edition, CBS Publishers & Distributors Pvt. Ltd.






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CORE COURSES

**Core Course 8: HUMAN DEVELOPMENT II: DEVELOPMENT IN
ADOLESCENCE AND ADULTHOOD
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

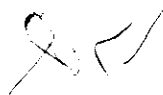
End Semester Examination (ESE):

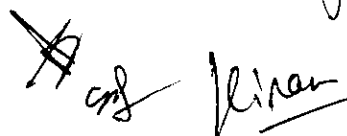
There will be two group of questions. **Group A is compulsory** and will contain two questions. **Question No.1 will be very short answer type** consisting of ten questions of 1 mark each. **Question No.2 will be short answer type** of 5 marks. **Group B will contain descriptive type** five questions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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	a. Introduction to Adolescence <ul style="list-style-type: none"> • Development tasks during Adolescence • Puberty, sexual maturity, nutrition, health, and psychological well-being • Family and peer relationships • Adolescent interface with media b. Cognitive, Language and Moral Development <ul style="list-style-type: none"> • Perspectives on cognitive development • Development of intelligence and creativity • Adolescent language • Adolescent morality 	15 15
Unit II:	Introduction to Adulthood <ul style="list-style-type: none"> • Definitions, transition from adolescence to adulthood • Developmental tasks of adulthood • Physical and physiological changes from young adulthood to late adulthood • Significance of health, nutrition, and well being 	15
Unit III:	Socio-Emotional and Cognitive Development <ul style="list-style-type: none"> • Diversity in roles and relationships • Marriage-contemporary trends • Parenting and grand parenting 	15





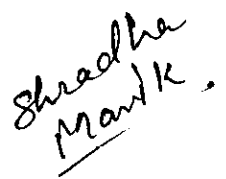
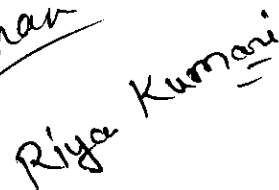

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PRACTICAL

1. To study physical changes in adolescence
2. To study cognitive development and creativity during adolescence
3. Case profile of an adolescent – including study of self. Family relationships and peer relationships
4. Use of interview/questionnaire method to study roles (at least one male and female)
 - Father/husband
 - Home maker
 - Employed woman
 - Grandfather/Grandmother
 - Single parent
 - College going young adults

RECOMMENDED READINGS:

1. Berk, L. E. (2007). Development through the lifespan, Delhi: Pearson Education.
2. Rice, F.P. (1998). Human Development, A lifespan approach, New Jersey Prentice Hall
3. Rutter, M. and Rutter, M. (1992) Developing Minds, Challenge and continuity across the life span, London: Penguin
4. Santrock, J.W. (2007). A topical approach to lifespan development. New Delhi: Tata McGraw Hill
5. Singh, A. (Ed.) 2015. Foundations of Human Development: A lifespan approach: New Delhi Orient Black Swan
6. Tennant, M. and Pogson, P. (1995) Learning and Change in the Adult year, San Francisco: Jossey-Bass



CORE COURSES

Core Course 9: DYNAMICS OF COMMUNICATION AND EXTENSION (CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

Instruction to Question Setter for Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Communication: Concepts	18
	<ul style="list-style-type: none"> • Historical background, concept and nature • Functions of Communication • Types of Communication – communication transactions; Formal and informal communication; Verbal and Non-Verbal Communication • Scope of Communication – Education, training and learning industry, Motivation and Management, Corporate communication, Management of Organizations, Advertising and public relations • Communication and mainstream media – newspaper, radio, television and cinema, ICTs and web based communication • Communication for social change 	
Unit II:	Understanding Human Communication	20
	<ul style="list-style-type: none"> • Culture and communication- Signs, symbols and codes in communication • Postulates/Principles of Communication • Elements of Communication and their characteristics • Models of Communication • Barriers to Communication 	
Unit III:	Communicating Effectively	08
	Concept, nature and relevance to communication process: <ul style="list-style-type: none"> • Empathy • Persuasion • Perception 	

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Unit IV:

• Listening Evaluation
Communication for Extension

14

- Concept, nature and philosophy of Extension
- Principles of Extension
- Methods and Media of community outreach; Audio-Visual aids- concept, classification, characteristics and scope.
- Relationship between Communication, Extension and Development

PRACTICAL

- | | |
|---|---|
| 1. Developing skills in planning and conducting small group communication | 3 |
| 2. Review of media on selected issues | 3 |
| 3. Preparation of an aid for non-verbal communication | 2 |
| 4. Preparation of a talk for radio broadcasting | 2 |
| 5. Preparation of an article for newspaper | 2 |
| 6. Preparation of report of any program | 2 |
| 7. Lodging a complaint through e-mail | 1 |

RECOMMENDED READINGS:

1. Barker. L, (1990) "Communication" New Jersey; Prentice Hall, INC: 171.
2. Devito, L, (1998) Human Communication, New York: Harper & Raw
3. Patri and Patri (2002), Essentials of Communication, Greenspan Publications

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CORE COURSES**Core Course 10: FASHION DESIGN CONCEPTS
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.



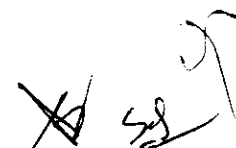


End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Fashion	16
	<ul style="list-style-type: none"> • Terminology • Fashion cycle • Sources of fashion • Factors favouring and retarding fashion • Role of a Designer • Leading Fashion centres and designers 	
Unit II:	Importance of clothing	16
	<ul style="list-style-type: none"> • Clothing functions and theories of origin • Clothing terminology • Individuality and conformity, conspicuous consumption and emulation • Selection of clothes for self • Selection and Evaluation of ready-made garments 	
Unit III:	Components of garment: classification and application	20
	<ul style="list-style-type: none"> • Fabric, seams, stitches, thread, shaping methods, dart equivalents • Sleeves, cuffs, necklines, collars, plackets, yokes, pockets and trims • Style variation: bodice, skirts, trousers in various silhouettes 	
Unit IV:	Design	08
	<ul style="list-style-type: none"> • Elements and principles of design 	

- Structural and applied design

PRACTICAL

- | | |
|---|---|
| 1. Flat sketching of garment components | 3 |
| 2. Identification of garment components | 3 |
| 3. Interpretation of elements and principles of design concepts from print and visual mediums | 6 |
| 4. Study of collections of famous designers | 2 |

RECOMMENDED READINGS:

1. Brown, Patty, Rice J., 1998, Ready to wear Apparel Analysis. Prentice Hall.
2. Marshall S G, Jackson H O, Stanley MS, Kefgen M & Specht T, 2009, Individuality in Clothing & Personal Appearance. 6th Edition, Pearson Education, USA
3. Tate S.L. Edwards M.S., 1982, The Complete Book of Fashion Design, Harper and Raw Publications, New York.

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CORE COURSES
Core Course 11: SCIENTIFIC BASIS OF HOME SCIENCE
(CREDITS: THEORY-4, PRACTICAL-2)

LECTURES: 60

Instruction to Question Setter for
Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

SECTION A - BOTANY AND ZOOLOGY

THEORY

Unit I:	Types of Garden & Propagation of plants	08
	<ul style="list-style-type: none"> • Ornamental garden • Kitchen garden • Herbal Garden • Seed Propagation • Cuttings - stem, leaf and root • Layering • Grafting 	
Unit II:	Economic Botany	06
	<ul style="list-style-type: none"> • Vegetables - Cauliflower, carrot, tomato, potato, onion, spinach, gourds, fenugreek • Fruits - papaya, mango • Spices and Condiments - clove, pepper, cardamom, cumin seed, Coriander, asafoetida • Ornamental and Foliage plants - Rose, Bougainvillea, China rose, fern, asparagus 	
Unit III:	Parasites and human diseases	08
	<ul style="list-style-type: none"> • Plasmodium, Giardia, Enamoeba, Taenia, Ascarisets • Economics importance and control of common household pests • Insects as a resource microscopic structure and function of a cell • Vermicomposting, Technology, importance and its relevance 	
Unit IV:	Basics of Genetics	06
	<ul style="list-style-type: none"> • Genetic disease and sex linked inheritance • Importance of Genetic counselling 	



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SECTION C – CHEMISTRY AND PHYSICS

THEORY

Unit I:	Carbohydrates Classification, Monosaccharides – Fischer's structure of aldoses and ketoses, ring structure of sugars, oxidation of sugars, reduction of sugars, reducing properties of sugars, formation of disaccharides, reducing and non-reducing disaccharides, Polysaccharides – homo and hetero polysaccharides	08
Unit II:	Lipids Building blocks of lipids – fatty acids, glycerol; Storage lipids – triacyl glycerol, glycerophospholipid.	04
Unit III:	Amino acids Structure and classification, peptide linkage, zwitter ion, Ninhydrin test, Sangers test, Protein structure, primary, secondary tertiary and quaternary structure, Denaturation of proteins. Enzyme and Concept of Lock & Key and induced Fit Theory	06
Unit IV:	Polymers/Plastics Synthetic resins and plastics, classification of polymers, general properties of polymers, structure of PE, PP, PVC, PS, Nylon 6, Nylon 66, PTFE, PET, and their uses from monomer to plastics, polymer requirements for polymer formation; biodegradable polymers	05
Unit V:	Dyes Classification, Colour and constitution, auxochromes, chromophores; Chemistry of dyeing; Structure and applications of Azo dyes: Methyl Orange, triphenyl Methane Dyes, Malachite Green, Rosaniline and Crystal Violet; Phthalein Dyes - Phenolphthalein and Flourscein; Natural dyes-Alizarin and Indigotin; Edible Dyes with Examples.	05
Unit VI:	Household Equipment and Consumer Awareness Motorized Equipment, Vacuum cleaners, Clothes Washing machines, 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 equipment, Precautions while using equipment and servicing of equipment used.	08
Unit VII:	Electricity Safety features in household electric wiring - fuse, MCB, Earthing, Electric meter Concept - Battery charger, Invertor, UPS, Voltage stabilizer. Lighting fixtures in the home - Incandescent lamp, Fluorescent tube, CFL, LED, Halogen lamp. Harmful effect of radiations.	03

PRACTICAL

SECTION A: BOTANY

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• Identification of Floral and ornamental plants with example	2
• Propagation of plants by seeds and vegetative methods	1
• Identification and classification of economically important plants.	
SECTION B: ZOOLOGY	
• Study of Cells	1
• Vermicomposting propagation	1
SECTION C: CHEMISTRY	
Qualitative tests for carbohydrates and protein	6
Monosaccharaides, disaccharides and polysaccharides	
Separation of mixture of amino acids using paper chromatography and determination of Rf values	1
SECTION D: PHYSICS	
To repair and test an electric iron	1
To repair the given chord and fuse and test them	1

RECOMMENDED READINGS:

1. Chadha, K.L. 2012, Handbook of Horticulture, ICAR Publication
2. Gopalaswamianger K.S. 1991, Compete gardeninig in India, Messers Nagaraj and Co. Madras
3. Hartman H.T and Kester D 1986. Plant Propagation, Principles and Practices Prentice Hall of India Pvt. Ltd. New Delhi
4. Soni, N.K. and Soni, V. 2010. Fundamentals of Botany. Tata Mc Graw Hill Education
5. Winchester, A.M. 1967, Genetics, Oxford and IBH Publishing Company
6. Vij and Gupta (2011) Applied Zoology Phoenix Publishing House
7. Graham Solomon, T.W. Organic chemistry 10th Ed. (2009) John Wiley and sons, Inc.
8. Voet, D and Voet, J., Principles of Biochemistry, 4th edition (2011) by Jonn wiley and Sons.
9. Nelson, D.L. and Cox, M.M., Lehninger's principles of Biocnemisiy6thedition, (2012) W.II Freeman
10. Household Physics (2012), Claude H. Brechner, Hardpress.
11. Modern Physics, Murugesan, S. Chand and Co., 2002
12. Principles of Instrumental Analysis, 6th edition (2006), D.A. Skooget. al., Saunders College Publishing
13. Bhatia, K.B., Elements of Electrical Gadgets, Arya Book Depot, 1993.
14. Practical Organic Chemistry by Vogel A. L., Orient Longmans Limited.
15. Ahluwalia, V. K., Dhingra, S., Gulati, A., College Practical Chemistry, University Press (India) Pvt. Ltd. (2005)
16. B.Sc. Practical Chemistry by P. L. Soni and S. C. Jain, Sultan Chand and Sons (1978).
17. College Practical Physics by Khanna and Gulati, S. Chand and Co., (1999)

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CORE COURSES**Core Course 12: PERSONAL FINANCE AND CONSUMER STUDIES
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Income and Expenditure	18
	<ul style="list-style-type: none"> Household Income – Types, Sources, Supplementation of family income, use of family income, budgets, maintaining household accounts Factors influencing expenditure pattern Family savings and investments – need, principles, channels of investment, tax implications Consumer credit - need, sources, credit cards, Housing finance Personal finance management - tax implications, calculation of personal income tax Guidelines for wise buying practices 	
Unit II:	Consumer in India: Consumer problems and education	20
	<ul style="list-style-type: none"> Definition of a consumer Role of consumers in the economy, National Income, Per Capita Income, Household wise distribution of income Changing nature of the business world - e-commerce, e-business Types of consumer problems - products and service related, investment and infrastructure related, Causes and solutions 	
Unit III:	Consumer Protection	22
	<ul style="list-style-type: none"> Consumer protection Consumer education, rights and responsibilities Consumer organizations and Consumer cooperatives - role, and growth in India, PDS Kendriya Bhandars Basic legislative framework for consumer protection in India, Consumer Protection Act, 1986 COPRA, Alternative Redressal 	

mechanisms, Mediation centres

- Standardization and quality control measures: ISI, FPO, AGMARK, ISO, Eco mark, Wool mark, Silk mark, Cotton mark, Handloom mark, BEE star labelling and others

PRACTICAL

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|--|---|
| 1. Evaluation and designing of advertisements in the print media including products, services and social ads | 3 |
| 2. Evaluation and designing of informative and attractive labels of different type of food products. | 3 |
| 3. Case study of banks and post offices to understand their services and products, Learning to fill different bank forms | 3 |
| 4. Food adulteration tests | 3 |

RECOMMENDED READINGS:

1. Khanna S.R., Hanspal S., Kapoor S. & Awasthi H.K. 2007, Consumer Affairs, Universities Press India Pvt. Ltd.
2. Sawhney, H.K. & Mital, M., 2007, Family Finance & Consumer Studies, Elite Publishing House Pvt. Ltd.
3. Seetharaman, P and Sethi, M. 2001, Consumerism Strength and Tactics. New Delhi: CBS Publishers



CORE COURSES**Core Course 13: RESEARCH METHODOLOGY IN HOME SCIENCE
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Research- Meaning, purpose and approaches	20
	<ul style="list-style-type: none"> • Exploration, Description, Explanation • Scientific method and research • Research Designs - Experimental and Observational • Quantitative and Qualitative approaches 	
	Conceptualization and Measurement	
	<ul style="list-style-type: none"> • Variables, concepts and measurement • Levels of measurement • Units of analysis 	
Unit II:	Sampling & Tools	20
	<ul style="list-style-type: none"> • Role of sampling in research • Types of sampling 	
	Research Tools and Techniques	
	<ul style="list-style-type: none"> • Validity and reliability • Interviewing and observational methods 	
Unit III:	The Research Process	20
	<ul style="list-style-type: none"> • Defining the problem, research questions, objectives, hypotheses • Review of related literature and originality in writing • Planning the research • Subjects context and ethics • Methodology and tools • Citation formats: in medical sciences, social sciences 	

Shreelha
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Riya Kumari

PRACTICAL

1. Exercise in sampling, random number table.
2. Exercise in designing tools and their analysis: interview, questionnaire.
3. Data collection process: conducting interviews, FGDs, case studies

RECOMMENDED READINGS:

1. Kumar, R. (2005) Research Methodology: A Step by Step Guide for Beginners. Sage Publications, New Delhi
2. Kerlinger F. N. and Lee. H.B. (2000) Foundations of Behavioural Research 4th Ed. Harcourt College Publishers
3. Kothari, C. R. (2008) Research Methodology: Methods and Techniques 2nd Ed New Age International Pvt Ltd, New Delhi.
4. Black, J.A. & Champion, D.J.(1976) Methods and Issues in Social Research New York: John Wiley and Sons

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CORE COURSES**Core Course 14: COMMUNICATION SYSTEMS AND MASS MEDIA
(CREDITS: THEORY-4, PRACTICAL-2)**

LECTURES: 60

**Instruction to Question Setter for
Mid Semester Examination (MSE):**

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Self and Communication	08
	<ul style="list-style-type: none"> • Awareness of self in communication • Intrapersonal Communication • Self-concept and self esteem 	
Unit II:	Interpersonal Communication	12
	<ul style="list-style-type: none"> • Concept, types and functions of interpersonal communication • Stages in human relationship development • Small group communication: types and functions 	
Unit III:	Organization, Public and Mass Communication	25
	<ul style="list-style-type: none"> • Organizational communication: concept, types, functions and networks • Public communication- concept and techniques • Mass Communication- concept, significance, functions and elements • Theories and models of mass communication • Intercultural communication- concept, stages and barriers • Relationship between culture and communication 	
Unit IV:	Mass Media	
	<ul style="list-style-type: none"> • Print Media: types, nature, characteristics, reach, access. • Radio: types, nature, characteristics, reach, access. • Television and cinema: types, nature, characteristics, reach, access. • ICTs: types, characteristics, reach and access. 	

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PRACTICAL

1. Studying group dynamics in organizations - formal and informal. 3
2. Audience analysis- readership, listenership and viewership studies 4
3. Content analysis of mass media 4

RECOMMENDED READINGS:

1. Devito, J. (1998) Human Communication. New York. Harper & Raw.
2. Barker, Larry Lee. (1990) Communication. Eaglewood Cliffs, New Jersey: Prentice Hall.
3. McQuail, D. (2000) Mass Communication Theories. London: Sage Publications
4. Baran, Stanley J (2009). Introduction To Mass Communication, McGraw hill medical publishing
5. Baran. Stanley J (2014). Mass Communication Theory, Wadsworth Publishing
6. Vivian. J (2012) The Media Of Mass Communication, Pearson
7. Deminick, Joseph R. (2012). Dynamics of mass communication: media in transition McGraw hill education

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SKILL ENHANCEMENT COURSES (SEC)
SEC 1A: HOME BASED CATERING
(CREDITS: 2)

LECTURES: 30

Instruction to Question Setter forEnd Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.
 SEC course is of 2 credit (Marks: 75 Th + 25 Pr)

THEORY

Unit I:	Introduction to Food Service	03
	<ul style="list-style-type: none"> • Factors Contributing to the growth of food service industry • Kinds of food service establishments 	
Unit II:	Food Production	12
	<ul style="list-style-type: none"> • Menu Planning: Importance of menu, factors affecting menu planning, menu planning for different kinds of food service units. • Food Purchase and Storage • Quantity Food production: Standardization of recipes, quantity food preparation techniques, recipe adjustments and portion control • Hygiene and Sanitation 	
Unit III:	Resources	04
	<ul style="list-style-type: none"> • Money • Manpower • Time • Facilities and equipment • Utilities 	
Unit IV:	Planning of A Food Service Unit	11
	<ul style="list-style-type: none"> • Preliminary Planning <p>Survey of types of units, identifying clientele, menu, operations and delivery</p> <ul style="list-style-type: none"> • Planning the set up: <ol style="list-style-type: none"> a) identifying resources b) Developing Project plan c) Determining investments d) Project Proposal 	

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PRACTICAL

1. Planning, Procurement, Preparation and Selling of 6
 - Snacks
 - Breakfast
 - Lunch
 - Hot and Cold Beverages
2. Providing home based food service facilities for persons suffering from 3
different diseases
3. Planning, Procurement, Preparation and Selling of 5
 - Sauce
 - Squash
 - Pickle

RECOMMENDED READINGS:

1. West B Bessie & Wood Levelle (1988) Food Service in Institutions 6th Edition
Revised by Hargar FV, Shuggart SG, & Palgne Palacio June. Macmillan Publishing
Company New York
2. Sethi Mohini (2005) Institution Food Management New Age International Publishers
3. Knight J B & Kotschevar LH (2000) Quantity Food Production Planning &
Management 3rd edition John Wiley & Sons
4. Philip E Thangam (2008) Modern Cookery for teaching and Trade Part I & II Orient
Longmam
5. Taneja S and Gupta SL (2001) Entrepreneurship development, Galgotia Publishing.

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SEC 1B: SURFACE ORNAMENTATION (CREDITS: 2)

LECTURES: 15

Instruction to Question Setter for

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.
SEC course is of 2 credit (Marks: 75 Th + 25 Pr)

THEORY

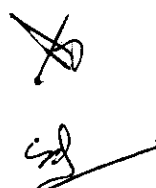
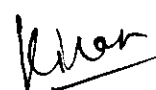
Unit I:	Ornamentation through Pleats, Fabric Layering (Quilting, layering-types, Importance) Methods of Making Macramé, Braiding, lace making (Crochet, Tatting, U-Pin, Needle) Fabric manipulation-cuts, removal of threads	05
Unit II:	Ornamentation through Embroidery, Embroidery Stitches Traditional Embroidery of India	05
Unit III:	Colour, Dimensions, Type, Schemes Ornamentation through dyeing and Printing	05


PRACTICAL

1. Fabric manipulation -cuts, removal of threads
2. Surface Decoration - Embroidery, Ari work, Embellishments
3. Design through colour application
 - Painting
 - Dyeing- Tie and dye, Batik
 - Printing- Discharge, Resist, Block, Screen, Stencil
4. Thread structure- macramé, braiding, lace making (crochet, tatting)
5. Surface layering
 - Applique- simple, cut, felt
 - Quilting- hand and machine
 - Pleats
 - Tucks
6. Product development using the above design exploration techniques

RECOMMENDED READINGS:




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 Shradha
 Manik

1. Juracek, A. Judy, 2000, Soft Surface, Thames & Hudson Ltd.
2. Milne D'Arey Jean, 2006, Fabric Left Overs, Octopus Publishing Group Ltd.
3. Singer Margo.2007, Textile Surface Decoration-Silk & Velvet, A&C Black Ltd.

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SEC 2A: MATERNAL AND CHILD NUTRITION (CREDITS: 2)

LECTURES: 30

Instruction to Question Setter for

End Semester Examination (ESE):

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

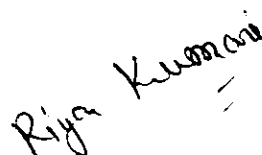
Note: There may be subdivisions in each question asked in Theory Examinations.
SEC course is of 2 credit (Marks: 75 Th + 25 Pr)

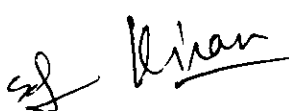
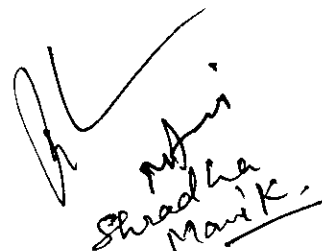
THEORY

Unit I:	<ul style="list-style-type: none"> Nutritional needs during pregnancy, common disorders of pregnancy (Anaemia, HIV, and pregnancy induced hypertension), relationship between maternal diet and birth outcome. Maternal health and nutritional status, maternal mortality and issues relating to maternal health. 	8
Unit II:	<ul style="list-style-type: none"> Nutritional needs of nursing mothers and infants, determinants of birth weight and consequences of low birth weight, Breastfeeding biology, Breastfeeding support and counselling 	7
Unit III:	<ul style="list-style-type: none"> Infant and young child feeding and care - Current feeding practices and nutritional concerns, guidelines for infant and young child feeding, Breast feeding, weaning and complementary feeding Assessment and management of moderate and severe malnutrition among children, Micronutrient malnutrition among preschool children Child health and morbidity, neonatal, infant and child mortality, IMR and U5MR; link between mortality and malnutrition 	8
Unit IV:	<ul style="list-style-type: none"> Overview of maternal and child nutrition policies and programmes. 	5

PRACTICAL

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|---|--|----|
| 1 | Study of awareness regarding various vaccinations for children | 10 |
| | a) Provided free of cost under immunization scheme of Govt. of India | |
| | b) Not provided free of cost under immunization scheme of Govt. | |

- of India but essential/beneficial for health.
- 2 Study of disease of children in first two years of age and its impact on their health (05 subjects only) 02
- 3 Study of common complications among pregnant woman (case Study) 02

Or


Study of co-operation provided by family members in child rearing by

- a) Maternal or Paternal Grandparents,
b) siblings,
c) any other

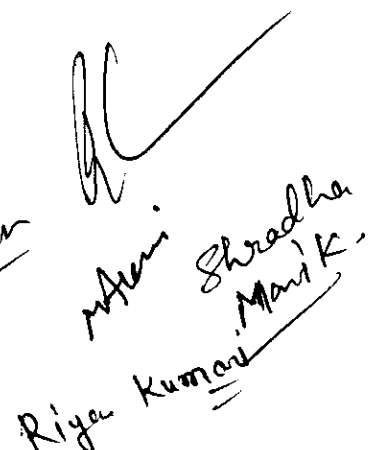
RECOMMENDED READINGS

1. Wadhwa, A and Sharma, S (2003) Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi
2. Park K (2011) Park's Textbook of Preventive and Social Medicine, 21st Edition M/s Banarasidas Bhanot Publishers, Jabalpur, India
3. Bamji MS Krishnaswamy K and Brahman GNV (Eds) (2009). Textbook of Human Nutrition, 3rd Edition. Oxford and IBH Publishing Co. Pvt Ltd New Delhi
4. National Guidelines on infant and Young Child Feeding (2006), Ministry of Women and Child development, Government of India








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SEC 2B: IMAGE STYLING (CREDITS: 2)

LECTURES: 15

Instruction to Question Setter for

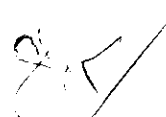
End Semester Examination (ESE):

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

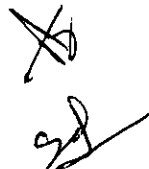
Note: There may be subdivisions in each question asked in Theory Examinations.
SEC course is of 2 credit (Marks: 75 Th + 25 Pr)

THEORY

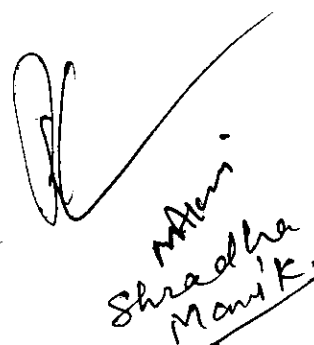
Unit I:	Physical traits and personality <ul style="list-style-type: none"> • Body and figure types • Body proportion • Figure types and problems • Personality Figure analysis – identifying your physical self and facial features <ul style="list-style-type: none"> • Physical attractiveness – its determinants and social effects 	5
Unit II:	Concepts and principles of design <ul style="list-style-type: none"> • Effects of design elements and principles on clothing • Fashion fundamentals • Development of future fashion trends of garments and accessories Personality and dressing <ul style="list-style-type: none"> • Principles of illusion dressing • Personal style expression • Etiquette and personal grooming • Colour and personal style analysis 	5
Unit III:	Identifying clothing needs and wardrobe planning <ul style="list-style-type: none"> • Wardrobe analysis and organization • Wardrobe style identification • Organization and categorization of wardrobe • Elements of a basic wardrobe • Tips of garment maintenance Personal shopping <ul style="list-style-type: none"> • Preview of apparel/accessory stores and brands in context to style, size and budget Optimizing wardrobe	5



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PRACTICAL

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|----|--|---|
| 1. | Wardrobe Planning for Adolescent girl and young lady | 3 |
| 2. | Creating designs of various colour schemes | 3 |
| 3. | Identifying clothing need of an infant/toddler | 3 |
| 4. | Study of prevailing fashion trends | 3 |
| 5. | Studying Clothing Buying practice of any 5 subjects | 3 |

RECOMMENDED READINGS

1. Funder, D.C. 2001. The Personality Puzzle (2nd ed), New York: W. W. Norton.
2. Phares, J. E. 1991, Introduction to Personality (3rd ed), New York: Harper Collins.
3. B. 2001. Fashion Rendering with Colour, Illustrated ed. Prentice and Hall.
4. Ireland P.J. 1996, Fashion Design Illustration – Men, B.T. Batsford, London.
5. Ireland, P.J. 2003, Introduction to Fashion Design, B.T. Batsford, London.



Riya Kumari

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DISCIPLINE SPECIFIC ELECTIVE (DSE)

DSE 1: INTERIOR DESIGN AND DECORATION (CREDITS: THEORY 4 PRACTICAL 2)

LECTURES: 60

Instruction to Question Setter for Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

- | | | |
|----------|---|----|
| Unit I: | Design fundamentals <ul style="list-style-type: none"> • Objectives of art and interior design • Types of design: structural and decorative • Elements of art: Space, Point, Line, Shape, Form, Texture, Light, and Colour • Principles of art – Rhythm, Balance, Proportion, Emphasis, Unity, (Variety, Simplicity/Economy, Suitability) • Colour and its application <ul style="list-style-type: none"> a. Dimensions of colour b. Importance of colour and its role in creation of the design c. Colour systems and theories d. Colour harmonies e. Principles of design as applied to colour use f. Colour forecasting | 30 |
| Unit II: | Furniture and furnishings: Historical Perspectives and Contemporary Trends <ul style="list-style-type: none"> • Furniture – types, Construction, Selection and Purchase, Arrangement, Care and maintenance • Furnishings – selection, care and maintenance of fabrics used for – <ul style="list-style-type: none"> a. Soft furnishings: curtains and draperies, upholstered furniture, cushions and pillows etc. b. Floor coverings • Accessories – uses, classification, design, selection and | 30 |

- arrangement
- Traditional and modern surface finishes – types and uses
 - a. Furniture
 - b. Wall
 - c. Floor
 - d. Ceilings
 - e. Roofing
- Lighting applications (energy efficient lighting design – number and type of lamps and luminaries for efficiency in lighting)
- Accessories – Uses, Classification, Design, Selection and arrangement.

PRACTICAL

- | | | |
|----|---|---|
| 1. | Preparation of catalogue comprising pictures denoting application of art and elements of design, colour wheel, Dimension and Harmonies of colour | 4 |
| 2. | Furniture and furnishing plans of specific areas – critical analysis | 4 |
| 3. | Preparation of portfolio based on historical designs and market review of furniture and furnishing materials (upholstery, curtains and draperies, bed and table linen) <ul style="list-style-type: none"> • Wall coverings and decorations (pictures etc.) • Floor coverings and decorations • Window and door treatment • Lighting systems • Artifacts (sculptures, ceramics/terracotta, handicrafts, flower arrangements etc.) • Wood and its substitutes | 8 |

RECOMMENDED READINGS

1. Lawrence M., (1987), Interior Decoration, New Jersey: Chartwell Books
2. Riley and Bayen, (2003), The Elements of Design, Mitchell Beazley.

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DSE 2: TEXTILE PROCESSING (CREDITS: THEORY 4 PRACTICAL 2)

LECTURES: 60

Instruction to Question Setter for Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Dyeing	22
	<ul style="list-style-type: none"> Terminology and theory of dyeing Classification of dyes Chemistry and mode of application of direct, acid, basic, azoic, reactive, sulphur, vat, mordant and disperse dyes Principles of colour fastness 	
Unit II:	Printing	24
	<ul style="list-style-type: none"> Methods of printing <ol style="list-style-type: none"> Block printing Flat plate and roller printing Stencil, screen (flat and rotary) printing Transfer printing Innovative printing methods: Digital printing etc. Styles of printing – direct, discharged, resist, dyed Fixation of prints: Ageing, Steaming, Baking, Wet development Washing of printed goods Auxiliaries <ol style="list-style-type: none"> Wetting agents, dispersing agents and solvents Hygroscopic agents Anti foaming agents Oxidising and reducing agents Carriers Binders and thickeners 	
Unit III:	Finishing	14
	<ul style="list-style-type: none"> Classification of finishes 	

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- Preparatory finishes
- Finishes affecting appearance and texture
- Finishes for enhancing special characteristics

PRACTICAL

- | | | |
|----|---|---|
| 1. | Dyeing | 7 |
| | <ul style="list-style-type: none"> • On cotton using direct, reactive, azo and vat • On wool and silk using acid, basic and reactive | |
| 2. | Printing with blocks and screens | 5 |
| | <ul style="list-style-type: none"> • Direct printing – Pigment colours • Discharge printing – Direct dyes • Resist printing – Azo dyes | |
| 3. | Colour fastness of dyed fabrics | 2 |
| | <ul style="list-style-type: none"> • Wash fastness • Crock/Rub fastness • Perspiration fastness | |

RECOMMENDED READINGS

1. Miles L.W.C. (1994), Textile Printing, 2nd edition, England, Society of Dyers and Colourists
2. Sekhri S., (2013). Textbook of Fabric Science: Fundamentals to finishing, PHI Learning, Delhi
3. Shenai, V.A. (1987) Chemistry of Dyes and Principles of Dyeing, Vol II, Bombay, India, Sevak Publications.

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DSE 3: PUBLIC NUTRITION (CREDITS: THEORY 4 PRACTICAL 2)

LECTURES: 60

Instruction to Question Setter for Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Concept and scope of public nutrition	5
	<ul style="list-style-type: none"> • Definition and multidisciplinary nature of public nutrition • Concept and scope • Role of public nutritionist 	
Unit II:	Nutritional problems, their implications and related nutrition programs	22
	<ul style="list-style-type: none"> • Etiology, prevalence, clinical features and preventive strategies of <ol style="list-style-type: none"> a. Under nutrition b. Protein energy malnutrition, nutritional anaemia, vitamin A deficiency, iodine deficiency disorders c. Over nutrition- obesity, coronary heart disease, diabetes d. Fluorosis 	
	National nutrition policy and programmes- Integrated Child Development Services (ICDS) Scheme, Mid Day Meal Programme (MDMP), National programmes for prevention of anaemia, Vitamin A deficiency, Iodine Deficiency Disorders	
Unit III:	Assessment of nutritional status	18
	<ul style="list-style-type: none"> • Objectives and importance • Methods of assessment <ol style="list-style-type: none"> a. Direct – clinical signs, nutritional anthropometry, biochemical tests, biophysical tests b. Indirect – Diet surveys, vital statistics 	
Unit IV:	Nutrition Education	15
	<ul style="list-style-type: none"> • Objectives, principles and scope of nutrition and health education and promotion 	

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Shradha Manik

Riya Kumari

- Behaviour change communication

PRACTICAL

1. Planning of low cost nutritious recipes for infants, pre-schoolers, pregnant/ nursing mothers for nutrition education.
2. Assessment of nutritional status:
 - Anthropometry – weight and height measurements
 - Plotting and interception of growth charts for children below 5 years
 - Identification of clinical signs of common nutritional disorders
 - Dietary assessment – FFQ and 24 hour diet recall
3. Planning and conducting a food demonstration
4. Visit to an ongoing nutrition and health promotion programme.

RECOMMENDED READINGS

1. Wadhwa A and Sharma S (2003), Nutrition in the community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
2. Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition. M/s Banarasidas Bhanot Publishers, Jabalpur, India.
3. Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
4. ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
5. ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
6. 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.
7. World Health Organisation (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/>).

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DSE 4: COMMERCIAL CLOTHING (CREDITS: THEORY 4 PRACTICAL 2)

LECTURES: 60

Instruction to Question Setter for Mid Semester Examination (MSE):

There will be two group of questions. **Group A is compulsory** and will contain five questions of **very short answer type** consisting of 1 mark each. Group B will contain descriptive type three questions of five marks each, out of which any two are to answer.

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.

THEORY

Unit I:	Introduction to Commercial Clothing	20
	<ul style="list-style-type: none"> • Principles & Components of Clothing Construction <ul style="list-style-type: none"> ○ Anthropometric measurements and Taking accurate body measurement ○ Requirement for good garment construction ○ Types of needles and threads ○ Sewing problems ○ Drafting and its importance • Principles & Methods of Grading and Sizing 	
Unit II:	Selection of Fabric & Accessories	15
	<ul style="list-style-type: none"> • Selection of appropriate apparel fabrics for girls, women, boys and men's wear • Use of accessories and trimmings in clothing 	
Unit III:	Sourcing, Specification Sheets and Procurement	15
	<ul style="list-style-type: none"> • Sourcing of Fashion material • Preparation of specification sheet • Procurement of Fashion Materials 	
Unit IV:	Fashion Promotion by Visual Merchandizing	10

PRACTICAL

1. Drafting and Construction of:
 - a. Kameez
 - b. Salwaar
 - c. Churidaar
 - d. Trousers
2. Different methods of sizing and grading

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2

RECOMMENDED READINGS

1. Armstrong, H.J., 2009, Pattern Making for Fashion Design, Harper Collins Publishers Inc., New York.
2. Stamper, A.A., S. H. Sharp and L.B. Donnell, 1986, Evaluating Apparel Quality, Fairchild Publications, America
3. Burns leslie, Nancy B. 1997, The Business of Fashion- Designing Manufacturing and Marketing, Fairchild publications. USA.

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GENERIC ELECTIVES (GE)
GE 1: HUMAN NUTRITION
(CREDITS: THEORY 4 PRACTICAL 2)

LECTURES: 60

Instruction to Question Setter forEnd Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.
 (Marks: 75 Th + 25 Pr)

THEORY

Unit I:	Basic Concepts in Nutrition	10
	<ul style="list-style-type: none"> • Basic terms used in nutrition • Understanding relationship between food, nutrition and health • Functions of food-Physiological, psychological and social • Basic food groups and concept of balanced diet 	
Unit II:	Nutrients	25
	<ul style="list-style-type: none"> • Energy- Functions, sources and concept of energy balance • Functions, recommended dietary allowances, dietary resources, effects of deficiency and/ or excess consumption on health of the following nutrients • Carbohydrates and dietary fibre • Lipids • Proteins • Fat soluble vitamins- A, D, E, and K • Water soluble vitamins- Thiamin, Riboflavin, Niacin, Pyridoxine, Folate, Vitamin B12 and Vitamin C • Minerals – Calcium, Iron, Zinc and Iodine 	
Unit III:	Nutrition during Lifecycle	25
	Physiological considerations and nutritional concerns for the following life stages: <ul style="list-style-type: none"> • Adult man/ woman • Preschool children • Adolescent children • Pregnant woman • Nursing woman and infant 	

PRACTICAL

1. **Identifying Rich Sources of Nutrients** **2**
 Energy, Protein, Iron, Calcium, Fiber, Vitamin A, Ascorbic acid

- Basic food groups
- Use of food exchange list for planning nutritious diets/snacks for
 - Adult man/ woman of different activity levels
 - Pre school children
 - Adolescent children
 - Pregnant woman
 - Nursing woman

RECOMMENDED READINGS

1. Wardlaw and Insel M G. Insel P M (2004) Perspectives in Nutrition. Sixth Edition, McGraw Hill.
2. Srilakshmi B (2012). *Nutrition Science*. 4th Revised Edition, New Age International Publishers.
3. Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
4. ICMR (2010) Recommended Dietary Allowances for Indians. Published by National Institute of Nutrition, Hyderabad.
5. Chadha R and Madhur P eds. (2015). Nutrition: A Lifestyle Approach. Orient Blackswan, New Delhi.
6. Seth V and Singh K (2006). *Diet Planning through the Life Cycle: Part I Normal Nutrition. A Practical Manual*. Elite Publishing House Pvt. Ltd. New Delhi.
7. Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) *Nutritive Value of Indian Foods*. National Institute of Nutrition, ICMR, Hyderabad.



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GE 2: ENTREPRENEURSHIP FOR SMALL CATERING UNITS (CREDITS: THEORY 4 PRACTICAL 2)

SEMESTER II

Instruction to Question Setter for

End Semester Examination (ESE):

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

- **Note:** There may be subdivisions in each question asked in Theory Examinations.
(Marks: 75 Th + 25 Pr)

THEORY

LECTURES: 60

Unit I:	Introduction to Food Service Units	4
	<ul style="list-style-type: none">• Origin of Food Service Units• Kinds of food service units	
Unit II:	Menu Planning	8
	<ul style="list-style-type: none">• Importance of menu• Factors affecting menu planning• Types of menu	
Unit III:	Organisation and Management	6
	<ul style="list-style-type: none">• Principles of management• Functions of management/ manager	
Unit IV:	Food Production Process	18
	<ul style="list-style-type: none">• Food purchase and receiving• Storage• Quantity food production: Standardisation of recipies, Recipe adjustments and portion control, Quantity food production techniques• Food service• Food hygiene and sanitation	
Unit V:	Space and Equipment	4
	<ul style="list-style-type: none">• Types of kitchen areas, Flow of work and work area relationship• Equipment<ul style="list-style-type: none">i) Factors affecting selection of equipmentii) Equipment needs for different situations	
Unit VI:	Financial Management	5
	<ul style="list-style-type: none">• Importance of financial management• Budgets and budgeting process• Cost concepts	
Unit VII	Personnel Management	4
	<ul style="list-style-type: none">• Functions of a personnel manager• Factors to consider while planning the kind and number of personnel, menu, type of operations, Type of service, Job	

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Unit VIII: description and job specification
Planning of a Small Food Service Unit 12

- **Preliminary Planning**
 Survey of types of units, identifying clientele, menu, operations and delivery
- **Planning the set up**
 - a) Identifying resources
 - b) Developing Project Plan
 - c) Determining investments
- **Development of a business plan**

PRACTICAL

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| 1) Market survey for food items both raw and processed | 1 |
| 2) Survey of food service units | 1 |
| 3) Standardisation of a recipe | 2 |
| 4) Preparing quick foods for scaling up for quantity production | 2 |
| 5) Planning menus for the following | 2 |
| Packed meals for office employees | 6 |
| Nutritious tiffins for school children | |
| School/college canteens | |
| 6) Demonstration of a specialized cuisine | 1 |
| 7) Develop a checklist for good hygiene practices | 1 |

RECOMMENDED READINGS

- 1) West B Bessie & Wood Levelle (1998) Food Service in Institutions 6th Editions Revised By Hargar FV, Shuggart SG, & Palgne Palacio June, Macmillian Publishing Company New York.
- 2) Sethi Mohini (2005) Institution Food Management New Age International Publishers
- 3) Knight J B & Kotschevar LH (2000) Quantity Food Production Planning & Management 3rd edition John Wiley & Sons
- 4) Dessler Gary (1987) Personnel Management, Modern Concepts and Techniques Prentice Hall New Jersey
- 5) Tripathi P C (2000) Personnel Management 15th ed Sultan Chand, New Delhi
- 6) Kazaria E A (1977) Food Service Facilities Planning 3rd edition Von Nostrand Reinhold New York
- 7) Kotas Richard & Jayawardardene. C (1994) Profitable Food and Beverage Management Hodder & Stoughton Publications
- 8) Longree K, Langree K, Longrie K (1996) Quantity sanitation, John Wiley & sons
- 9) Roday S (2003) Food Hygiene and Sanitation, Tata Mc Graw Hill Publication Ltd.
- 10) Taneja S and Gupta SL (2001) Enterpreneurship development, Galgotia Publishing

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GE 3: CURRENT CONCERNS IN PUBLIC HEALTH NUTRITION
SEMESTER III
(CREDITS: THEORY 4 PRACTICAL 2)

Instruction to Question Setter for

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.
(Marks: 75 Th + 25 Pr)

THEORY

LECTURES: 60

Unit I:	Nutritional problems affecting the community	20
	<ul style="list-style-type: none">• Etiology, prevalence, clinical features and preventive strategies of- Undernutrition – Protein energy malnutrition, severe acute malnutrition and moderate acute malnutrition, nutritional anaemia, Vitamin A deficiency, iodine deficiency disorders Overnutrition – obesity, coronary heart disease, diabetes• Thrombosis	
Unit II:	Strategies for improving nutrition and health status of the community	10
	<ul style="list-style-type: none">• Appropriate interventions involving different sectors such as food, health and education	
Unit III:	Nutrition policy and programmes	20
	<ul style="list-style-type: none">• National nutrition policy• Integrated child development scheme (ICDS), Mid-day Meal Programme (MDMP), National programmes for prevention of anaemia, Vitamin A deficiency, iodine deficiency disorders	
Unit IV:	Food and Nutrition Security	10
	<ul style="list-style-type: none">• Concepts, components, determinants and approaches• Overview of public sector programmes for improving food and nutrition security	

PRACTICAL

- 1) Planning and evaluation of low cost nutritious recipes for pre-schoolers, school age children, adolescents, pregnant and nursing mothers.

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| 2) Planning and evaluation of low calorie nutritious recipes for weight management | |
| 2 | |
| 3) Planning and conducting a food demonstration | 2 |
| 4) Visit to an ongoing nutrition programme | 1 |

RECOMMENDED READINGS

- 1) Wadhwa A and Sharma S (2003). Nutrition in the Community- A Textbook. Elite Publishing House Pvt. Ltd, New Delhi
- 2) ICMR (2011) Dietary Guidelines For Indians- A Manual, National Institute for Nutrition, Indian Council for Medical Research
- 3) Park K (2011) Park's Textbook of Preventive and Social Medicine, 21st Edition M/s Banarasidas Bhanot Publishers, Jabalpur, India
- 4) Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.

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GE 4: CARE AND WELL BEING IN HUMAN DEVELOPMENT (CREDITS: THEORY 4 PRACTICAL 2)

SEMESTER IV

Instruction to Question Setter for

End Semester Examination (ESE):

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

Note: There may be subdivisions in each question asked in Theory Examinations.
(Marks: 75 Th + 25 Pr)

THEORY

LECTURES: 60

Unit I:	Care and Human Development	15
	<ul style="list-style-type: none">• Definition, concepts and relevance of care• Vulnerable periods in life that require care• Principles and components of Care	
Unit II:	Well-Being and Human Development	15
	<ul style="list-style-type: none">• Concept of well-being – physical, psychological, spiritual• Life crisis and well-being• Factors and experiences that promote well-being	
Unit III:	Care and well-being at different stages of life	20
	<ul style="list-style-type: none">• Childhood years• Adolescence• Adulthood and old age• Well-being of caregivers	
Unit IV:	Policies, services and programs	10
	<ul style="list-style-type: none">• School health programs• Nutrition and health for all• Counselling and yoga	

PRACTICAL

- 1) Observations of children (1 infant, 1 toddler) to understand their care needs
- 2) Interview of a mother of a school-going child to understand her perspective of care and child's well-being
- 3) Interaction with 2 adolescents (male, female) to explore their perspectives on well-being
- 4) Visit to a senior citizen's home to study their care and well-being
- 5) Lecture/ workshop by a counsellor on significance of counselling
- 6) Participation in yoga/ self-development session

RECOMMENDED READINGS

- 1) IGNOU (2011). Positive Psychology, Applied Social psychology, New Delhi, IGNOU
- 2) Santrock (2007). Lifespan Development (3rd ed) New Delhi, Tata Magro Hill

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