



Department of Home Science  
JP University, Chapra



A meeting regarding revision of curriculum under Choice Based Credit System for Post Graduate course in Home Science was held today i.e. 18/01/2021 (Monday) at 11:30 a.m. in the Post Graduate Department of Home Science, JPM College, Chapra under the chairmanship of Dr. ManjuKumariSinha, Head, Post Graduate Department of Home Science, JP University Chapra.  
The following members were present in the meeting:

S. No.	Members of the Syllabus Committee	Signature
01	Dr. ManjuKumariSinha Head P.G Departt. Of H. Sci. (Chairman) JP University, Chapra	M.K.Sinha 18.1.2021
02	Prof. RenuKumari Prof. Ex. HoD P.G Departt. Of H. Sci. (Member) B.R.A.B.U Muzaffarpur	Renu Kumari 18/1/2021
03	Sr. Assistant Prof. Anju M.M College, Gopalganj (Member)	Anju 18.1.2021
04	Dr. Anchal Singh V.B.M College, Siwan (Member)	Anchal 18.1.21
05	Dr. ArunaKumari L.M.V College, Hafizpur (Member)	Aruna 18.1.21
06	Dr. MithileshKumari Dr. P.N. Singh Degree College (Member)	M.Kumari 18.1.21

The members of the Syllabus Committee, after thorough discussion, approved the attached revised curriculum for Post Graduate course in Home Science under Choice Based Credit System.

## Syllabus for M.A. in Home Science

Semester	Core Course	Elective Course	Discipline Specific Elective Course (DSE)	Generic Elective Course (GE)	Ability Enhancement Course (AEC)	Ability Enhancement Compulsory Course (AECC)
1	CC - 1 Advanced Nutrition	(EC)				AECC - 1 Environmental Sustainability & Swachha Bharat Abhiyan Activities
	CC - 2 Child Development - Prenatal to Preadolescence					
	CC - 3 Concept of Home Management					
	CC - 4 Research Methodology and Statistics					
2	CC - 5 Therapeutic Nutrition (DSE for other departments)				AEC - 1	
	CC - 6 Maternal and Infant Nutrition					
	CC - 7 Management of Textile Crafts and Apparel Industry					
	CC - 8 Communication Technology					
	CC - 9 Women's Studies					
	CC - 10 Food Processing					AECC - 2 Human Values & Professional Ethics & Gender Sensitization
	CC-11 Food Science and Experimental Food					
	CC - 12 Institutional Food Management					
	CC - 13 Community Nutrition					
4		EC - 1 Practical Approach to Writing Research Activities		GE - 1		
		EC - 2 Internship/Dissertation/Project/Seminar				

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## Semester-1

Course Opted	Course Name	Credits
CC - 1 (Core Course)	Advanced Nutrition	5 (5+0)
CC - 2 (Core Course)	Child Development: Prenatal to Preadolescence	5 (5+0)
CC - 3 (Core Course)	Concept of Home Management	5 (5+0)
CC - 4 (Core Course)	Research Methodology and Statistics	5 (5+0)
AECC - 1 (Ability Enhancement Compulsory Course)	Environmental Sustainability & Swachhha Bharat Abhiyan Activities	5 (3+2)
<b>Total</b>		<b>25</b>

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# Semester - I

Core Course 1:

Advanced Nutrition

05 Credits

Full Marks: 70

Time: 3 Hours

The pattern of question papers will be as under

- Group A- Compulsory - ten questions (two questions from each unit) of two marks each. " "   
  $2 \times 10 = 20$  marks
- Group B- Five questions (one from each unit) - each question of 5 marks, four to be answered.   
  $5 \times 4 = 20$  marks
- Group C- Five questions (one from each unit) - each question of 10 marks, three to be answered.   
  $10 \times 3 = 30$  marks

### Objectives:

This course will enable the students to:

- Understand the impact of nutrients on human body
- Get an insight into various metabolic pathways
- Know the role of hormones in growth, maintenance and regulation of body processes

### Unit I

#### Energy Metabolism

- Determination of energy value of food- Bomb calorimeter
- Basal metabolic rate- Measurement and factors affecting basal metabolic rate
- Measurement of energy requirement of an individual with reference to man and women

### Unit II

#### Proteins

- Classification of protein & amino acids
- Structure, properties and functions of protein
- Metabolism of protein, protein synthesis
- Assessment of protein quality
- Plasma proteins
- Structure and Functions of DNA and RNA

### Unit III

#### Lipids

- Classification of Lipids
- Structure, properties and functions of Lipids
- Metabolism and nutritional significance of lipids
- Biosynthesis of cholesterol and its functions

### Unit IV

#### Carbohydrates

- Classification of carbohydrates
- Structure, properties and functions of carbohydrates
- Metabolism of carbohydrates
- Altered metabolism of carbohydrates in diabetics
- Glycemic index
- Role of hormones in carbohydrate metabolism (insulin, thyroid and adrenal cortex)

### Unit V

Micronutrients and their role in metabolism (Vitamin A, Calcium, Iron and Iodine)

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**Reference:**

1. M. Swaminathan: Advance text book on Food and Nutrition Vol. II
2. Paul and R., Elen T. Ross: Nutrition
3. A.C. Deb: Fundamentals of Biochemistry
4. H.S. Srivastava: Elements of Biochemistry
5. A.K. Bery: Few RasayankiPathyaPshtika

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Core Course 2:

**Child Development: Prenatal to Preadolescence****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 30 marks***Objectives:**

This course will enable the students to:

To have an overview of development from prenatal stage to Pre-adolescence stage

To develop an awareness of important aspects of all development stages during this phase

**Unit I****Introduction to Development**

- Stages and principles of growth and development
- Developmental tasks
- Individual differences
- Comparative role of heredity and environment
- Aspects of development

**Unit II****Prenatal Development**

- Conception, stages of prenatal development
- Factors affecting prenatal development
- Common disorders during pregnancy
- Types and stages of birth process

**Unit III****Infancy (0-2 years)**

- Neonate-Their characteristics and behavioral patterns
- Evaluation and examination of health of neonate
- Formation of some healthy and good habits among Infants

**Unit IV****Early Childhood (2-6 years)**

- Physical and motor development, common motor skills
- Social and Emotional development (characteristics and common Emotions)
- Cognitive development

**Unit V****Late childhood (6-12 years)**

- Physical and motor development
- Personality development- characteristics
- Imagination and cognitive development
- Social relationship- peer, siblings and parents

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**References:**

1. Rice, F.P (1995). Human Development, New Jersey: Prentice Hall
2. Santrock, J.W. &Yussen, S.R. (1988). Child Development: An Introduction  
Iowa: Wm.C Brown Publishers
3. Cole, M. & Cole, S. (1993). The Development of Children (2nd Ed) New York:  
scientific American Books Freeman & Co.

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Core Course 3:

**Concept of Home Management****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 30 marks***Objectives:**

This course will enable the students:

To understand the significance of management in the micro and macro organization

To know the conceptual, human and scientific aspects of management functions

To develop the ability to evaluate the managerial efficiency and effectiveness in the family and other organizations

**Unit I****Management as a system**

Definition

Elements

Types

Application in family resource management

**Unit II****Management process**

Planning – objectives, principles, strategies, policies

Organizing – purpose, process, delegation, authority, responsibility and accountability, staffing, purpose, recruitment, appraisal directing, leadership, motivation and communication

Controlling and its tools

Appraisal

Evaluation

**Unit III****Ergonomics**

Definition

Scope and nature of ergonomics in domestic and other occupations

**Unit IV**

Time and energy management in study of ergonomics

**Unit V**

Work simplification process and time motion economy

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**Reference:**

1. Introduction Home Management by Bettye B. Swanson, Macmillan Publishing Company
2. Home - Today & Tomorrow by Ruth F. Sherwood
3. The House - its plan and use by Tersie Agan M.S. Oxford & IBH Publishing House
4. Management for Modern families by Gross Grandall, Knoll Prentice Hall, International INC, Englewood, New Jersey
5. GrihPrabanth by Manju Patni-----
6. GrihPrabandh and GrihVyavastha by Brinda Singh -----

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**Core Course 4:**

**Research Methodology and Statistics**

**05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

*Group A- Compulsory – ten questions (two questions from each unit) of two marks each.*

*2 x 10 = 20 marks*

*Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.*

*5 x 4 = 20 marks*

*Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.*

*10 x 3 = 30 marks*

**Objectives:**

This course will enable the students to:

- Develop a scientific approach and know the processes of research
- Develop the competence for selecting method and tools appropriate for research topics
- Understand concepts of statistical measures of central tendency, dispersion variability and probability

**Unit I**

**Foundation of Scientific Research**

- Research – meaning and definition
- Need of research in Home Science
- Necessary consideration for selecting a research problem
- Sources for locating a research problem

**Unit II**

Stages/steps involved in research process

- Research problem
- Literature Review
- Hypothesis
- Variables
- Methodology: sample, sampling technique, tools and tests, statistical devices
- Pilot study
- Test administration and data collection
- Scientific generalization
- Preparing the research report

**Unit III**

**Sample and Sampling techniques**

- Sample- Meaning, characteristics of a good/scientific sample
- Sampling techniques:
  - Probability sampling- Meaning and types
  - Non-probability sampling- Meaning and types

**Unit IV**

**Research Tools**

- Observation
- Questionnaire
- Interview
- Case study

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**Unit V****Concept of data**

- a. Types of data – Primary data and secondary data  
Qualitative and quantitative data
- b. Analysis of data – Qualitative and quantitative data analysis

**Reference:**

1. Bell, J (1997): Doing Your Research Project: A Guide for First-time Researchers in 1.3 Research process Education and Social Science, Viva Books, New Delhi
2. Bell, J (1997): How to Complete Your Research Project Successfully: A Guide for First time Researchers, UBSPD, New Delhi
3. Bulmer, M.C. (1984): Sociological Research Methods An Introduction, Macmillan, HongKong
4. Festinger, L. and Katz, D. (ed.) (1977): Research Methods in the Behavioral Sciences, Amerind Publishing, New Delhi
5. Holloway, I. (1997): Basic Concepts of Qualitative Research, Blackwell Science, London.
6. Jain, G. (1998): Research Methodology: Method and Techniques, Mangal Deep, Jaipur
7. Kothari, C.R. (2000): Research Methodology: Method and Techniques, WishwaPrakashan, New Delhi
8. Kumar, A. (1997): Social Research Method (The Art of Scientific Investigation), Anmol Publication, New Delhi
9. Kumar, A. (2000): Research Methodology in Social Sciences, Sarup and Sons, New Delhi.
10. Mc Burney, D.H. (2001): Research Methodology, Thomson-Wadsworth, Australia
11. Pande, G.C. (1999): Research Methodology in Social Science, Anmol Publication, NewDelhi

**Statistics****Unit I**

Meaning and characteristics of statistics, definition, importance, classification, tabulation, frequency curve, histogram and pie chart

**Unit II**

Measure of central tendency

- Mean – definition, merits, demerits and related programs
- Median – definition, merits, demerits and related program
- Mode – definition, merits, demerits and related program

**Unit III**

Measure of dispersion- meaning and types of dispersion, range, quartile deviation, standard deviation related problems, characteristics of dispersion

**Unit IV**

Correlation – definition, methods of correlation, product moment (Pearson) and rank difference

**Unit V**

Normal probability curve- definition and characteristics of normal probability curve, definition, types of skewness and kurtosis

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**Reference:**

1. GUPTA, S. (2001) Research Methodology and Statistical Techniques, Deep and Deep, New Delhi, 510p.
2. HOODA, R.P. (2003) Statistics for Business and Economics, 3rd ed., Macmillan India Ltd. Delhi, 855p.
3. DEY, B.R. (2005) "Textbook of Managerial Statistics", Macmillan India Ltd. Delhi, 318p.
4. Fleming, M.C. Nellis, Joseph G. (1997) "The Essence of Statistics for Business", Prentice-Hall of India, New Delhi, 270p.
5. Sarma, K.V.S. (2001) "Statistics made simple: Do it yourself on PC", Prentice-Hall, New Delhi, 257p.
6. Chakroorty, S.R. &Giri, N. (1997) "Basic Statistic". South Asian pub., New Delhi, 271p.
7. Das, M.N. (1989) "Statistical Methods and Concepts", New Age, New Delhi, 256p.
8. Elhance, D.N. (2000) "Fundamentals of Statistics [containing more than 750 solved and 1250 problems for review exercise]", Kitab Mahal, Allahabad, 1523p.
9. Goon, A. & Gupta, M &DASGUPTA, B. (2001) "Fundamentals of Statistics", Vol.1 &II. The World Press, Calcutta, 150p.
10. Gupta, S.P. (1996) "Practical Statistics", 37th ed. S, Chand, New Delhi, 563p.
11. Gupta, S.C (2000) "Fundamentals of Statistics", Himalaya Pub., Mumbai, 1343p.
12. Gupta S.P. (2000) "Statistics Methods", Sultan Chand& Sons, New Delhi, 1428p.
13. Gupta C.B. & Gupta, V. (1973) "An Introduction to Statistical Methods", Vikas publishing house pvt. Ltd. New Delhi, 829p.
14. Nagar, A.L. & Das, R.K. (1997) "Basic Statistics", 2nd ed. OUP, Delhi, 424p.
15. Shenoy, G.V. & Pant, M. (2006)" Statistics Methods in Business and Social Science", Macmillan India Ltd., Delhi, 288p.
16. Spiegel, Murray R. (1998) "Schaum's Outline of Theory and Problems of Statistics", 3rd ed. Tata McGraw-Hall Pub., New Delhi, 538p.
17. Triola, Mario F. (1998) "Elementary Statistics", 7th ed. Addison Wesley Longman, America, 804p.
18. Richard A. (1992) "Applied Multivariate Statistics Analysis", Prentice-Hall, New Delhi, 642p.

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## AECC - 1

- A - Environmental Sustainability**  
**B - Swachh Bharat Abhiyan Activities**

**(3 Credits)**  
**(2 Credits)**

Each credit requires 10 hours of teaching - learning for theory and 20 hours for practical, assignment and fieldwork.

**A - Unit-1 Environmental Ethics and Ecosystem** : Concept of sustainable development with reference to human values in western and Indian perspective, sustainable development and conservation of natural resources (nature, factors, structure, development and people participation) development, environment - rural and urban, concept of ecosystem.

**A - Unit- 2 Development and it's effect on Environment** : Environment pollution - water, air, noise etc. due to urbanization, industrial civilization, concept of global warming, climatic change, green house effect, acid rain, ozone layer depletion. Menace of encroachment of exotic plants particularly parthenium and trees, with special reference to impact on habit and habitat on indigenous flora and fauna.

**A - Unit-3 Concept of Bio-Diversity and it's Conservation:** Environmental degradation and conservation, Government policies, Social effects and role of social reforms in this direction. Role of science in conservation of environment, concept of three Rs (reduce, reuse, recycle). Need of environmental education and awareness program and ecological economics.

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**A - Unit-4 Swachh Bharat Abhiyan:** The concept of Swachhta as personal, Gandhian approach towards social and environmental moral values and concept of swachhta and its relation to moral upgradation of society and freedom struggle. Awareness programs related to swachhta. Role of Swachhagrahis in Swachh Bharat Abhiyan.

Sanitation and hygiene, why sanitation is needed, sanitation and human rights, plantation, value of nature, concept of community participation and role of state agencies. Case-study of sanitation, effects of cleanliness, diseases - infectious and vector - born idea of spread of diseases through body and other biological fluids and excreta.

**B - Unit - 5 Assignments/Practical/Fieldwork based on unit - 4**

Or

Alternative of unit - 4 and unit-5, a student can also enroll for Swachh Bharat internship program of MHRD

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## Semester - II

Course Opted	Course Name	Credits
CC - 5 (Core Course) (Discipline Specific Elective Course for other departments)	Therapeutic Nutrition	5 (5+0)
CC - 6 (Core Course)	Maternal and Infant Nutrition	5 (5+0)
CC - 7 (Core Course)	Management of Textile Crafts and Apparel Industry	5 (5+0)
CC - 8 (Core Course)	Communication Technology	5 (5+0)
CC - 9 (Core Course)	Women's Studies	5 (5+0)
AEC - I (Ability Enhancement Course)		5 (5+0)
<b>Total</b>		<b>30</b>

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## Semester - II

**Core Course: 5**

**Therapeutic Nutrition**

**05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

*Group A- Compulsory – ten questions (two questions from each unit) of two marks each.*

*2 x 10 = 20 marks*

*Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.*

*5 x 4 = 20 marks*

*Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.*

*10 x 3 = 30 marks*

### Objectives:

This course will enable the students to:

Understand the etiology, physiology and metabolic anomalies of acute and chronic diseases and patient needs.

Acquire basic knowledge about the effects of various diseases on nutritional status and dietary requirements.

Be able to provide required nutritional care and treatment of the various diseases

### Unit I

- Importance of nutrition in health and disease
- Importance of meal planning, factors to be considered while planning meal
- Dietary management in weight imbalance (obesity and underweight)

### Unit II

Prevalence, etiology, biochemical and clinical manifestations and therapeutic measurement of the following:

- Typhoid fever
- Tuberculosis
- HIV infection and AIDS

### Unit III

Prevalence, etiology, biochemical and clinical manifestations and therapeutic measurements of the following:

- Nutritional anemia
- Liver disorders: Jaundice, Hepatitis
- Diseases of the Cardio Vascular System
- Kidney diseases

### Unit IV

Types, causes, symptoms and dietary management of metabolic disorders

- Diabetes Mellitus
- Gout
- Cancer

### Unit V

Dietary counseling: Needs, objectives, steps and techniques

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**Practical**

Preparation of therapeutic diets - clear liquid diet, full fluid, soft and normal diet  
 Plan and prepare diet for the diseases covered in theory and calculate the nutrients  
 Plan a day's meal and calculate nutrients for following diseases:

- Weight Imbalance
- Fever
- Liver disease
- Cardio - vascular Disease (500mg and 1000mg sodium restricted diet)
- Renal disorders
- Metabolic disorder

**References:**

1. M. Swaminathan, Advanced Textbook on Food and Nutrition
2. R. C. Mishra, Health and Nutrition Education
- 3- vkgkj ,oaiks" k.k foKkua& MkWDVj c`ank flag
4. P. Jnaki Rao, Nutrition and Food Science
5. Shubhangini M. Joshi, Nutrition and Dietetics
6. B. Shrilaxmi: Dietetics, 4th Edition
7. F.P. Anita & Philip Abraham: Clinical Dietetics & Nutrition, 4th Edition
8. Carrol Lutz and Karen Przytulski: Nutrition and Diet Therapy

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Full Marks: 70

Time: 3 Hours

The pattern of question papers will be as under

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

$2 \times 10 = 20$  marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

$5 \times 4 = 20$  marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

$10 \times 3 = 30$  marks

### Objectives:

This course will enable the students be

Understand physiological changes during pregnancy and lactation.

Get acquainted with growth and developmental changes from conception till birth.

Understand the inter-relationship between nutrition and growth and development during a life cycle

### Unit I

Importance of Maternal nutrition prior to and during pregnancy, Effect of under nutrition on mother-child health, including pregnancy

Physiology and endocrinology of pregnancy, embryonic and fetal growth and development

Nutritional requirement during pregnancy

Complications of pregnancy, management and importance of antenatal care of at – risk mothers

Congenital malformation, fetal alcohol syndrome and gestational diabetes mellitus

### Unit II

Lactation

Development of mammary tissue and role of hormones

Human milk composition and factors affecting breast feeding and

Fertility, Management of lactation –breast feeding, Rooming in problems – sore nipples, engorged breast, inverted nipples etc.

### Unit III

Care and management of the preterm and LBW infants

Implications for feeding and management

### Unit IV

Menopause

Sign and symptoms

Problems

Management of dietary needs and health

### Unit V

Policies and programmes for promotion of maternal and child nutrition and health

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**References:**

1. M. Swaminathann : Food and Nutrition
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3. vks0ih0 VaMu &ekuo 'kjhjjpuk ,oafd; kfoKkua
4. vkgkj ,oaiks" k.k foKkua& MkWDVj Vhuk [kuwtk
5. Health Mathers : Archana Sinha
6. Nutrition and Child Development: 4th Edition, KE Elizabeth

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**Core Course: 7 Management of Textile Crafts and Apparel industry****5 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory - ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) - each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) - each question of 10 marks, three to be answered.**10 x 3 = 30 marks***Objectives:**

This course will enable the students:

To understand the various textile crafts of India

To enhance awareness regarding the history and production centers of the traditional textile crafts of India

To understand the aspects of management regarding designing, merchandising and mass media

To highlight certain important aspects of the apparel industry

To signify the role of traditional textile crafts in economic development

**Unit I****Study of Textile Crafts of India: history, production centers, techniques, designs, colors and products**

Woven textile of India- Banaras Brocades, jamdanis and Baluchars of Bengal, kanni Shawls of Kashmir

Embroidered textiles of India- Kantha of Bengal, Kasuti of Karnataka, Phulkari of Punjab, Chickankari of Uttar Pradesh, Kashida of Kashmir

Painted and Printed textiles of India- Kalamkari of Andhra Pradesh, Dabu printing of Rajasthan, Ajarakh prints of Gujrat

Dyed textiles of India- Bandhanis of Rajasthan and Gujrat, Ikats-Patola of Gujrat, Bandhas of Orissa, Pochampalli of Andhra Pradesh

**Unit II****Elements used in creating a design**

Color- Color harmony, its sensitivity and composition in dress

Motif development-Geographical, simplified, naturalized, stylized, abstract and ornamental

Components of fashion- Silhouette, details, color, fabric, texture

**Unit III****Principles of Merchandising**

Types of merchandising


Role of retailing in merchandising


Visual Merchandising- Plan &amp; Schedules, Types of display, Elements of display

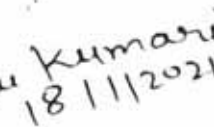
**Unit IV****Role of Mass Media in Fashion**

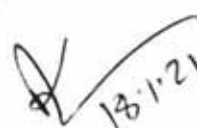
Role of Mass Media in promoting fashion

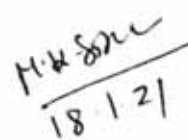
Impact of Mass Media on fashion

  
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**Unit V****Cultural and Economic Empowerment through Textile Crafts**

Textile crafts in National economy

Evolution and socio-economic significance of Khadi, Handloom and Handicraft sector

Sustenance of traditional textile crafts

Interventions by organizations

**Reference:**

1. J. Anderson Black, Muidge Garland, A History of Fashion, Orbis Publishing Ltd, London
2. Broucher Francois, A History of Costume in the West, Thames and Hudson.
3. Sharon Lee Tete, Inside Fashion Design, Harper and Row Publishers, New York.
4. Kathryn Samuel, Life Styles, Fashion Styles, Orbis Publishing Ltd. London.
5. Carter E. (1977), The Changing World of Fashion, G.P. Putnam's Sons, New York.
6. Carr H. and Pomery J. (1992), Fashion Design and Product Development, Blackwell Scientific Publications, London, Edinerg.
7. Complete guide to Sewing. Reader's Digest Association, New York.
8. Creative Clothing Construction, McGRAW Hill, 1973

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**Core Course:8****Communication Technology****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 30 marks***Objective:**

- Develop understanding regarding various aspects of communication.
- Develop understanding regarding various audio-visual aids used for various groups: individual, group, mass.
- Develop ability to prepare, operate use of various audio-visual aids.

**Unit I****Concept of Communication**

- Definition, meaning and nature of communication
- Process, elements and models of communication
- Barriers in communication

**Unit II****Forms of Communication**

- Verbal and non-verbal
- Intra, inter, group, mass

**Unit III****Mass Media**

- Types, roles and characteristics
- Uses of – Electronic and traditional media

**Unit IV****Adoption and Diffusion**

- Concept of adoption
- Innovation and diffusion
- The Adoption process
- The Innovation –Decision process
- Adopter categories

**Unit V****Introduction to Information Communication Technology (ICT)**

- Satellite broadcasting, electronic media and computer Technology
- Role of ICT in Extension work and development

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**References:**

1. Dale (1964), Audio-visual Methods of Teaching, Holt, Rinhart and Wintson, London.
2. Brown et al (1983), A.V. Instruction Technology, Media and Methods, 6<sup>th</sup> Edition, Mc Graw Hill Book Co. New York.
3. Joshi Uma (1997), Text book of Mass Communication and Media, Anmol Publications, New Delhi.
4. Joshi Uma (2001), Understanding Development Communications: Domincent Publishers, New Delhi.
5. Sandhu Anoop Singh(1996), Extension Programme Planning, Oxford and JBH

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**Core Course 9:****Women's Studies****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.  $2 \times 10 = 20$  marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.  $5 \times 4 = 20$  marks* *$10 \times 3 = 30$  marks***Objectives:**

To develop awareness regarding status of women in India and sensitivity of women's issues and concerns

To enable women to become champions/ well equipped in the changing society

To empower women in their struggle against inequality and gender bias

To become aware of the comprehensive and balanced understanding of social reality

**Unit I**

Women in Indian Civilization down the ages, Status of Women in ancient India- Vedic age, Pauranic Period, Mauryan Period, Gupta, Medieval, Feudal Period, Buddhist Period, British Period, Women in Post-independence period

**Unit II**

Relevance of Women's Studies

Sources and growth of Women's Studies

**Unit III****Issues related to Crime against Women in India**

Child marriage

Female feticide

Dowry

Sati

Honor killing

Rape and Sex abuse

Trafficking

Domestic Violence

**Unit IV****Personal and Civil Laws related to Women**

Dowry prohibition Act

Divorce and maintenance Law

Marriage Registration Act

Domestic Violence Act 2005

Pre-Natal Diagnostic Act

Laws against feticides

Medical Termination of Pregnancy (MTP) Act, 1971

Immoral Traffic Prevention Act

Indecent Representation of Women (Prohibition) Act 1986

Law against Sexual Harassment at workplace

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**Unit V****Women's Welfare Programme****Reference:**

1. Asthana P. (1974), Women's Movement in India, Vikas Delhi
2. Antony M.J. (1985), Womens Rights: Dialogue, New Delhi
3. Okim S.M. (1989), Justice, Gender and Family, Basic Book, New York
4. Pant N. (1995), Status of Girl Child and Women in India, Delhi, APH
5. Girl Child in india - DevasiaLeelamma
6. Srivastava T.N. (1985), Women & Law" Intellectual, New Delhi
7. Baker H.A. Berheide, G.W. and Others (Eds), 1980, Wome Today: A Multidisciplinary Approach to Women's Studies, Books/Cole Publications
8. Desai N. & Patel. V., Indian Women: Change and Challenges in the International Decade: Popular Prakashan, Bombay
9. Gupta, N.K. & Sudan I.K. (1990), Women at work in Developing Economy, Amol, New Delhi
10. Parashar, A(1992), Women and Family Law reforms in India: Uniform Civil Code and Gender Equality, Sage Publications, New Delhi
11. Namita Agrawal, Women and law, New Century Publication, New Delhi
12. Vianellow M. & Siemienska R. (1990), Gender Inequality: A Comprehensive Study of Discrimination and Participation, Sage Publications, London
13. Sharma U. (1989), Brides are not for burning: Dowry Victims in India, Radiant, New Delhi
14. Women in a Changing Society by S.K. Ghosh

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## Semester- III

Course Opted	Course Name	Credits
CC - 10 (Core Course)	Food Processing	5 (5+0)
CC - 11 (Core Course)	Food Science and Experimental Food	5 (5+0)
CC - 12 (Core Course)	Institutional Food Management	5 (5+0)
CC - 13 (Core Course)	Community Nutrition	5 (5+0)
CC - 14 (Core Course)	Practical	5 (0+5)
AECC - 2 (Ability Enhancement Compulsory Course)	Human Values & Professional Ethics & Gender Sensitization	5 (5+0)
<b>Total</b>		<b>30</b>

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## Semester - III

Core Course 10:

Food Processing

05 Credits

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

$2 \times 10 = 20$  marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

$5 \times 4 = 20$  marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

$10 \times 3 = 30$  marks

### Objectives:

This course will enable the students be

Acquire necessary knowledge of basic principles and procedures in the production of important food products

Gain basic knowledge about food processing and technology.

Understand food standard and related laws

### Unit I

Food spoilage, role of microorganisms, food borne hazards of microbial origin

### Unit II

Food preservation – principles & methods

Physical principles in undertaking food processing operation including thermal processing, ionizing, radiation, refrigeration, freezing and dehydration, Mineral processing

### Unit III

Basic principles of food product development need and types of food

Extruded foods- merits, demerits and use of Extruded foods

Organic Foods, Processing and packaging of Organic Foods and programme for production

Product evaluation techniques -censoring evaluation and product testing

Fermentation technology – fermentation, enrichment and fortification

### Unit IV

Packaging technique – packaging materials, types of packaging effects of packaging on nutritive value of foods, latest trends in packaging

Food labeling – definition, principles of labeling, nutrition labeling – research and testing

### Unit V

Food standards and laws

Food additives, food color, flavoring agents, preservative, and antioxidants, emulsifying agents, and stabilizing agents

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**References:**

1. Food processing and bioactive compounds - Y. S. Reddy
2. Food preservation and processing - Kalia Manoranjan Sood Sangita
3. Food Technology Processing and Laboratory Control - F. Aylword
4. Food Preservation and Processing - Kalin M

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**Core Course 11:****Food Science and Experimental Food****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under*

Group A- Compulsory – ten questions (two questions from each unit) of two marks each.

 $2 \times 10 = 20$  marks

Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.

 $5 \times 4 = 20$  marks

Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.

 $10 \times 3 = 30$  marks**Objectives:**

To acquire knowledge regarding food groups

To gain knowledge regarding cooking methods applied for specific food items

**Unit I****Introduction to food science:**

Aims and objectives of the study of food science

Food acceptability by variation in color, flavor and texture

Physiochemical properties of food

**Unit II****Carbohydrates in foods**

Sugar – Sources, properties and uses, stages of sugar cookery

Starch – Sources, properties and uses, processed cereal products

**Unit III****Protein cookery**

Pulses – composition, methods of cooking, germination and fermentation

Meat – structure, common types, changes occurring during cooking of meat

Fish – types, characteristics of fresh fish, cooking and preservation

Egg – structure, methods of cooking, uses of egg indifferent

preparations, Milk – composition, effect of heat on milk, uses in cookery

**Unit IV****Vegetables and fruits**

Classification, composition, color/pigments, effects of cooking on vegetables, Fruits-

Classification, composition, effect of heat and methods of preservation

**Unit V**

Nuts and oilseeds – composition and uses in cookery

Beverages and appetizers- coffee, tea, fruit beverages and alcoholic beverages, milk based beverages, carbonated, non-alcoholic beverages and alcoholic beverages

**References:**

1. Charley H. (1982), Food Science, 2nd Edition, John Wiley and Sons, New York
2. Potten N and Flotch Kiss. JH (1996), Food Science, 5th Edition, CBS, Publishers and Distributors, New Delhi
3. Food Chemistry and Experimental Foods by M. Swaminathan, Ganesh & Co., Madras
4. Sri Laxmi (2005), Food Science, 3rd Edition, New Age International Publisher

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**Core Course 12:****Institutional Food Management****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A Compulsory - ten questions (two questions from each unit) of two marks each.**Group B Five questions (one from each unit) - each question of 5 marks, four to be answered**2 x 10 = 20 marks**Group C Five questions (one from each unit) - each question of 10 marks, three to be answered.**5 x 4 = 20 marks*  
*10 x 3 = 30 marks***Objectives:**

This course is designed to:

Provide practical field level experience in food administration

Equip the students to have knowledge about various food service systems

Impart knowledge of quantity cookery and quality control in food administration

**Unit I**

Food service system and their development

An introduction to Food Service Industry

**Unit II****Food Service System Planning and Management Planning**

Strategies in planning

Kitchen layout planning

Pricing of product

**Management**

Organization and Management

Personnel management

Cost control

Sanitation and safety

**Unit III****Food Service Operations****Food management**

Menu planning

Food purchase

**Quantity Food Production**

Kitchen production

Quantity Food production

Food cost control

**Service Management**

Delivery and service of foods in different systems

**Unit IV**

Management of Social Institutes - family as an institutes, child care and geriatric institutions

**Unit V**

Community Health and Nutrition programs in India

**References:**

1. West & Wood "Food service in Institutions - John Wiley & Sons, 1977
- 2- dqedqe ,oafceyklkbeu] vkgkjsokizca/k A
3. Mohini Seth, Institutional Food Management, New Age International Publishers

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**Core Course 13:****Community Nutrition****05 Credits**

Full Marks: 70

Time: 3 Hours

*The pattern of question papers will be as under**Group A- Compulsory – ten questions (two questions from each unit) of two marks each.**2 x 10 = 20 marks**Group B- Five questions (one from each unit) – each question of 5 marks, four to be answered.**5 x 4 = 20 marks**Group C- Five questions (one from each unit) – each question of 10 marks, three to be answered.**10 x 3 = 30 marks***Objectives:**

- Equip the community/ public to have knowledge about various nutritional problems and their prevention
- Understand the causes and consequences of nutrition problem in society
- Acquire basic knowledge about various approaches to nutrition and health programmes
- Gain basic knowledge about food consumed by the community
- To assess nutritional status of the community

**Unit I**

- Concept of Public Nutrition, relationship between health and nutrition
- Nutritional problems prevalent in India and measures to combat them
- Bone health problems and dietary management

**Unit II**

- Assessment of nutritional status
- Direct – Anthropometric, clinical and Biochemical, Indirect – Vital Static diet survey

**Unit III**

- Nutrition Education – objectives, planning, evaluation of nutrition education programme
- Selection of effective nutrition education method

**Unit IV****National and international agencies involved in women and child welfare**

- National agencies – ICDS, ICMR, ICAR and NIPCCD
- International agencies – WHO, FAO, UNICEF

**Unit V**

- Primary health care of the community – National health care delivery system, Indicators of Health

**References:**

1. vkgkj ,oaiks" k.k foKkua& MkWDVj izfeykoekZ] MkWDVj dk;fr ik.Ms;
2. ekRdyk ,oaf" k'kqdY;k.k& MkWDVj c' ank flag
3. O;kogkjfdvkgkjfoKkua ,oavkgkjfpfdRlk&xhrk iq"i 'kkg] tk;ql 'khyk 'kkW
4. Child Nutrition & Primary Education: Surendra Nath Mishra, MaharanjanBehera
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**Core Course 14:****Practical****05 Credits**

Full Marks: 70

Time; 4 Hours

**Core Course: 10****Food Processing**

- Physical principles in freezing and dehydration processing
- Chemical principle in food processing – Chemical changes in food that affect texture, sanitation and waste disposal
- Packaging – Latest trends in packaging, function and management.
- Food labeling – Definition, principles, nutritional labeling, food standards and laws.
- Quality control – risk analysis, Hazard Analysis Critical Control Point System (HACCP)

**Core Course: 11****Food Science and Experimental Food**

- Crystallization of sugar, stages of sugar cookery, preparation of peanut brittles, gulab jamun
- Study of changes occurring during cooking of meat, fish and egg Preparation of meat roast and minced meat fried and steamed fish, poached egg, omelets, mayonnaise
- Effect of soaking and germination- preparation of dishes from soaked germinated grams sattu- litti and kheer
- Use of different methods of cooking vegetables and their effect on nutrients, steps to minimize losses
- Gelatin and frozen desserts – factors affecting ice crystal formation

**Core Course:12****Institutional Food Management**

- Running and managing a food service institution cafeteria
- Quantity cookery – standardized portions
- Visit to various food service institutions.

**Core Course:13****Community Nutrition**

- Development of low cost recipes for infants, preschoolers, elementary school children, adolescents, Pregnant and lactating mothers.
- Planning of cyclic menus for *balwadi*/nursery school, mid-day snack/school lunch.
- Survey: Dietary surveys and assessment of nutritional status
- Visits to the ongoing public health nutrition programmes

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AECC - 2

**Human Values & Professional Ethics &  
Gender Sensitization**

(Credits - 3)  
(Credits - 2)  
Credits - 5

**(1 credit requires 10 hours of theory and 20 hours of practical/assignment/fieldwork)**

**Unit - 1: Variety of Moral Issues, Principles of Ethics and Morality**

Understanding the harmony in society (society being an extension of family), integrity, work ethic, courage, empathy, self-confidence, professional ideas and virtues. Ethics as a subset of morality, ethics and organization, duties and rights of employees and employers. "

**Unit - 2: Holistic Approach to Corporate Ethics:-**

Vedantic ethics - Tagore, Vivekanand, Gandhi and Aurobindoethics, Ethics in finance, business environment, professional rights, Intellectual Property Rights, Corporate Responsibility, Social Audit and Ethical Investing, Computer and Ethics

**Unit - 3: Professional ethics**

Augmenting Universal Human Order, Characteristics of people- friendly and eco-friendly production, Strategy for transition from the present state to universal human order, At the level of individual - as socially and ecologically responsible, technologist and managers, at the level of society - as mutually enriching institutions and/or organizations. Case studies of typical holistic technologies and management patterns.

**Unit - 4: Gender - An overview**

Gender: Definition, nature and evolution, culture, tradition, historicity: gender spectrum-biological, sociological, psychological conditioning: Gender based division of labour -domestic work and use value.

**Unit - 5: Gender - Contemporary perspective**

Gender justice and human rights: international perspective. Gender - constitutional and legal perspective. Media & gender, Gender: emerging issues and challenges

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## Semester- IV

Course Opted	Course Name	Credits
EC - 1 (Elective Course)	Practical Approach to Writing Research Activities	5 (0+5)
EC - 2 (Elective Course)	Internship/Dissertation/ Project/Seminar	5 (0+5)
GE -1 (Generic Elective)		5 (5+0)
<b>Total</b>		<b>15</b>

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## Semester- IV

**Elective Course 1:                    Practical Approach to Writing Research Activities**

**05 Credits**

Time: 4 Hours

Full Marks: 70

### Unit I

#### Writing for Grants – and Aid

Getting familiar with the proposal format of different funding agencies: National and International level  
 Project proposal presentation  
 Proposal for Seminar/ Conference / Workshop

### Unit II

#### Different forms of research writing

Dissertation  
 Project report  
 Articles in Journals  
 Research notes and reports  
 Review of article  
 Review of books

### Unit III

Power Point Presentation of any one from Unit I & II

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**Elective Course2: Internship / Dissertation / Project / Seminar 05 Credits**

**Internship Project:**

The students shall be required to undergo and internship project for a total duration of 4-6 weeks in their chosen area of interest/ specialization /optional group that will facilitate their pursuing a professional career in the same field. They will be assigned the project work to be completed during the break after second semester. The organization/ institute (public/private) providing internship facility to students should stand as good professional career support. The students will be required to submit and present a report of the internship project after completion of the same. It is also envisaged that the participating organization / institution will give the performance appraisal of the students work at the end of internship period.

**Dissertation:**

Every student shall be allotted a research supervisor. The research supervisor shall be from the Department of Home Science and if the topic so requires the co-guide could be from other semester. The topic of research will be finalized by the research supervisor in consultation with the Head of the Department. It is the responsibility of the research supervisor that the student is making the required progress in work. The student will have to give a presentation on the research proposal and a seminar on the findings of research before submitting the dissertation. The suggestions and constructive criticism of the faculty should be made use of by student for further improving the draft of the dissertation. The study must be completed and submitted in the form of a dissertation by the end of the final year. Normally, the M.A. Dissertation is expected to cover 60-80 pages of A4 size, excluding bibliography and appendices. Three copies of the same should be submitted to the Department of Home Science. Each student submitting a dissertation must also submit three copies of the abstract of her dissertation not exceeding 300 words, excluding the title. Marks will be awarded, for research seminars practical exercises and viva-voce examination. Student shall give a formal presentation of the report before the jury comprising of minimum three internal faculty members including internal supervisor who will be appointed by the Director of the college. The external marks will be awarded the external examiner to be appointed by the examination division of the university. The format of the report is given below:

1. Research Objective
2. Literature Review
3. Research Methodology
4. Results and Analysis
5. Conclusion
6. References
7. Appendices – to include questionnaire, if any

Dissertation shall incorporate the certificate given by the internal supervisor regarding its satisfactory completion.

**Seminar**

A seminar will be presented based on the Dissertation

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## AECC-1

### **A- Environmental Sustainability (3 Credit)**

### **B- Swachha Bharat Abhiyan Activities (2 Credits)**

**Each credit requires 10 hours of teaching- learning for theory and 20 hours for practical assignment field work.**

**A-Unit -1** Environmental ethics & ecosystem: Concept of sustainable development with reference to human values in western and Indian perspective, sustainable development & conservation of natural resources (Nature, factors, structure, development and people participation) development, environment- rural and urban, concept of Ecosystem.

**A-Unit -2** Development and its effect on environment: Environment Pollution - water, air, noise etc. due to Urbanisation, Industrial civilization, Concept of Global Warming , Climatic Change, Green House Effect, Acid rain, Ozone layer depletion. Menace of encroachment of exotic plants particularly parthenium and trees with special reference to impact on habit & habitat on indigenous flora & fauna.

**A-Unit -3** Concept of Bio-diversity and its conservation: Environmental Degradation and conservation. Govt. Policies, Social effects and role of social reforms in this direction. Role of science in conservation of environment concept of Three 'R' (reduce, reuse, recycle). Need of environmental education and awareness programme and ecological economics.

**B-Unit -4** Swachha Bharat Abhiyan: The concept of Swachhata as personal, Gandhian approach towards social and environmental moral values & concept of swachhata and its relation to moral upgradation of society and freedom struggle. Awareness Programme related to Swachhata. Role of 'Swachchagrahis' in Swachha Bharat Abhiyan.

Sanitation and hygiene, why sanitation is needed, sanitation and human rights, plantation, value of nature, concept of community participation and role of state agencies. Case study of Sanitation, effects of cleanliness, diseases - infectious and vector – born Idea of spread of diseases through body and other biological fluids and excreta.

**B-Unit-5** Assignment/Practical/field work based on unit-4

or

Alternative to unit-4 and unit-5 a student can also enrol for Swachha Bharat Internship programme of MHRD.

**Human Values and Professional Ethics (3 Credits)****Gender Sensitization (2 Credits)**

**(One credit requires ten hours of theory and twenty hours of practical/assignment/field work)**

**Unit – 1: Variety of Moral Issues, Principals of Ethics and Morality:-**

Understanding the Harmony in the Society (society being an extension of family), Integrity, Work Ethic, Courage, Empathy, Self Confidence, Professional Ideas and Virtues. Ethics as a Subset of Morality, Ethics and Organizations, Duties and Rights of employees and employers.

**Unit – 2: Holistic approach to corporate ethics:-**

Vendantic Ethics – Tagore, Vivekanand, Gandhi and Aurobindo on Ethics, Ethics in Finance, Business and Environment. Professional Rights, Intellectual Property Rights, Corporate Responsibility. Social Audit and Ethical Investing, Computer and Ethics.

**Unit – 3: Professional Ethics:-**

Augmenting Universal Human Order, Characteristics of people-friendly and eco-friendly production, Strategy for Transition from the Present State to Universal Human Order, At the Level of Individual- as Socially and Ecologically Responsible Technologists and Managers, At the Level of Society- as Mutually Enriching Institutions and Organizations. Case studies of typical holistic technologies and management patterns.

**Unit – 4: Gender – An Overview:-**

Gender: Definition, nature and evolution. culture, tradition, historicity; Gender spectrum: biological, sociological, psychological conditioning; Gender based division of labour – domestic work and use value.

**Unit – 5: Gender – Contemporary perspectives**

Gender justice and human rights: international perspectives, Gender : constitutional and legal perspectives, media & gender, Gender: emerging issues and challenges.

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GE-111

<b>Generic Elective (GE) course</b>	
<b>Course title: Human Rights</b>	
<b>Course code: GE-1</b>	<b>Credit 5</b> (There shall be 5 units each consisting of one credit)
<b>Course offered in: Semester- IV</b>	
<b>Course content:</b>	
<b>Unit</b>	<b>Topics</b>
I	<b>Conceptual Aspects of Human Rights</b> a. Meaning and Concept of Human Rights b. Human Rights, Natural Rights, Civil Rights, Political Rights and Legal Rights.
II	<b>Evolution of the Concept of Human Rights</b> a. Magna Carta, The united state declaration of Independence: The French Declaration of the Rights of Man and the Citizen: United state Bill of Rights: Geneva Convention of 1864: Universal declaration of Human Rights, 1948. b. International Bill of Rights, Significance of Universal Declaration of Human Rights International Covenant on Civil and political Rights, International Covenant on Economic, Social and cultural Rights.
III	<b>Diversity, Multiculturalism and Human Rights</b> a. Value of Diversity: Collective Cultural Rights and the Idea of Universal Human Rights: Multiculturalism and Minority Rights: protection and promotion of Human Rights in Multicultural Societies. b. Beyond Universal Human Rights: Universalism of human Rights: Nation-State and the Right to national Self-Determination: state Sovereignty and the Politics of Universal Human rights.
IV	<b>Theoretical aspects of Human rights.</b> a. Theories of Human rights-Liberal Perspective-Locke, Rousseau, J.S. Mill, Marxian Perspective-Marx, Gramsci b. Feminist Perspective of Human Rights.
V	<b>Assignment / Field Work based and Unit I, II, III and IV.</b>

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Ability Enhancement Course (AEC) or Skill Enhancement Course (SEC)	
<b>Course title: : Environmental Law and Policy</b>	
<b>Course code: AEC-1/SEC-1</b>	<b>Credit 5</b> <b>(there shall be 5 units each consisting of one credit)</b>
<b>Course offered in: Semester- II</b>	
<b>Course description:</b> Law and policy plays a major role in the conservation and management of natural resources as well as pollution control. This course intends to introduce the students to the vast field of Environmental Law and Policy. The course would be divided into three broad areas. The first part would cover the basic concepts and principles of Environmental Law. This would include judicial precedents, which now forms an essential part of environmental jurisprudence. The second part would be divided into specific introductory modules on forests and wild life including bio-diversity related laws; Air and Water related laws including mega projects and marine laws; and laws relating to hazardous substances. The third part would discuss the role of judiciary including the National Green Tribunal in protecting the environment.	
<b>Course objectives:</b>	
<ol style="list-style-type: none"> <li>To provide an overview of the law and policies relating to environment both at the national and international level.</li> <li>To critically analyse the implementation of these laws and the role of adjudicatory bodies in the field Of environment.</li> </ol>	
<b>Course content:</b>	
Unit	Topics
I	<b>Introduction:</b> Environment: meaning and components Environment vs Development debates, trigger events, business and environmental law, a brief introduction to SDGs. Introduction to environmental laws in India; Constitutional provisions, an overview of the laws General principles in Environmental law: Precautionary principle; Polluter pays principle; Sustainable development; Public trust doctrine.
II	<b>Forest, Wildlife and Biodiversity related laws:</b> Evolution and Jurisprudence of Forest and Wildlife laws; Colonial forest policies; Forest policies after independence. Statutory framework on Forests, Wildlife and Biodiversity: IFA, 1927; WLPA, 1972; FCA, 1980; Biological Diversity Act, 2002; Forest Rights Act, 2006. Strategies for conservation–Dolphin, Tiger, Elephant, Rhino
III	<b>Air and Water Laws</b> National Water Policy Laws relating to prevention of pollution, access and management of water and institutional mechanism: Water Act, 1974; Water Cess Act, 1977, EPA, 1986. Pollution Control Boards Ground water and law Legal framework on Air pollution: Air Act,1981; EPA, 1986 as amended to date including rules and notifications issued under it.
IV	<b>Environment protection laws and large Projects</b> Legal framework on environment protection-Environment Protection Act as the framework legislation–strength and weaknesses; EIA. Marine laws of India; Coastal zone regulations, Wetland conservation.
V	<b>Judicial remedies and the role of National Green Tribunal</b> Role of judiciary in environmental protection; Infrastructure projects and the Indian judiciary.

*Prac*  
20/06/2018

*[Signature]*  
20/06/2018

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**Learning outcomes:**

On completion of this course, the students would:

1. Have a strong foundation to undertake specialized courses in the field of environmental laws and policy
2. Develop an inter-disciplinary approach to the issues relating to environment.

**Assignments:**

1. Environmental laws in India
2. Evolution and Jurisprudence of Forest and Wildlife laws
3. Legal framework on Air pollution
4. Biological Diversity law
5. Role of judiciary in environmental protection
6. Air Laws
7. Water Laws
8. Wetland conservation etc.