

**Shri Dev Suman University New Tehari**

**Uttarakhand**

**SYLLABUS AND ORDINANCES**

**Wef – 2015-16**

**SYLLABUS**

**OF**

**M.Sc. (HOME SCIENCE)**

**(HUMAN DEVELOPMENT)**

**(FOOD & Nutrition)**

**(TEXTILE AND CLOTHING)**

**P.G. Course**

**Shri Dev Suman University New Tehari**

**Uttarakhand**

**SYLLABUS AND ORDINANCES**

**Wef – 2015-16**

**SYLLABUS**

**OF**

**M.Sc. (HOME SCIENCE)**

**(HUMAN DEVELOPMENT)**

**P.G. Course**

DEPARTMENT OF HOME SCIENCE  
**Shri Dev Suman University New Tehari**  
 SYLLABUS OF M.SC.HUMAN DEVELOPMENT

**SEMESTER -1**

Paper Theory	Name	Max. Internal	Exam Duration
I	Theories of Human Development	100(80+20)	3 hrs
II	Methods of Studying Human Development.	100(80+20)	3 hrs
III	Study of Family in Society	100(50+20)	3 hrs
IV	Computer Application	100(40+20)	3 hrs
V	Early Childhood care and Education	100(40+20)	3 hrs

Paper Practical	Name	Max. Marks	Exam Duration
VI	Methods of Studying Human Development.	50	3 hrs
VII	Early Childhood Care and Education	50	3 hrs
VIII	Computer Applications	50	4 hrs

Total = 150

Grand Total = 600

\*Internal Assessment

**DEPARTMENT OF HOME SCIENCE**  
**Shri dev Suman University New Tehari**  
**SYLLABUS OF M.SC. HUMAN DEVELOPMENT**

**SEMESTER –I**

<b>Paper Theory</b>	<b>Name</b>	<b>Max. Marks</b>	<b>Exam Duration</b>
I	Theories of Human Development	75 (60 + 15*)	3 hrs
II	Methods of Studying Human Development	75 (60 + 15*)	3 hrs
III	Study of Family in Society	80 (60 + 20*)	3 hrs
IV	Computer Applications	50 (40 + 10*)	3 hrs
V	Early Childhood Care and Education	80 (60 + 20*)	3 hrs

**Total 360**

<b>Paper Practical</b>	<b>Name</b>	<b>Max. Marks</b>	<b>Exam Duration</b>
VI	Methods of Studying Human Development	40	3 hrs
VII	Early Childhood Care and Education	60	3 hrs
VIII	Computer Applications	40	4 hrs

**Total 140**

**Grand Total 500**

\* Internal Assessment

**Semester-I**  
**Paper-I**  
**Theories of Human Development**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. Meaning and significance of theories of Human Development.
2. Freud's psychoanalytic theory, current status.
3. Neo-Freudians-Alfred Adler, Carl Gustav Jung, Eric Erickson.
4. Learning theory:  
Pavlov, Skinner, Current Status of learning theory.
5. Language development theory of Chomsky.

**Unit-II**

5. Cognitive Development theory.  
Piaget's theory, Neo-Piagetian studies
6. Social learning theory-Bandura's theory
7. Lewin's field theory.
8. Theories of personality.  
Vygotsky, Roger's Self Theory.
9. Ecological theory Urie Bronfenbrenner

**References**

1. Aries, P. (1962). *Centuries of Childhood*. New York: Knopf.
2. Crain, W. (1992). *Theories of Development, Concepts and applications*. New Jersey: Prentice
3. Hall, James, A. and Prout, J. (Ed.). (1990). *Constructing and Reconstructing Childhood*. London: Falmer Press.
4. Kakar, S. (1977). *Culture And Psyche- Selected Essays*. Delhi: Oxford University Press.
5. Kakar, S. (1978). *The Inner World*. Delhi: Oxford University Press.
6. Roland, A. (1989). *In Search of Self in India and Japan*. Princeton, NJ:

Princeton University Press.

7. Roland, A. (1996). Cultural pluralism and psychoanalysis. New York: Routledge.

8. Smith, JA, Harre, R., and van Lange hove, L (1995) Rethinking Psychology. London: Sage.

9. Vasta, R. (ed.). (1992). Six Theories of Child Development: Revised formulations and current issues.

London: Sessica Kingsley Publishers Ltd.

**Semester-I**  
**Paper-II**  
**Methods of Studying Human Development**

Max. Marks: 75

Theory Exam: 60

Int. Assessment: 15

Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. Uses and History of Psychological tests.
2. Concept of measurement and evaluation.
3. Units of measurement - Scale, Norms and Transformation.
4. Methods of studying Human Development. Observation, Interview, Questionnaire, Case study method, sociometry, psychometric.

**Unit-II**

5. Anthropometry: Body landmark, instruments, Height, weight and other measurement of nutritional status.
6. Reliability and Validity.
7. Techniques of evaluation with special reference to Intelligence, personality, Interests and Aptitudes.

## References

1. Aylward, G. (1994). Practitioner's guide to developmental and psychological testing. New York: Plenum Press.
2. Blaxter, L., Hughes, C. and Tight, M. (1999). How to Research, New Delhi: Viva Books.
3. Hayes, N. (ed). (1997). Doing Qualitative Analysis in Psychology. Hove: Psychology Press.
4. Smith, J.A., Harre, R., and van Langenhove, L. (1995). Rethinking Psychology. London: Sage.
1. Yin, R. (1994). Case study research: Design and methods (2nd ed.) Beverly Hills, CA: Sage Publication.
6. Nagpal, R. and Sell, H. (1985). Subjective well-being inventory. New Delhi: World Health Organization

**Semester-I  
Paper-III  
STUDY OF FAMILY IN SOCIETY**

Max. Marks: 80  
Theory Exam: 60  
Int. Assessment: 20  
Duration of Exam: 3 hrs

### NOTE:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

#### Unit-I

1. The family in social context:
  - Family as a component of social system
  - Function's of family
  - Family life cycle
2. Socio-cultural studies of family pattern in India.
  - Family structure and forms

- Alternate families-Single parents, childless, cohabitation marriage without children.
  - Family patterns in India-Tribal, Rural, Urban.
  - Role relationship in the family.
  - Sex roles and division of labour
  - Cause and effect of family structure on changing roles of family.
  - Kinship in India.
  - Sociological significance of family.
3. Approaches to the study of the family.

### Unit-II

4. Types of family crises and coping strategies- financial, behavioural, interpersonal relationships and health.
5. Contemporary issues and concerns
- Family violence, child maltreatment, sexual abuse(child abuse)
  - Gender role
  - Divorce and remarriage
  - Family planning
  - Effect of industrialization on family
  - Major world trends in family patterns.
6. Family and societal exchanges/influences.
- Education and family
  - Health and family
  - Ecology and family
  - Religion and family.
7. Disadvantaged family- its needs, problems and support mechanism.

### References

1. Adams, B.N. (1975). *The Family: A sociological interpretation*. Chicago: Rand Mc Nully.
2. Ahuja, R (1997). *Indian Social System (2nd Ed.)*. Jaipur: Rawat.
3. Arcus, H.E. and Others (1993). *Handbook of Family Ufe Education: The Practice of Family life education (Vol. II)*. N.Y.: Sage.
4. Bahr, S.J. (1989). *Family Interaction*. N.Y.: Macmillan.
5. Bharat, S & Desai, M. (1995). *Indian Bibliographies on the Family*. Bombay: Tata Institute of Social Sciences.
6. Bharat, S. (1996). *Family measurement in India*. New Delhi: Sage.
7. Cole mar, J.C. (1988). *Intimate relationships: Marriage and family patterns*. N.Y.: Macmillan.
8. Coorer, R (1975). *Family: Its structure and functions*. New York: Macmillan.
9. Das, H.S. & Bardis, P.O. (Eds ) (1978). *The World Revolution in Family*



Patterns. New York: The Free Press.

10. Hoover, H.M. & Hoover, H.K. (1979). Concepts and methodologies in family: An instructor's resource handbook. Boston: Allyn & Bacon.

11. Jahan, R. (1995). The elusive agenda: Mainstreaming women in development. In Landers and Leonard (Eds.), Seeds supporting Women's Work Around the World. N.Y.: The Feminist Press.

12. Kesberg, J.I. (1992). Family care of the elderly: Social and Cultural Changes. N.Y.: Sage.

13. Leslie, G.R. (1988). The family in social context, New York: Oxford.

14. Lerner, R.M. (Ed.). (1978). Child influences on marital and family interaction: A life span perspective. N.Y. Academic Press.

15. Lock, S.L. (1992). Sociology of the Family. London: Prentice Hall.

16. Mandelbaum, D.G. (1972). Society in India: Continuity and Change. Berkeley Univ. of California Press.

17. Queen, S.A. (1985). The Family in Various Cultures. (5th Ed.) N.Y. : Harper & Row.

18. Ramu, G.N. (1989). Women Work and Marriage in Urban India: A Study of Dual and Single Earner Couples. New Delhi: Sage.

19. Rao, U.P.P. & Rao, V.N. (1985). Marriage: The Family and Women in India. New Delhi: Heritage.

20. Sriram, R. (1993). Family Studies in India: Appraisal and New Directions. In T.S. Saraswathi and B. Kaur (Eds.) Human Development and Family Studies in India: An Agenda for Research and Policy. New Delhi: Sage.

21. Touliatos, J. and Others (Eds.) (1990). Handbook of Family Measurement Techniques. Newbury Park: Sage.

**Semester I  
Paper IV  
Computer Applications**

Max. Marks: 50  
Theory Exam: 40  
Int. Assessment: 10  
Duration of Exam: 3 hrs

**Note:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each unit.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

General awareness of computers and its applications. Introduction to various Input and Output devices like Key board, Printers, CD-ROM, mouse, floppy, Monitors. Introduction to DOS, MS DOS

MS- Windows  
MS- Word

**Unit-II**

MS- Power Point  
MS- Excel  
Internet: What is Internet?  
E-mail  
Browsers

Any package related to Home Science

**Semester I**  
**Paper-V**  
**EARLY CHILDHOOD CARE AND EDUCATION**

Max. Marks: 80  
Theory Exam: 60  
Int. Assessment: 20  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all.
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. **Principles of Early childhood Care and Education**
  - Importance, need and scope of ECCE
  - Objectives of ECCE
  - Types of preschools/programmes: Play centres, day care, Montessori, kindergarten, balwadi, anganwadi etc.
2. **Historical Trends (Overview)**
  - Contribution of the following thinkers to the development of ECCE (their principles, applications and limitations) in the context of ECCE.
  - Pestalozzi, Rousseau, Froebel, Maria Montessori, John Dewey, Gijubhai Badheka, Tarabai Modak, M.K. Gandhi, Rabindranath Tagore.
3. **ECCE in India**
  - Pre Independence period, Post Independence - Kothari Commission, contribution of the five-year plans to ECCE - Yashpal Committee, Maharashtra Preschool Centre Act.-
4. **Contribution of the following agencies/programmes to ECCE in India.**

ICCW, IAPE, NCERT ICDS, UNICEF, NCTE, Mobile Creche etc.

## Unit-II

### 5. Organisation of Pre-School Centres

- Concept of organisation and administration of early childhood centres.
- Administrative set up and functions of personnel working at different levels.
- Building and equipment location and site, arrangement of rooms, different types and size of rooms, play ground, storage facilities, selection of different types of outdoor and indoor equipment, maintenance and display of equipment and material
- Staff/Personnel Service conditions and role: Role and responsibilities, essential qualities of a care giver/teacher, other personnel.
- Record and Report: Types, aim and purpose/need, general characteristics e.g. anecdotal, cumulative, sample work, medical etc.

### 6. Programme Planning

Principles of Programme Planning, Long term & short term planning ( Annual , Monthly, weekly and daily planning ), Theme Planning

### 7. Suggested Activities for ECCE:

- Art and Craft Activities
- Music.
- Mathematics, Science and Social Studies.
- Language Arts.

## References

1. Bhatia & Bhatia (1995). Theory and Principles of Education, Doaba. House, Delhi.
2. Brewer, JA (1998). Introduction to early childhood Education. (3rd Ed.), Boston: Allyn & Bacon.
3. Carol, E.C. and Jan Allen (1993). Early childhood curriculum, University of Tennessee, New York: Macmillan.
4. Day Barbara (1983). Early childhood education, New York: Macmillan
5. Gordon & Browne (1989). Beginning and Beyond, Second edition, Delmar Pub. Inc.
6. Grewal, J.S. (1984). Early childhood education, Agra National Psychological Corporation Pub.
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8. Hildebrand Vema (1985). Guiding the young child, N.Y. : Macmillan.

9. Jenkins, E. (1977). A practical guide to early childhood curriculum, C.V. Mostey Co.
10. Judith, E and Mayers, RG. (2000). Early Childhood Counts: A programming guide on early Childhood Care for Development. Washington: The World Bank. (Learning Resource Series)
11. Kaul, V. (1997). Early childhood education programme, New Delhi: NCERT.
12. Kohn Ruth (1972). The Exploring Child. Mumbai: Orient Longman.
13. Kulkarni S. (1988). Parent Education, Perspectives and Approaches. Jaipur. Ravat Publications.
14. Maxim G. (1980). The very young, California: Wordsworth.
15. Mohanti & Mohanti (1996). Early childhood care & education. New Delhi: Deep & Deep Publication.
16. Moyley, J.R (1996). Just Playing: the role and status of play in early childhood Education. Milton Keynes : Open University Press.
17. Mutlidharan, R (1991). Guide to nursery school teacher. New Delhi: NCERT.
18. Pankajam, G. (1994). Preschool Education. Ambala : Indian Pub.
19. Rao, V.K. and S. Khurshid-ul-Islam (Eds.) (1997), Early Childhood: Care and Education. New Delhi: Commonwealth Publication.
20. Read Katherine (1980). The Nursery School. Holt Rinehart & Winston.
21. Saraswathi, T.S. (1988). Issues in Child Development. Curriculum & Other Training & Employment, Mumbai : Somaiya.
22. Swaminathan Mina. A source book on early childhood care and education, UNESCO, Clinical co-operative programme, Paris.
23. Swaminathan, M. (Ed.) (1998). The first Five Years: a critical perspective on Early Childhood Care and Education in India. New Delhi: -Sage.
24. Wagh Anutal. How to run a Balwadi, Thane: Gram Balshikshan Kendra.

**Semester I**  
**Paper-VI**  
**Methods of Studying Human Development (Practical)**

Max. Marks: 40  
Duration of Exam: 3 hrs

- Overview of methods of child study.
- Tests scales and other methods of assessment of
  - i. Intelligence
  - ii. Social and personality development
  - iii. Emotional development.
  - iv. Cognitive development
  - v. Language Development
  - vi. Physical and motor development
  - vii. Home Environment
- Field report and project

**Semester I**  
**Paper VII**  
**EARLY CHILDHOOD CARE AND EDUCATION (Practical)**

Max. Marks: 60  
Duration of Exam: 3 hrs

**Practical**

1. Visits to various centres, which cater to the preschool stage e.g.: Day care Centre, Balwadi, Anganwadi, Mobile Creche etc.
2. Preparing a resource unit file on the basis of play way method/approach.
3. Preparing teaching material kit and presentation in-mock set, up:-
  - Story and their techniques
  - Types of puppets and mobiles.
  - Arts and crafts portfolio
  - Song booklet and low cost musical instruments.
  - Readiness games and material
  - Picture talk and object talk related material etc.
4. Planning and executing activities in ECCE centers.

5. Role plays of home visits and conducting a home visit to a family known through practice teaching.
6. Planning of parent teacher meeting: Stimulation of meeting/evaluation/function-planning programme-evaluating and reporting the programme.
7. Observation of Nursery Schools/ NGOs /Orphanage/any other organization for one week.

**Semester I**  
**Paper-VIII**  
**Computer Applications (Practical)**

Max. Marks: 40  
Duration of Exam. 4 hrs

- 1 Determination of addition, Subtraction and average
- 2 MS- Word
- 3 MS- Power Point
- 4 MS- Excel
- 5 Internet.
- 6 E-mail
- 7 Project report

**DEPARTMENT OF HOME SCIENCE**  
**Shri Dev Suman University New Tehari**  
**SYLLABUS OF M.SC. HUMAN DEVELOPMENT**

**SEMESTER -II**

Paper Theory	Name	Max. Marks	Exam Duration
IX	Advance Study in Human Development-I	70 (55 + 15*)	3 hrs
X	Research Methods and Statistics	100 (80 + 20*)	3 hrs
XI	Population Education & Family Welfare	70 (55 + 15*)	3 hrs
XII	Adolescence and Youth	70 (55 + 15*)	3 hrs
XIII	Management of Programmes for Children and Family	70 (55 + 15*)	3 hrs

**Total 380**

Paper Practical	Name	Max. Marks	Exam Duration
XIV	Adolescence and Youth	40	3 hrs
XV	Management of Programmes for Children and family	60 (40 + 20)	3 hrs
	Seminar	20	

**Total 120**

**Grand Total 500**

\* Internal Assessment

\*\* Viva-voce of training report

\*\*\*A committee of three teachers will evaluate the seminar of each student and marks will be awarded based on subject matter, presentation and ability to answer questions



**Semester-II**  
**Paper-IX**  
**Advance Study in Human Development -I**

Max. Marks: 70  
Theory Exam: 55  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

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- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. Principles and concept of Development
  - Principles of growth and development.
  - Basic concepts of development, maturation and learning, sensitive periods, individual differences, nature- nurture issues.
  - Secular trends in growth
  - Developmental tasks.
2. Prenatal development
  - Recapitulation of stages in prenatal development, genetics and environmental factors: maternal conditions and teratogens.
  - Birth process and the neonate.
3. Infancy: (Birth - 2 years)
  - The newborn: Physical description, sensory & perceptual capacities and reflexes.
  - Becoming co-coordinated- feeding, sleeping, crying.
  - Imitation, object permanence & other cognitive accomplishments.
  - Early language development.
  - Social relationships during infancy.
  - Early emotional development - temperament and attachment.

**Unit-II**

4. Early Childhood (2-6 years)
  - Physical and motor development.
  - Language, cognition and emotions in early years.

- Play and social relationships, pro-social behaviour, the emerging self.
  - Early socialization.
5. Middle Childhood (7 - 11 years)
- Physical and motor development; changes and challenges
  - Personality development
  - Cognitive, moral and language development
  - Social relationship - Peers & siblings.
  - The experience of schooling - academic achievement
6. Adolescence (11 - 18 years)
- Development of Formal Operations - adolescent thought, integration of the self: issues of identity.
  - Transition from childhood to sexual maturity - Puberty and its consequences.
  - Early Vs Late matures and emotional changes.
  - Role of family, peers.
  - Moral reasoning and judgment.
  - Special Issue: health, sexuality.

#### References

1. Rice, F.P. (1995). Human Development. New Jersey: Prentice Hall.
2. Berk, LE. (1995). Child Development. London: Allyn & Bacon.
3. Cole, M. & Cole, S. (1993). The development of children. (2nd ed.) New York: Scientific American Books Freeman & Co.
4. Dutt, S. (1998). Moral Values in child Development. New Delhi: Anmol.
5. Santrock, J.W. & Vussen, S.R. (1988). Child development: An introduction. 10th ed. Wm. C. Brown Publishers.
6. Bee, H. (1997). The developing child (VIII ed.). New York: Longman.
7. Clarke-Stewart, A. & Friedman, S. (1987). Child development: Infancy through adolescence. New York: John Wiley.
8. Mussen, P.H., Conger, J.J., Kagan, J. & Huston, A.C. (1996). Child development and personality. New York: Harper & Row.

**Semester II  
Paper-X  
Research Methods & Statistics**

Max. Marks: 100  
Theory Exam: 80  
Int. Assessment: 20  
Duration of Exam: 3 hrs

**Note:**

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- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

Nature of research in Home Science, scientific approach.

Types of Research: Experimental, Field studies, Case study, and Survey research.

Designing research: Problem, hypothesis, concept and types of variables (dependent, independent, random, discrete, continuous, qualitative and quantitative)

Methods of data collection: Interview, observation, questionnaire, rating scales.

Research Designs: randomized groups, matched groups, pre and post test and factorial.

Sampling: Meaning, importance and types: random (simple, stratified, cluster), Non random (incidental, purposive, quota)

**Unit-II**

Statistics: Meaning, primary data, array, frequency, frequency distribution and its types.

Measures of central tendency: Mean, Median, Mode, Measures of dispersion: range, mean deviation, standard deviation, root mean square deviation, variance, moments about origin and moments about mean. Binomial and Normal distribution, Skewness and Kurtosis.

Parameter & Statistic, sampling distribution and sampling error, standard error.

Tests of significance: Null hypothesis, Alternative hypothesis, levels of significance- Type I and Type II errors, chi-square: goodness of fit.  
T- test: single mean, independent mean, paired mean, Analyses Variance: One-way & Two-way. Correlation -Pearson's correlation, scatter diagram, Spearman's correlation.  
Significance of difference between correlations

**Books Recommended:**

1. S.C. Gupta & V.K. Kapoor: Fundamentals of Mathematical Statistics
2. S.C. Gupta: Fundamentals of statistics
3. G. Udny Yule, N.M.G. Kendall: An Introduction to the theory of Statistics
4. Croxton, F.C. and Cowden, D. J. Applied General Statistics, Prentice hall Inc, 1955
2. Garrett. H. Statistical in Psychology and Education. Oxford book Co, 1960.
3. R.P. Hooda: Introduction to statistics, The MacMillan Co.
5. Scotharman, W. A. Textbook of Statistics, (Revised edition) 1973.
6. Kerlinge, Foundations of Behavioral Research
7. Sneeeder G. W. Statistical Methods. Applied Pacific Private Ltd., 1961.

**Semester II**

**Paper-XI**

**POPULATION EDUCATION AND FAMILY WELFARE**

Max. Marks: 70

Theory Exam: 55

Int. Assessment: 15

Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. Study of population and population dynamics in developed and developing countries.
2. Population education – Role of national, international and non governmental agencies.

3. Population statistics with special reference to children and women infant mortality and morbidity.
4. Population growth.
5. Birth control measures

#### Unit-II

6. Reproductive and child health programmes. Reproductive rights of women.
7. Family welfare services- community based assistance to family, day care services, services for families in poverty and with problem children.
8. Family law and family courts
9. Agencies and organizations involved in the welfare of children, women and family.
10. National commission for women.

#### Semester II

#### Paper-XII

#### ADOLESCENCE AND YOUTH

Max. Marks: 70

Theory Exam: 55

Int. Assessment: 15

Duration of Exam: 3 hrs

#### NOTE:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

#### Unit-I

1. **The adolescent stage**
  - The concept of adolescence, its link with middle childhood and youth.
  - Characteristics of adolescence
  - Developmental tasks of adolescence.
2. **Physical and sexual development**
  - Puberty, development of primary and secondary sex characteristics.
  - Psychological response to puberty.

- Sexuality and sex education.
- Causes of HIV/AIDS and prevention.

**3. Cognitive and moral development**

- Formal operation - Piaget's theory, changes in reasoning abilities
- Moral reasoning and judgment.( Kohlberg's stages )

**4. Identity formation**

- Different perspectives: construct of self and development of self - concept.

**Unit-II**

**5. Social and emotional development**

- Peers and friendships, Interpersonal relations ( parents , siblings)
- Heightened emotionality,
- Conflict with parents and grandparents,

**6. School, college, work and career**

- Adolescence and youth in the context of differential opportunities for education and formal training.
- Importance of academic achievements and failure, related issues.

**7. Marriage**

- Legal age and its relationship to development.
- Marriage choices and significance of marriage in human development.

**8. Delinquency and disturbance**

- Juvenile delinquency: cause and prevention.
- Psychological disturbances: depression, suicide, and substance abuse.

**References**

1. Balk, D.E. (1995). Adolescent development. New York: Brooks/ Cole.
2. Erikson, E.H. (1968). Identity: Youth and crisis. London: Faber & Faber
3. Kroger, J. (1996). Identity in adolescence. London: Routledge.
4. Kakar, S. (1992). Identity and adulthood. Delhi: Oxford University Press.
5. NIPCCD. (2000). Adolescent Girls' Scheme - An evaluation. New Delhi: NIPCCD.
6. Sharma, N. (1996). Identity of the adolescent girl. New Delhi: Discovery Publishing House.
7. Saraswathi, T.S. & Dutta, R. (1988). Invisible boundaries: Grooming for adult roles. New Delhi: Northern Book Centre.
8. Sharma, N. (1999). Understanding adolescence. New Delhi: National Book Trust.

Semester II  
Paper-XIII

MANAGEMENT OF PROGRAMMES FOR CHILDREN AND FAMILIES

Max. Marks: 70  
Theory Exam: 55  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. Programme Planning - Definition, Objectives, Principles, steps in planning.
2. Defining the project goals. Steps in goal formation.

**Unit-II**

3. Management of the project: Meaning, objectives, characteristics, steps and importance of management skills.
4. Monitoring and Evaluation: Supervision, meetings to plan, feedback, project report, programme evaluation and Review Techniques.
5. Child and Family Welfare programmes in India- Recent approaches.

**References**

1. Chaudhary, P. (1985). *Child Welfare Services*. New Delhi: Atmaram & Sons.
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2. Social welfare Administration Vol 1, Theory & Practice. S. L. Goel, R. K. Jain, Deep & Deep Publications, New Delhi 1988.

#### **Semester II**

#### **Paper-XIV**

#### **ADOLESCENCE AND YOUTH (Practical)**

Max. Marks: 40

Duration of Exam: 3 hrs

- 1 Visit to various centers catering to youth
- 2 Preparing a youth education programmes
- 3 Plan and organize debates and discussions for adolescents for healthy and responsible sexual behavior to prevent HIV/AIDS
- 4 Organizing a play for youth education
- 5 Organizing a quiz on any relevant topic for today's youth



**Semester II**  
**Paper-XV**  
**MANAGEMENT OF PROGRAMMES FOR CHILDREN AND FAMILIES**  
**(Practical)**

Max. Marks: 60  
Practical Exam: 40  
Training: 20  
Duration of Exam: 3 hrs

- 1 Prepare a project plan based on the information secured on an existing program in the locality. (As a learning exercise on a Known case).
- 2 Organise and implement some activities and evaluate impact. Prepare report.
- 3 Identification of specific programmes for children and families.
- 4 One month training in preschools/ NGOs /Orphanage /Old Age home /any other welfare organization and report submission.

**DEPARTMENT OF HOME SCIENCE**  
**Shri Dev Suman University New Tehari**  
**SYLLABUS OF M.SC. HUMAN DEVELOPMENT**

**SEMESTER -III**

Paper Theory	Name	Max. Marks	Exam Duration
XVI	Communication Technologies	75 (60+15*)	3 hrs
XVII	Principles of Guidance & Counseling	75 (60+15*)	3 hrs
XVIII	Advanced Study of Human Development-II	75 (60+15*)	3 hrs
XIX	Women Studies	75 (60+15*)	3 hrs
XX	Care of the Elderly	75 (60+15*)	3 hrs

**PRACTICAL:**

Paper Practical	Name	Max. Marks	Exam Duration
XXI	Principles of Guidance & Counseling	60	4 hrs
XXII	Care of the Elderly	65	4 hrs

\* Internal Assessment

**Semester – III**  
**Paper XVI**  
**Communication Technologies**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit-I**

1. Concept of communication. Scope of communication, communication process, approaches to communication.
2. Different media, their characteristics and use.
3. Use of video projector, slide/filmstrip projector computers.

**Unit-II**

4. Introduction to new communication technologies.
  - Satellite distribution and broadcast networking.
  - Close circuit television package on (cc TV) topics.
  - Incorporating the use of video films in presentation i.e. the selected clippings.
  - Slides" Making use of slides with audio commentaries for presentations
  - Development and use of transparencies.
  - Digital method of communication.
  - Computer Graphic Designing
5. Preparation of graphics for research reports/seminars/other presentation.
6. Designing-leaflets/pamphlets/booklets/cover pages/posters.
7. Presentations using power points.

## REFERENCES:

1. Curran, J. et al (1977): Mass Communication and Society, London.
2. Banerjee (eds) (1985): Culture and Communication, Parait Publishers, Delhi.
3. Ruloof, M.E. and Miller, G.R. (eds) (1987): Interpersonal Process: New Directions in Communication Research, Sage, USA.
4. Chatterjee, P.C. (1988): Broadcasting in India, New Delhi, Sage Publications.
5. Berger, C.R. and Chaffee, S. (eds) (1987): Handbook of Communication Science, Sage Publications, New Delhi.
6. Brown J., Lewis, R and Hardleroad, F. (1985): All instruction: Technology Media and Methods, McGraw Hill, New Delhi.
7. Ellington, H. (1985): A Handbook of Educational Technology, Kogan Page, London.

**Semester - III**  
**Paper XVII**  
**Principles of Guidance and Counselling**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

## NOTE:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

### Unit -I

1. Meaning, Nature, need and principles of guidance.
2. Area of guidance-educational, vocational and personal guidance.
3. Group guidance-Techniques of group guidance.
4. Organisation of guidance services.

## Unit -II

5. Psychotherapy and Playtherapy
6. Counselling : meaning, need, aims and principles
7. Approaches to Counselling
8. Special areas in Counselling.
9. Counselling children with special concerns Child abuse, children with divorce, children in step families, children in single parent families, children in alcoholic families.
10. Counselling with exceptional children; gifted children, children with emotional and behaviour disorders, learning disabled child, attention deficit hyperactivity disorder, mentally retarded children, children with physical disability.

### REFERENCES:

1. Burnard, P. (1999). Counselling skills training. New Delhi: Viva Books.
2. Manthel, R. (1997), Counselling: The skills of finding solutions to problems. London: Routledge.
3. Nicolson, D & Ayers, H. (1995). Individual Counselling: Therapy and practice. London: David Fulton.

## Semester - III

### Paper XVIII

#### Advanced Study in Human Development-II

Max. Marks: 75

Theory Exam: 60

Int. Assessment: 15

Duration of Exam: 3 hrs

### NOTE:

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

### Unit -I

1. Youth/Young adulthood (20-35 years)
  - Physical Development
  - Developmental tasks.
  - Sexuality, marriage, marital adjustment, parenthood.
2. Middle adulthood (35-50 years)
  - Physical continuity and changes.
  - Adult Intelligence.
  - Personality development
  - Role in family -Maintaining family relationships.
  - Friendships
  - Menopause in women. Adult sexuality, Vocational Development.

### Unit -II

3. Late Adulthood (50-65 years)
  - Continuity and change in personality
  - The family life cycle.
  - Social relationships.
  - Grand parenthood-intergenerational relations.
  - Retirement from formal work.
  - Health and disease
4. Old age (65+ years)
  - Physical aspects of aging.
  - Change in cognitive abilities and creativity.
  - Psychosocial development.
  - Changes in family life cycle. Health and disease
  - Death, dying and bereavement.

### REFERENCES:

1. Rice, F.P. (1992). Human development: A life span approach. New Jersey: Prentice Hall.
2. Schiamberg, L.B. & Smith, K.U. (1982). Human Development. New York: Macmillan.
3. Santrock, J.W. (1997). Life span development. Brown and Benchmark.
4. Lefrancois, G.R. (1996). The life span. New York: Wadsworth publishing.
5. Deals, S.M. & Lenker, L.T. (Eds.) (1999). Aging and identity. London: Praeger.

**SEMESTER - III**  
**Paper XIX**  
**Women Studies**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit I**

1. The rationale for Women's Studies.
  - Meaning and significance
  - Growth of women's studies in India and other countries.
  - The women's movement in India
2. Theoretical perspectives in women's studies.
  - Consequences of gender differences
3. Status of Women in India.

**Unit – II**

4. Understanding concepts related to gender differences from societal and developmental perspective.
  - Patriarchy
  - Caste, class culture and gender interface
  - Gender and education
  - Economic empowerment and gender
  - Development processes and programmes from women's perspective.
5. Problems and issues related to women in India
  - Child marriage
  - Female foeticide, infanticide

Female mortality  
Discrimination in nutrition and health care  
Socialization of girl child  
Dowry  
Violence  
Women's identity  
Educational opportunities and sex based education  
Employment  
Women in Politics  
Legal status of women

#### REFERENCES:

1. Astana, P. (1974) Women's movement in India. Vikas, Delhi.
2. Antony, M.L. (1985). Women's Rights: Dialogue, New Delhi.
3. Baker, H.A. Bertheide, G.W. and Others (Eds)(1980). Women Today: A multi disciplinary approach to Women's Studies. Brooks/ Cole Publication.
4. Baral, J.K. and Patnaik, K. (1990). Gender Politics, New Delhi: Discovery.
5. Dak, T.M. (1988) Women and Work in Indian Society: Discovery, New Delhi.
6. Desai, N. (1988). A decade of Women's Movement in India: Himalaya, Bombay.
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8. Gunew, A.R.(1990) Feminist Knowledge Critic and Constituent: Routledge, London.
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12. Jain, D & Banerjee, N.(1985). The Tyranny of House Hold: Investigative essays on women and work. Vikas, New Delhi.
13. Okin, S.M. (1989). Justice, gender and family. Basic Books, N.Y
14. Pant, N (1995) Status of girl child and women in India. Delhi: APH
15. Parashar, A. (1992). Women and Family law reforms in India: Uniform civil code and gender equity. Sage, New Delhi.



**SEMESTER - III**  
**Paper XX**  
**Care of the Elderly**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit -I**

1. Introduction
  - Emergence and scope of gerontology and elderly care.
  - Concept of aging and problems: Social, medical, psychological problems, occupational etc.
2. Theoretical perspectives
  - Theories: Disengagement theory, Activity theory, Human development theory, Age stratification theory.
3. Aging Process
  - Biological and physiological aspects, Psychological aspects: Social aspect Social Status, retired status, single status, economic status, security, social adjustment and recognition;
  - Spiritual aspects: Karma theory and religion;
  - Economic aspects

**Unit -II**

4. Adjustment Patterns and Changing Lifestyles in Old Age
  - Family patterns in later life: Changing roles and the aging family; Conjugal: Husband - Wife Relations in old age; Sexual adjustment.
  - Retirement years and marital adjustment.
  - Intergenerational family relations: Grand parenthood; Widowhood/ Singlehood; Alternative lifestyle: Second marriage in the later life.

5. Work, leisure and retirement patterns
  - Work - Meaning of work, individual motivation; Leisure, Retirement - benefits, freedom of retirees, change in personal and social life, problems like - sense of loss, women retirees.
  - Attitude towards retirement: Poverty, poor health, retirement and suicide, abandonment, liberation and diachronic solidarity.
6. Death Dying and Bereavement
  - Impact of death on society; Attitude towards death; Denial and thoughts of death; bereavement, grief and social setting.
7. Services and programs for the Aged
  - Categories of services: Housing, health, leisure time activities; institution for the aged, day care centres, economic programmes; Re-engagement (after retirement).

## REFERENCES:

1. Aiken, L.R. (1978). The psychology of later life, Philadelphia: WB Saunders Company.
2. Bergmann, Klaus (1972). Aged: Their understanding and care, London: Wolfe Pub.
3. Binstock, R.H. and E. Shanas (eds) (1986). Handbook of aging and social sciences. New York : V.N. Reinhold Co.
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6. Chowdhry Paul D. (1992). Aging and the aged. New Delhi : Inter India Pub.
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10. Ghosh, B. (1988). Contemporary Social Problem in India, Bombay: Himalaya Pub.
11. Homban, D. (1978). Social Challenge of Aging. London: Groom Helm.
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14. Kimmel Douglas (1974). Adulthood and Aging. New York: Wiley.
15. Mishra Saraswati (1987). Social Adjustment of Old Age. Delhi: B.R. Pub. Corp.
16. Pinkston, P.H. and N.K. Linsk (1984). Care of the Elderly: A family approach. New York : Pergamon Press.
17. Schiamberg Lawrence. B. (1985). Human Development, New York : Macmillan.
18. Sharma, M.L. & T.M. Dak (1987). Aging in India: Challenge for the Society. Delhi: Janta Pub.

**SEMESTER - III**  
**Paper: XXI**  
**Principles of Guidance and Counseling (Practical)**

Max Marks: 60  
Duration of Exam: 4 hrs

**Practical**

- Interaction with practicing counsellors and therapists through visit to school, clinics, women centers and hospitals etc.
- Organizing parent education programs based on parents needs.
- A case study
- Reports and resource files to be maintained by students.

**SEMESTER - III**  
**Paper: XXII**  
**Care of the Elderly (Practical)**

Max Marks: 65  
Duration of Exam: 4 hrs

**Practical**

- Visit to and report of old age centers / homes.
- Organize recreational activities in homes for the aged.
- Prepare case studies on any two inmates.
- Arranging special service / counseling activities for the aged with the help of resource person, if necessary e.g. Yoga, Lectures etc.

## SYLLABUS

DEPARTMENT OF HOME SCIENCE  
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SYLLABUS OF M.SC. HUMAN DEVELOPMENT

### SEMESTER -IV

#### THEORY:

Paper Theory	Name	Max. Marks	Exam Duration
XXIII	Mental Health in Developmental Perspective	75 (60+15*)	3 hrs
XXIV	Parent and community Education	75 (60+15*)	3 hrs
XXV	Child & Human Rights	75 (60+15*)	3 hrs
XXVI	Development of the Self **	75 (60+15*)	3 hrs
XXVII	Persons with Disabilities	75 (60+15*)	3 hrs

#### PRACTICAL:

Paper Practical	Name	Max. Marks	Exam Duration
XXVIII	Parent and Community Education	40	4 hrs
XXIX	Persons with Disabilities	40	4 hrs
	Seminar	20	
	Internship	25	

\* Internal Assessment

**Note:** \*\*In the place of Paper XXVI (Development of the Self) students may opt for Dissertation in MSc-II, subject to the condition that the students has obtained 70% or more marks after II semester (M.Sc-I year)

**SEMESTER - IV**  
**Paper XXIII**  
**Mental Health in Developmental Perspective**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit - I**

1. Mental Health
  - Definition, concept and importance of mental health, holistic health, well being and happiness.
  - National Mental Health Program of India (1982)
  - Community mental health needs and programmes.
2. Infancy
  - Implication of attachment and bonding for mental health, Maternal Deprivation Syndrome.
  - Intervention with families and professionals from allied fields.
3. Early Childhood Years  
Signs, Causes, Prevention and Management of
  - feeding problem, aggression,
  - withdrawal, problems related to early schooling
4. Middle Childhood  
Signs, Causes, Prevention and Management of
  - truancy, school phobia
  - Conduct disorder
  - Childhood Depression, Child abuse (including child sexual abuse)

## Unit II

5. Adolescence  
Signs, Causes, Prevention and Management of
  - Problem related to sexuality, Academic Problems
  - Aggression and Substance Abuse
  - Depression and Suicide
6. Adulthood  
Mental health problems in the community
  - Life events that cause stress e.g. separation due to death, migration etc.
  - Substances abuse and addiction.
  - Violence and sexual abuse
  - Management of stress: counseling, training in relaxation, yoga, meditation.

### REFERENCES:

1. Barry, P.D. (1990), Mental Health and Mental Illness (4th ed) Philadelphia: J.B Lippincott Co.
2. Bono, E.de(1991) handbook for the Positive Revolution, London: Penguin Publications
3. Carler, F. & Cheesman, P(1988). Anxiety in childhood & adolescence-encouraging self-help through relaxation training London: Croom Helm.
4. Goleman, D (1996) Emotional Intelligence. N.Y. Bantam Books
5. Gopalkrishanan. N. (1994) Mental health and ou, Mumbai: Popular Prakashan.
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8. Kapur, M. (1995), Mental Health of Indian Children, New Delhi: Sage Publications.

**Semester - IV**  
**Paper: XXIV**  
**Parent and Community Education**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit I**

1. Parenthood: meaning and different theoretical views:
  - Tasks of 'Parenting' and being a competent parent
  - Changing concept of parenthood and childhood.
2. Parent and community Education:
  - Concept, principles, objectives and need
3. Parent involvement:
  - In decision and policy development and other activities.
4. Involvement of fathers; need and role of fathers in child development
5. Techniques of Parent and community Education:
  - Informal meeting, group and individual meetings.
  - Parent and toy library
  - Parent's corner and workshop/ demonstration centers
  - Open house
  - Written and printed materials

**Unit II**

6. Content of Parent and Community Education
  - Development, problems, needs and rights of children
  - Child rearing and disciplinary techniques, socialization and parental beliefs in various socio-cultural settings.
  - Importance of nutrition, hygiene, health and play for children
  - Family planning: importance and methods

7. Formulating curricula for parent and community education.
  - Parent initiated curricula - need and assessment techniques.
  - Expert oriented curricula- guidance and action oriented.
8. Contribution of different agencies and community centres in parent and community education.
9. Contribution of different agencies and community centers in parent and community education.
  - Family planning centers
  - Hospitals
  - Maternity and child welfare centers
  - Schools
  - PTA
  - ICDS
10. Contribution of different professionals in parent and community education.
11. Training programmes for young parents: content and need
12. Evaluation of parent and community education programmes.

#### REFERENCES:

1. Bigner, J. (1979); Parent child relations: An introduction to parenting. N.Y.: McMillan Pub.
2. Brim, Haman (1980); Learning to be parents, principles, programmes and methods. Saga Pub.
3. Fine Marwin (1980); Handbooks on parent education, New York: Academic Press Inc.
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5. Gordon, Thomas (1975). Parent effectiveness training, New York: New American Library.
6. Gillan, Pugh (1984); The needs of parents, practice and policy in parent education, Macmillan
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8. Lidhop, M (1987); Child rearing and Psycho-social Development New Delhi: Ashish Publications.
9. Kulkarni, Sudha (1988). Parent Education, Jaipur: Rawat Pub.
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11. Wagh, Anutai (1984); Parent and Community Participation in the Preschool Programme, New Delhi: NCERT.



**SEMESTER - IV**  
**Paper: XXV**  
**CHILD AND HUMAN RIGHTS**

Max Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit -I**

1. Definition and Evolution of Rights.
  - Human rights
  - Child rights
  - Women's rights
  - Convention
  
2. Status of Indian Children and their rights
  - Gender disparities (infanticide, foeticide, girl child)
  - Children in difficult circumstances (Children of prostitutes, child prostitutes, Child labour, street children and refugee children)
  - Children with special needs.

**Unit -II**

3. Status of Women and their Rights
  - Forms of violation of women's rights
  - Violence against women in home, workplaces and society.
  - Health and nutrition based deprivations
  - Crime against women: Sexual harassment, rape
  - Political discrimination
  
4. Classification of Human Rights
  - Civil rights
  - Political rights
  - Economic rights

- Educational rights
  - Legal rights
  - Social rights
  - Cultural rights
  - International rights
  - Environmental and developmental rights.
5. Child Adoption and its Laws

## REFERENCES:

1. Buttsworth, D. and Fulmer, A. (1993). Conflict, Control Power, Perth : Child and Family Consultants.
2. Bruner, T. (1986). Actual minds-possible words. London : Havard University Press
3. Digumarti, B.R., Digurmarti, P.L (1998). International Encyclopedia of Women (Vol.1). New Delhi: Discovery.
4. D'Souza, C. and Menon, J. Understanding Human Rights (Series 1-4). Bombay: Research and Documentation Centre, St. Plus College.
5. Dreze, Jean and Sen, Amartya (1989). Hunger and Public Action, U.K. Oxford University Press.
6. Government of India (1992b) National Plan of Action: A commitment to the Child, Department of Women and child Development, New Delhi.
7. Government of India (1993c) Education for All : The India Scene, Department of Education, New Delhi.
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9. Government of India (1994), Ministry of Finance, Economic Survey 1993-94 New Delhi
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15. National Law School of India University and United National Children's Fund (1991). Report of a Seminar on the Rights of the Child, National Law School of India University, Bangalore.
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18. UNICEF (1992). Rights of the Child : World Declaration and Plan of Action from the World Summit for Children and the Convention on the Rights of the Child, New Delhi.
19. UNICEF (1990). Children and Women in India : A Situation Analysis, 1990, New Delhi.
20. UNICEF India (1993) Annual Report on Country Situation : 1990, New Delhi.
21. UNICEF (1993). Annex to the Annual Report on Goals and Indicators, New Delhi.
22. UNICEF (1993). Policy on Child Labour, New Delhi.

23. Weiner, Myron (1991) *The Child and the State in India*, U.K.: Oxford University Press.

**SEMESTER - IV**  
**Paper: XXVI**  
**Development of the Self**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit I**

1. Definitions of Development and Self
  - Linking the individual and the group, self-concept and self esteem.
2. Approaches to self
  - Enquiry and introspection. Memories of childhood and their influence.
3. The self in the life span
  - Significance of birth, role of childhood experiences, changing roles and responsibilities.
  - With age, the sense of self at adolescence
  - Influence of family, peers and school on the development of self esteem
  - Community and culture in relation to the development of self.

**Unit II**

4. Gender Identity and the self
  - Biological, psychological and cultural aspects of being male and female, stereotypes, beliefs and gender discrimination.
  - Cultural and sub cultural differences.
5. Role of spirituality and religion in the development of the self:  
Experiences, values, beliefs and attitudes in society.
6. Self

- Improvement techniques

**REFERENCES:**

1. Kakar, S. (1978). The inner world. New Delhi: Oxford University Press
2. Gandhi, M.K. (1927). An autobiography or the story of my experiments with truth. Ahmedabad: Navajivan Trust.
3. Liewellyn-Jones, D. (1971). Every girl. London, Faber & Faber
4. Liewellyn-Jones, D. (1971). Every women. London. Faber and Faber
5. Mead. M. (1976). Male and Female UK. Penguin.
6. Bee H. (1989). The developing child. New York: Harper & Row.

**SEMESTER - IV**  
**Paper: XXVII**  
**Persons with Disabilities**

Max. Marks: 75  
Theory Exam: 60  
Int. Assessment: 15  
Duration of Exam: 3 hrs

**NOTE:**

- Examiner will set nine questions in all
- All the questions will carry equal marks
- Question No. -1 will be compulsory consisting of 5-10 short type questions and spread over the entire syllabus
- The remaining eight questions will be set from units I & II, four questions from each units.
- The candidates are required to attempt five questions. Question No -1 will be compulsory, remaining four questions will be attempted by selecting two questions from each unit.

**Unit I**

1. Definition and classification of exceptionality.  
-philanthropic, medical, legal and the social
2. Different types of impairments, causes and effects on individuals.  
-Physical- cerebral palsy, epilepsy spina bifida and spinal injuries  
-Mental retardation, gifted and learning disabilities.  
-Emotional  
-Sensory (visually and auditory impaired)
3. Techniques of identification, its assessment and educational modification and intervention programme.

**Unit-II**

4. Attitude of people, family and community towards disability.
5. Physical and social barriers in the development of persons with disabilities, modification of physical and social environment, enabling participation of persons with disabilities as a contributing member of society
6. Needs of exceptional children.
7. Examples of programmes and policies for persons with disabilities.

#### REFERENCES:

1. Baquer.A (1994). Disabled, Disablement, Disablism, New Delhi Voluntary Health Association of India.
2. Council for advancement of people's action and rural technology (CAPART) (1996), Disability: A strategy to promote the participation of people with disabilities in programmes for rural development. New Delhi CAPART.
3. Kanga.F.(1990). Heaven on wheels. New Delhi: Penguin Books
4. Narasimhan.M.C. & Mukherjee. A.K. (1986). Disability a continuing challenge. New Delhi. Wiley Eastern Limited.
5. Oliver.M. (1996). Understanding Disability: From theory to practice. London: Macmillan Press.
6. P. Immanuel C. Koenig & S. Tesri (ds). Listening to sounds and signs: Trends in deaf education and communication (pp.1-4) Bangalore, India: Chridtoffel-Blindenmission & Books for Change.
7. Pandey R.S.& Advani.L. (1996). Perspectives in disability and rehabilitation, New Delhi. Vikas Publishing House Private Limited.

**Paper: XXVIII**  
**Parent and Community Education (Practical)**

Max Marks: 40  
Duration of Exam: 4 hrs

#### Practicals

- Conducting home visits and interviewing/talking to parents.
- Arranging workshops for parents.
- Organizing parent education programs based on parents needs.
- Conducting parent - teacher meetings.
- Reports and resource files to be maintained by students.

Paper: XXIX  
Persons with Disabilities (Practical)

Max Marks: 40  
Duration of Exam: 4 hrs

**Practicals**

- Planning and working with children and parents.
- Case study of persons with disability - a child and an adult.
- Case study of an organisation with particular reference to its physical and social environment.

**Shri Dev Suman University New Tehari**  
**Uttarakhand**

**SYLLABUS AND ORDINANCES**

**Wef – 2015-16**

**SYLLABUS**

**OF**

**M.Sc. (HOME SCIENCE)**  
**(FOOD AND NUTRITION)**

**P.G. Course**



**DEPARTMENT OF HOME SCIENCE**  
**Shri Dev Suman University New Tehari**

**SYLLABUS**

M.Sc. Home Science(Food and Nutrition)

Two Year Course- Semester System

(2015-16 onwards)

First Semester (July to November)	Name of Course	Course Number	Credits	Marks
	Advanced Nutritional Biochemistry	SOS/HFN/CO01	03	100(80+20)
	Human Physiology	SOS/HFN/CO02	03	100(80+20)
	Research methods	SOS/HFN/CO03	03	100(80+20)
	Food Science-1	SOS/HFN/CO04	03	100(80+20)
	Food Preservation	SOS/HFN/CO05	03	100(80+20)
	Practical	SOS/HFN/CO06	03	100(80+20)
	<b>Core Credits</b>		<b>18</b>	<b>600</b>

Second Semester (December To April)	Name of Course	Course Number	Credits	Marks
	Advance Food Science-11	SOS/HFN/CO07	03	100(80+20)
	Food Microbiology	SOS/HFN/CO08	03	100 (80+20)
	Assessment of Nutritional Status	SOS/HFN/CO09	03	100 (80+20)
	Clinical nutrition dietetics-1	SOS/HFN/CO10	03	100 (80+20)
	Statistics	SOS/HFN/CO11	03	100 (80+20)
	Practical	SOS/HFN/CO12	03	100 (80+20)
	Food Fortification(Self Study)	SOS/HFN/SS01		
	<b>Core Credits</b>		<b>18</b>	<b>600</b>

Third Semester (July to November)	Name of Course	Course Number	Credits	Marks
	Public Nutrition	SOS/HFN/CO13	03	100(80+20)
	Advanced Nutrition	SOS/HFN/CO14	03	100(80+20)
	Practical	SOS/HFN/CO15	03	100 (80+20)
	Electives (Any three of the following)			
	Nutrition management and health	SOS/HFN/EO1	03	100(80+20)
	Nutrition in emergencies and Disasters	SOS/HFN/EO2	03	100(80+20)
	Food Hygiene and Sanitation	SOS/HFN/EO3	03	100(80+20)
	Food Packaging Technology	SOS/HFN/EO4	03	100(80+20)

Neutraceuticals and Health	SOS/HFN/E05	03	100(80+20)
Healthy Lifestyle and Nutrition (Self Study)	SOS/HFN/SS03	03	100(80+20)
<b>Core Credits (09)+Elective Credits (09)</b>	<b>Total Credits</b>	<b>18</b>	<b>600</b>

Fourth Semester (December to April)	<b>Name of Course</b>	<b>Course Number</b>	<b>Credits</b>	<b>Marks</b>
	Food Safety and Food Laws	SOS/HFN/C0016	03	100 (80+20)
	Clinical nutrition & Dietetics-II	SOS/HFN/C0017	03	100 (80+20)
	Practical	SOS/HFN/C017	03	
	Dissertation	SOS/HFN/C019	06	100 (80+20)
	Electives (Any <b>ONE</b> of the following)			
	Experimental Cookery	SOS/HFN/E06	03	100 (80+20)
	Human Nutrition	SOS/HFN/E07	03	100 (80+20)
	Enzymes in Food Processing (Self Study)	SOS/HFN/SS05	03	100 (80+20)
	<b>Core Credits (09)+ Elective Credits (09)</b>	<b>Total Credits</b>	<b>18</b>	<b>600</b>

## SEMESTER I

First Semester (July to November)	Name of Course	Course Number	Credits	Marks
	Advanced nutritional biochemistry.	SOS/HFN/C001	03	100
	Human Physiology	SOS/HFN/C002	03	100
	Research methods	SOS/HFN/C003	03	100
	Food science-I	SOS/HFN/C004	03	100
	Food Preservation	SOS/HFN/C005	03	100
	Practical	SOS/HFN/C006	03	100
	<b>Core Credits</b>		<b>18</b>	<b>600</b>

**Paper-I, SOS/HFN/C001 (Advanced Nutritional Biochemistry)  
marks-100**

**Objectives:**

1. To augment the bio chemistry knowledge acquired at the undergraduate level.
2. To understand the basic nature of bio molecules.
3. To understand the mechanisms adopted by human body for regulation of metabolic pathway.
4. To become proficient for specialization in nutrition.

**Unit-I**

Carbohydrates:- classification, structure and biological importance.  
Metabolism:- glycolysis, gluconeogenesis and citric acid cycle.

**Unit-II**

Protein:- classification and biological importance.  
Amino acid:- classification & structure.

**Unit-III**

Lipids:- classification and biological importance.  
Metabolism of lipid.

**Unit-IV**

Energy metabolism:- respiratory quotient, calorimeter, basal metabolism, specific dynamic action of food.

**Unit-V**

Vitamins:- chemistry, food sources and functions.

**Unit-VI**

Nucleic acids:- structure of importance of base, nucleotides, nucleosides, DNA and RNA.

**Reference:**

Principles of biochemistry- Nelson and M. Cox (Lehninger).

Text book of biochemistry - West and Todd.

Fundamentals of biochemistry- A. C. DeB.

Review and physiological chemistry- H. Harper

Experimental biochemistry- J.M. Clark

## Paper-II SOS/HFN/C002 (Human Physiology)

### Unit-I

Cell structure and function: levels of cellular organization and functions organelle, tissue, cell membrane and intercellular communication, regulation of cell multiplication.

### Unit-II

Respiratory system: exchange of gases, transport of oxygen and CO<sub>2</sub>, role of hemoglobin and buffer system.

### Unit-III

Circulatory system: structure and system of heart and blood vessels, heart beats, blood and blood groups, Blood pressure and hypertension.

### Unit-IV

Digestive system: structure and function, secretory, digestive and absorptive function, role of liver and pancreas.

### Unit-V

Sense organs: structure and function, Role of skin, eye, ear, nose and tongue.

### Unit-VI

Excretory system: structure and function of nephron, urine formation, role of kidney in maintaining PH of blood.

## Paper-III SOS/HFN/C003 (Research methodology)

marks-100

### Contents:

#### Unit-I

Science, scientific methods, scientific approach.

Research, definition, nature, role, need, step.

Types of research: Historical, descriptive, experimental, case study, social research, participatory research.

#### Unit-II

Definition and identification of research problem, selection of a problem nature, type and function of hypothesis.

Types of variables.

#### Unit-III

Research design- definition, types, basic principles and purpose. Population and sample. Probability sampling, non probability sampling.

#### Unit-IV

Sources of data.

## Paper-IV SOS/HFN/C004 (Food Science-I)

marks-100

1. Constituents of foods: properties and significance
2. Cereals and cereals product:
  - Cereals grain: structure and composition.
  - Cereals products.
  - Flours and flours quality.
  - Extruded foods, breakfast cereals, wheat germs, puffed and flaked cereals.
3. Milk and milk product:
  - Composition physical and functional properties. Dehydration effect of processing and storage.

- Dairy product: cultured milk, yogurt, butter, whey, cheese, concentrated and dried products, frozen desserts, dairy products substitutes.
- 4. Meat and poultry: muscle, composition, characteristics and structure. Post mortem changes. Processing, preservation and their effects. Heat induced change in meat. Variable and meat preparation. Tenderizers, meat product.
- 5. Eggs: structure and composition. Changes during storage. Functional properties of eggs, use in cookery. Egg processing. Low cholesterol egg substitutes.
- 6. Fish and sea foods: type and composition, storage and change during storage. Changes during processing. By-product and newer product.
- 7. Pulses and legumes: structure, composition, processing. Toxic constituents.
- 8. Nut and oilseeds: composition, oil extraction and by-product.
- 9. Fruit and vegetables: plant anatomy, gross composition, structural features and activities of living systems. Enzymes in fruit and vegetables. Flavor constituents. Plant phenolics. Pigments. Post harvest changes. Texture of fruit and vegetables. Effect of storage, processing and preservation.
- 10. Spices and condiments: composition, flavoring extracts- natural and synthetic.

## PAPER V SOS/HFN/C005 - FOOD PRESERVATION

1. A. Classification of food in relation to shelf life-Spoilage in food and its control: spoilage caused by microorganism (bacteria, fungi and virus), enzymes, pests and rodents.
- B. Food dehydration and concentration: methods of drying and concentration, types of dryers, factors affecting drying process.
2. Heat processing: Mechanism of action, methods of application to foods (Equipments), effect on food and micro-organisms
  - a. sterilization,
  - b. pasteurization,
  - c. blanching,
  - d. canning.
3. Cold preservation; Mechanism of action, methods of application to foods (Equipments), effect on food and micro-organisms
  - a. refrigeration,
  - b. freezing,
  - c. freeze drying,
  - d. refrigerated gas storage.
4. A. Food irradiation: technology, application and safety assessments, effects on food and microorganisms
- B. Chemicals in food preservation, safety of preserved foods.

## PAPER VI- SOS/HFN/C006- PRACTICAL

1. Estimation of hemoglobin.
2. Estimation of glucose in blood and urine.
3. Estimation of vitamin C in lemon juice or any other fresh food stuff.
4. Tissue-examination of slides of connective tissue, muscular tissues and epithelial tissue.
  - Estimation of hemoglobin.
  - Blood film preparation, staining, blood groups.
  - Blood pressure- clinical examination & recordings.

marks-100

5. Milk and milk products :- scalding denaturation effect of acid, salt, alkali, sugar, heat, enzymes, polyphenols on milk, khoa, curd, paneer, cheos (ripened and unripened)

6. Egg:- structure, assessing egg quality, use of egg in cookery

7. Food preservation techniques (use of different techniques in product formulation and analysis of product for quality standards).

- Sun drying and dehydration-cereals, legumes, vegetable based.
- Preservation with sugar-jams, jelly, preserves, etc.
- Preservation - salt, oil, vinegar-pickling.
- Preservation of foods using chemicals -tomato ketchup, squash.

## SEMESTER II

Second Semester (December to April)	Name of Course	Course Number	Credits	Marks
	Food Microbiology - <i>S</i>	SOS/HFN/C007	03	100
	Advanced Food Science - II - <i>R</i>	SOS/HFN/C008	03	100
	Statistics - <i>M</i>	SOS/HFN/C009	03	100
	Assessment of Nutritional Status <i>Y</i>	SOS/HFN/C010	03	100
	Clinical nutrition & dietetics-I <i>Y</i>	SOS/HFN/C011	03	100
	Practical	SOS/HFN/C012	03	100
	Food Fortification(Self Study)	SOS/HFN/SS01	03	100
		Core Credits	18	600

### Paper-I SOS/HFN/C007- (Food Microbiology)

- To understand the role of micro organism in food, food spoilage.
- To understand advanced techniques of food preservation.
- To learn about food borne infections and intoxication.

Unit-I

- Introduction to food microbiology.
- Micro-organisms of importance in food- bacteria, yeast and moulds, morphology, primary sources and biochemical activities.
- Factors affecting the growth of micro-organism.

#### Unit-II

##### Food spoilage.

- Spoilage of different group of food.
- Cereal and cereal products.
- Vegetables and fruits.
- Milk products.
- Canned food.
- Meat, fish & poultry.

#### Unit-III

- Food preservation- physical methods and chemical methods.

#### Unit-IV

Food borne disease: bacterial and viral food borne illness, Food born parasites, mycotoxins.

#### Unit-V

- Methods of isolation and detection of micro-organism (only principles in brief)
- Immunological methods- fluorescent, antibody, radio-immunoassay, ELISA.
- Chemical methods- thermostable nuclease and PCR (polymers chain reactions)

#### Reference-

Food microbiology- Frazier and Westhoff  
 Food microbiology- Adam & Moss  
 Medical bacteriological- N.C. Dey  
 Experiment in Microbiology- K.R Anju

### Paper-II SOS/HFN/C008- (Advanced Food science-II) marks-100

#### Contents:

- (1) **Introduction to Food Science:** Evolution of the food industry and allied industries. Development of food science as a discipline.
- (2) **Water and food dispersions:** Physical properties of water and ice, chemical nature, structure of the water molecule.
  - Sorption phenomena, type of water, solution and colligative properties.
  - Free and bound water.

- Water activity and food spoilage.
- Freezing and ice structure.
- Colloidal salts, stabilization of colloidal system, Rheology of food dispersions.
- Gels: structure, formation, strength, type and permanence.
- Emulsions: formation, stability, surfactants and emulsifiers.
- Foams: Structure, formation and stabilization.

**(3) Polysaccharides, sugars and sweeteners:**

- Starch: structure gelatinization, method of following gelatinization changes. Characteristic of some food starches. Effect of ingredients and condition on gelatinization. Modified food starches.
- Non-starch polysaccharides: cellulose, hemicelluloses, pectins, gums, animal polysaccharides.
- Sugar and sweeteners: sugars, syrups, sugar alcohols, potent sweeteners, sugar products.
- Sweetener chemistry related to uses in food product: Structure relationship to sweetness perceptions, hydrolytic reactions, solubility and crystallization hygroscopicity, colligative properties, textural contributions, fermentation, non-enzymatic browning.

**(4) Fats, oil and related products:**

- Source composition effects of composition on fat properties. Functional properties of fat and uses in food preparations. Fat substitutes. Fat deterioration and anti oxidants. Radiolysis, inter esterification of fat.

**(5) Proteins: classification, composition, denaturation non enzymatic browning and other chemical changes.**

**(6) Enzymes: nature of enzymes, stability and action, proteolytic enzymes, oxidases, lipases, enzyme decomposing carbohydrates and application. Immobilized enzymes.**

### Paper-III SOS/HFN/C009- (Statistics)

marks-100

**Unit-I**

Meaning and uses of statistics, classification and tabulation of data construction of frequency distribution table.

**Unit-II**

Diagrammatic representation of data- single dimensional diagram (line and bar), two dimensional diagram (pie)

Graphical representation of data- Graphs of frequency distribution. (histogram, frequency polygon, frequency curve)

**Unit-III**

Measure of central tendency- mean, median, mode

Measure of dispersion- standard deviation

**Unit-IV**

Analysis of data, writing a research report.



## Paper-IV SOS/HFN/C010- (Assessment of nutritional status)

### Contents:-

1. Nutritional assessment as a tool for improving the quality of life of various segments of the population including hospitalized patients.
2. Current methodologies of assessment of nutritional status, their interpretation & comparative application of following:
  - Food consumption
  - Anthropometry
  - Clinical & laboratory
  - Rapid assessment & PRA
  - Function indicators such as grip strength, respiratory fitness, harverd step test, squatting test.
3. Nutritional surveillance- basic concepts, uses & setting up of surveillance system.
4. Monitoring & evaluation.

## PAPER V- SOS/HFN/C011- CLINICAL NUTRITION AND DIETETICS- I

1. Dietary principles and management Gastro-Intestinal Disorders –Etiology, symptoms, treatment and prevention of the following:
  - a. Gastritis
  - b. Peptic ulcer
  - c. Diarrhoea
  - d. Constipation
  - e. Malabsorption syndromes- Sprue/ Tropical sprue.
  - f. Ulcerative colitis and Crohn's disease
  - g. Diverticulosis
  - h. Hernia. Irritable bowel syndrome.
2. Upper gastrointestinal diseases: Gastroesophageal reflux and esophagitis. Disorders of stomach- indigestion, dyspepsia, gastritis, (causes, pathology, management).
3. Nutritional management in pulmonary diseases: Chronic obstructive Pulmonary disease, cystic fibrosis, pneumonia, tuberculosis; causes, pathology, effect of malnutrition, nutritional management.

- 4. **Rheumatic disorders:** Arthritis- osteo and rheumatoid arthritis, Gout: Symptoms, causes, treatment, prevention.
  - 5. **Liver diseases:** Hepatitis (A, B, C), Cirrhosis, Cholecystitis, Cholelithiasis, alcoholic liver disease, cholestatic liver disease, inherited disorders
  - 6. **Pancreatitis:** Functional tests and dietary management.
  - 7. **Neurological diseases:** [Stroke, epilepsy, migraine, Parkinson's, neurotrauma myasthenia gravis], causes, effect of malnutrition, feeding problems, effect of nutrients.
- Note: each chapter should be dealt under cause, etiology, symptom and management.

**PAPER- SOS/HFN/C012- PRACTICAL**

- 1. Study the use of compound microscope.
- 2. Staining of bacteria- Gram's staining, acid-fast staining, capsule and flagella staining.
- 3. Visit to food processing unit.
- 4. Effect of solutes on boiling point and freezing point of water.
- 5. Effect of types of water on characteristics of cooked vegetables, pulses and cereals.
- 6. Sugar and jaggery cookery; relative sweetness, solubility and size of sugar, stages of sugar cookery, caramelization, crystallization, factors affecting crystal formation.
- 7. Community based project for assessment of nutritional status of any vulnerable group.
- 8. A small evaluation study of a nutritional project
- 9. Visit to the hospitals- learn to use medical record and obtain required information.
- 10. Identify and collection of case studies- at least 3-4 cases in every condition.

**PAPER- SOS/HFN/SS01-FOOD FORTIFICATION -( Self Study)**

- 1. **Food fortification** – Needs, objectives, principles and rationale, selection and basis of fortificants.
- 2. **Technology of fortifying cereal products**
  - a. Characteristics of nutrients used in cereal fortification Types and levels of micronutrients to be added
  - b. Fortification methods
  - c. Fortification premixes, Design and composition of premixes and quality control Fortification of bread, pasta, noodles, biscuits, and breakfast cereals.
  - d. Use of enzyme in beverages- fruit juices, beer, wine, and distilleries; dairy, baking, oils and fats, plantation products, animal products.
  - e. Malting and germination of grains – process, characteristics, nutritional benefits and uses
- 3. **Technology of fortifying beverages, candies, snack products**
  - a. Technology of fortifying beverages - Importance of beverage fortification, Health benefits of fortification, Selection of nutrients for fortification, Levels to be added,

Characteristics of fortificants and method of fortification, Bioavailability, Organic Vs inorganic salts.

b. Technology of fortifying candies - Product formulation, Factors to be considered in selecting fortificants, Nutrient bioavailability and its interactions, Packaging, storage, shelf life and cost.

c. Snack products - Rationale for micronutrient fortification of snack products, Merits and demerits of fortification, Choice of products and selection of micronutrients, Setting level of fortification, Safety limits, Technological and cost limits, Challenges in fortifying snack products, Nutrient interaction and bioavailability.

4. **Other special fortified products** - salt, sugars, oils, Nutri-bars, Granola bars, health foods.

a. Salt: Technology of fortifying salt with iron and iodine, Iodine stability and quality of double fortified salt, Safety issues, Levels to be added.

b. Sugars: Fortification with iron and vitamin A, Premix formulation, Fortification level, Packaging.

c. Oils: Fortification with vitamin A, Rationale of vitamin A fortification, Stability of vitamin A in oil during storage and cooking, Effects of frying on Vitamin A content, Efficacy and safety of vitamin A added to oil, Technology of fortifying, Packaging.

d. Nutri bars: Selection of nutrient, Advantages and disadvantages of fortification, Technology of fortification, Packaging.

e. Granola bars: Production of the product, Physical parameters of bars, Incorporation of fortificants, Technology of fortification, Packaging.

f. Health foods: Selection of nutrients, Technology of incorporation, Bioavailability, Packaging.

### SEMESTER III

Third Semester (July to November)	Name of Course	Course Number	Credits	Marks
	Public Nutrition	SOS/HFN/C013	03	100
	Advanced Nutrition	SOS/HFN/C014	03	100
	Practical	SOS/HFN/C015	03	100
	Electives (Any three of the following)			
	Nutrition management and health	SOS/HFN/E01	03	100
	Nutrition in emergencies and Disasters	SOS/HFN/E02	03	100
	Food Hygiene and Sanitation	SOS/HFN/E03	03	100
	Food Packaging Technology	SOS/HFN/E04	03	100
	Neutraceuticals and Health	SOS/HFN/E05	03	100
	Healthy Lifestyle and Nutrition (Self Study)	SOS/HFN/SS02	03	100
	<b>Core Credits (09)+Elective Credits (09)</b>	<b>Total Credits</b>	<b>18</b>	<b>600</b>

## Paper-I SOS/HFN/C0013, Public Nutrition

**Objectives:** The course will enable the student to:

- Develop a holistic knowledge base and understanding of the nature of important nutrition problems and their prevention and control for the disadvantaged and upper socioeconomic strata in society.
- Understand the causes/ determinants and consequences of nutrition problem in society.
- Be familiar with various approaches to nutrition and health interventions, programmes and policies.

### Contents

#### Theory

1. **Concept of public nutrition-** relationship between health and nutrition, role of public nutritionists in the health care delivery.
2. Sectors and public policies relevant to nutrition.
3. **Primary health care of the community**
  - National health care delivery system.
  - Determinants of health status
  - Indicators of health.
4. **Population Dynamics:** demographic transition, population structure, fertility behavior, population policy, fertility, nutrition and quality of life inter- relationship.
5. **Major nutritional problems-** etiology, prevalence, clinical manifestation, preventive and therapeutic measure of:
  - Macro and micro nutrient deficiencies
  - Other nutritional problem like lathyrism, dropsy, aflatoxicosis, alcoholism and fluorosis.
  - Over weight, obesity and chronic degenerative diseases.
6. **Approaches and strategies for improving nutritional status and health:**
  - programmatic option- their advantages and demerits. Feasibility, political support, available resources (human, financial, infrastructural) case study of selected strategies and programme: their rationale and context, how to select intervention from a range of possible option:
    - health-based interventions, food based interventions including fortification and genetic improvement of foods, supplementary feeding, nutrition education for behavior change.

#### References:

1. Owen, A.Y and Frankie, R.T(1986): nutrition in the community, the art of delivering services, 2<sup>nd</sup> edition times mirror/mosby.
2. Park, K (2000): Park's-textbook of preventive and social medicine, 18<sup>th</sup> edition, M/s. Banarasisdas bhanot, Jabalpur.
3. SCN News, UN ACC/SCN subcommittee on nutrition.
4. State of the world's children, UNICEF
5. Census report

6. Berg, A. (1973): The nutrition Factor, the brookings institution, Washington.

## PAPER II, SOS/HFN/C0014 - Advanced Nutrition

### Unit-I

**Energy-** Energy content of food, physiological fuel value- review. Measurement of energy expenditure: BMR, thermic effect of feeding and physical activity, method of measurement.

### Unit-II

**Carbohydrates-** Classification, digestion and transport- review, dietary fibre, fructoligosaccharides, resistant starch- chemical composition and physiological effect, sweetness- nutritive and non nutritive.

### Unit-III

**Protein-** Classification, digestion, absorption review, metabolism of proteins, protein quality, methods of evaluation protein quality.

### Unit-IV

**Lipids-** Classification, digestion, absorption, transport- review, function of EFA. Role of n-3, n-6, fatty acids in health and disease. Trans-fatty acids, prostaglandins.

### Unit-V

**Water-** Regulation of intra and extra cellular volume. Osmolality, water balance and its regulation.

### Unit-VI

**Non-nutritive food components with potential health effect:** polyphenols, tannins, phytate, phytoestrogens, cyanogenic compound, lectins and saponins.

### References

1. Annual reviews of nutrition. Annual review Inc California USA.
2. Shils, M.E, Olson, J. Shike, M and Roos(1998): Modern nutrition in health and disease . 9<sup>th</sup> edition Williane and willians. A Beverly co. London.
3. Bodwell, C.E and erdman, J.W (1988) Nutrient Intractions, Marcel Dekker Inc. New York.
4. Indian council of medical research, Recommended Dietary intakes for Indians- latest Recmandations.
5. World- Reviews of nutrition and dietetics.

## PAPER III, SOS/HFN/C015- Practical (+ practical related to Elective Courses)

1. Comparison of rural, urban and tribal communities for: (a) determinants of malnutrition (b) socio-economic group (c) the type of nutritional problem in different segments and the group through analysis of secondary data.

2. Development of a plan for a nutrition intervention project in the community (the target group (s) need to be specified).  
Develop of low cost nutritive recipes suitable for various vulnerable groups at micro and macro levels.
3. Field experience in operational public nutrition programmes: nutrition rehabilitation centers, fortification programmes, cost analysis.
4. Estimation of protein quality using different method PER, B.V, N.P.U.
5. Estimation of energy requirement:
  - BMR
  - Energy expenditure on physical activities.
6. Assessment of micronutrient status:
  - Iron
  - Vitamin C
  - Vitamin A
  - Vitamin from B- complex group.

#### Paper-IV, SOS/HFN/E01 (Nutrition Management and Health)

**Objectives:-** to enable the students to understand the:-

1. Basic principles of diet therapy.
2. Significance of dietary counseling.
3. Modification of the normal diet for therapeutic purpose.

**Theory: 100 marks**

- Principles and basic concept of diet therapy.
- Normal diet as the basis of therapeutic diets.
- Assessment of patient needs based on anthropometric, clinical, biochemical and dietary data.
- Team approach to health care.
- Planning, implementation, evaluation and dietary counseling in nutrition care.
- Application of computer in health care delivery.
- Role of nutritionist in health care delivery.
- Introduction to enteral and parenteral feeding.
- Progressive diets- clear fluid, full fluid, soft, bland and regular diet.
- Therapeutic adaptation of the normal diet.
- Recommended daily allowances of nutrient by ICMR. Role of nutrition during different life cycle:- infancy, preschool, school going children pregnancy, lactation and old age.

**Practical**

- Demonstration of a computer package for nutrition care its use.
- Planning, calculating, preparation, service and evaluation of the following:-
  1. Normal diet with a cycle menu
  2. Soft diet.
  3. Liquid diet.
- Development of a counseling aid.
- Planning and preparation of diet for different life cycle:- infancy, preschool, school going children, pregnancy and lactation.

**Reference:**

1. Anita, F.P.
2. Bamji M.S. Prahlad Rao N., Ready V., 1996.
3. Davis J, and Shexex K 1994, Applied Nutrition and Diet Therapy.
4. Ghafomunissa and Krishnaswamy K. 1995, Diet and Heart Disease, NIN, ICMR.
5. NIN, ICMR, 1998, Dietary Guidelines for Indians.

**Paper-V SOS/HFN/E02 (Nutrition in Emergencies and Disasters)**  
**Marks-100**

**Unit-I**

- Natural/manmade disaster resulting in emergency situation.
- Drought, flood, earth quake, cyclone, war, civil and political emergencies
- Factors giving rise to emergency situation in these disasters.

**Unit-II**

Nutritional problems in emergencies in vulnerable groups.

- Causes of malnutrition in emergency situation.
- Major deficiency disease in emergencies.
- Protein- energy malnutrition.
- Specific deficiency.

**Unit-III**

Communicable diseases: surveillance and treatment.

- Control of communicable disease in emergencies- Role of immunization and sanitation.

**Unit-IV**

Nutritional relief and rehabilitation

- Assessment of food need in emergency situations.
- Food distribution strategy- Identification and reaching the vulnerable group.
- Mass and supplementary feeding.
- Local food in rehabilitation.
- Organization of mass feeding/ general food distribution.
- Feeding centers.
- Evaluation of feeding programmes.
- House hold food security and nutrition in emergencies.

**Unit-V**

Public nutrition approach to tackle nutritional problems in emergencies.

**PAPER VI, SOS/HFN/E03-Food Hygiene and Sanitation**

- 1. **General principle of food hygiene**, Hygiene in rural and urban areas in relation to food preparation, personal hygiene and food handling habits. Place of sanitation in food plants. Sanitary aspects of building and equipment; Plant layout and design.
- 2. **A. Safe and effective insect and pest control**: Extraneous materials in foods, Principles of Insects and pests control.
- B. Physical and chemical control**. Effective control of micro-organisms: micro-organisms important in food sanitation, micro-organisms as indicator of sanitary quality
- 3. **Sanitary aspects of water supply**: Source of water, quality of water, water supply and its uses in food industries. Purification and disinfection of water preventing contamination of potable water supply.
- 4. **A. Effective detergency and cleaning practices**: importance of cleaning technology, physical and chemical factors in cleaning, classification and formulation of detergents and sanitizers, cleaning practices.
- B. Sanitary aspects of waste disposal**. Establishing and maintaining sanitary practices in food plants, role of sanitation, general sanitary consideration and sanitary evaluation of food

**PAPER VII, SOS/HFN/E04- Packaging Technology**

- 1. **Food packaging - Need and role in extending shelf life of foods**. Design and testing of package materials, package performance. Principles in the development of safe and protective packing, safety assessment of food packaging materials.
- 2. **Food packaging systems, product characteristics and package requirements**: Different forms of packaging such as rigid, semirigid, flexible forms and different packaging system for (a) dehydrated foods (b) frozen foods (c) dairy products (d) fresh fruits and vegetables (e) meat, poultry and sea foods.
- 3. **Types of packaging materials (metals, glass, paper and plastics)**, their characteristics and uses. Paper: pulping, fibrillation and beating, types of papers and their testing methods. Glass: composition, properties, types of closures, methods of bottle making. Metals: Tinplate containers, tinning process, components of tinplate, tin free steel (TFS), types of cans, aluminum containers, lacquers. Plastics: types of plastic films, laminated plastic materials, co-extrusion.
- 4. **A. Package accessories and advances in packaging technology** (active packaging, modified atmosphere packaging, aseptic packaging, and packages for microwave ovens, biodegradable plastics, edible gums and coatings).
- B. Packaging equipment and machinery**: Vacuum, CA and MA packaging machine; gas packaging machine; seal and shrink packaging machine; form and fill sealing machine; aseptic packaging systems; retort pouches, bottling machines; carton making machines, package printing.



## PAPER VIII, SOS/HFN/E05—Nutraceuticals And Health Foods

### 1. Nutraceuticals:

- a. Use of nutraceuticals in traditional health sciences, Their role in preventing /controlling diseases.
  - b. Definition, Classification, food and non food sources, mechanism of action. Role of omega-3, fatty acids, carotenoids, dietary fiber, phytoestrogens; glucosinates; organosulphur compounds as nutraceuticals.
2. **Prebiotics and probiotics:** Usefulness of probiotics and prebiotics in gastro intestinal health and other benefits. Beneficiary microbes; probiotic ingredients in foods; types of prebiotics and their effects on gut microbes.
3. **Functional foods** Definition, development of functional foods, benefits and sources of functional foods in Indian diet. Effects of processing conditions and storage; Development of biomarkers to indicate efficacy of functional ingredients; Research frontiers in functional foods.
4. **Development of nutraceutical and functional foods** – Standards for health claims. Process of developing - preclinical & clinical studies, Marketing and Regulatory issues, Regulatory bodies in India.

## PAPER X, SOS/HFN/E03- Healthy Lifestyle And Nutrition(Self Study)

1. **Factors affecting food habits, choices and dietary patterns** – Definition of Food, Nutrition, Health, Fitness. Interrelationship between nutrition and health, concept of a desirable diet for optimum nutrition, health and fitness.
2. **A brief review of nutrients in general**
  - a. Energy and macronutrients – Carbohydrates, Protein, Fat - functions, sources deficiency disorders and recommended intakes.
  - b. Micronutrients: Minerals – calcium, Iron, Iodine, and other elements. Vitamins – A, D, E, K, B-complex, Vitamin C.
3. **Basic principles of planning diet** – Nutritional assessment, RDA for Indians. Food groups, Dietary guides and balanced diets.
4. **Basics of Body composition and changes during life span**
5. **Nutrition and physical fitness:**  
Exercise and Fitness- Definition, benefits, components and indicators of fitness. Nutritional requirements of exercise – fluids, vitamins and minerals, energy, macronutrient needs and distribution, body adaptation.  
Approaches to the management of fitness and health in weight management.
6. **Alternative systems for health and fitness** – Ayurveda, yoga and meditation and other methods.

Fourth Semester (December to April)	Name of Course	Course Number	Credits	Marks
	Food Laws and Food Safety	SOS/HFN/C0016	03	100
	Clinical nutrition & dietetics-II	SOS/HFN/C0017	03	100
	Practical	SOS/HFN/C018	03	100
	Dissertation	SOS/HFN/C019	06	200
	Electives (Any ONE of the following):			
	Experimental cookery	SOS/HFN/E06	03	100
	Human Nutrition	SOS/HFN/E07	03	100
	Enzymes in Food Processing (Self Study)	SOS/HFN/SS03	03	100
	<b>Core Credits (09)+Elective Credits (09)</b>	<b>Total Credits</b>	<b>18</b>	<b>600</b>

#### PAPER I- SOS/HFN/C0016-Food Laws and Food Safety

- Concept and meaning of Food quality and food Safety, food adulteration, food hazards.
  - Natural toxins.
- Food laws and regulations – National and international food laws, Governing bodies.
- Exposure, estimation, toxicological requirements and risk assessment.
- Safety aspects of water and beverages such as soft drinks, tea, coffee, cocoa.
- Safety assessment of food contaminants and pesticide residues.
  - Safety evaluation of heat treatments and related processing techniques.

#### PAPER II- SOS/HFN/C0017-Clinical Nutrition and Dietetics- II

NOTE: theories, etiology, symptoms, assessment and dietary management of each disease condition to be included.

- Dietary management of diseases of renal system:** etiology, symptoms, nephritis and nephrosis-metabolic and Nutritional implications in acute/ chronic renal failure, kidney, transplant. Renal calculi.
- Dietary management of Cardio vascular diseases:** Role of specific nutrients in cardiac efficiency-actiology, incidence, symptoms, long-term and short-term treatment in Coronary disease. Myocardial infarction, cerebral infarction (atherosclerosis as one of the causative factor); **Other acute and chronic conditions:** congestive heart failure, hypertension, dyslipidemia (genetic hyperlipidemia).
- Obesity:** genetics, diet and physical activity, control of body weight, risk of diabetes and cardiovascular diseases.
- Dietary principles and management of Diabetes mellitus:** Incidence, actiology, classification, therapy, diagnostic/monitoring criteria, long term and short-term management. Hypoglycemia of non-diabetic origin.

3. **General principles of diet for the following conditions:** gout, Cancer (home/ hospital management), Effect of cancer therapy on nutrition of the patient. AIDS (home/ hospital management).

**References:**

1. Mahan, L.K. and Escott-stump, S. (2000): Krause's food nutrition and diet therapy, 10<sup>th</sup> edition, W.B. Saunders Ltd.
2. Shils, M.E., Olson, J.A. Shike, M. and Ross. AC(1999) Modern nutrition in health and disease, 9<sup>th</sup> edition Williams and wilkins.
3. Escott-stump, S.(1998); nutrition and diagnosis related care, 4<sup>th</sup> edition, Williams and wilkins.

**PAPER III- SOS/HFN/C018 -PRACTICAL**

1. Identifying a specialty care unit: diabetic clinic/ weight management center/ health clubs/ hospitals/ nursing homes- select at least 3-4 patients
2. Case studies: Obtaining patient's medical history, planning for assessment and counseling for the following conditions (at least 2 to 3 cases to be taken up by each student). Obesity, diabetes mellitus (NIDDM and IDDM), hepatitis and cirrhosis, myocardial/ cerebral infarction, renal failure, calculi and nephritic syndrome, feverchronic and acute.
3. Diet planning and preparation.
4. Preparation of enteral feeds

**PAPER IV- SOS/HFN/C019 DISSERTATION**

**PAPER V - SOS/HSC/E06 -Experimental Cookery**

**Unit-I**

- Introduction to cookery.
- Aims & objectives of cookery.

**Unit-II**

**Methods of cookery foods**

- Solar cooking
- Microwave cooking
- & other methods of cooking.

**Unit-III**

Basic principles of food production

- Meat cookery
- Vegetables fruits
- Accompaniments

Unit-IV

Processed food

- James, jellies, pickles.
- Beverages

Unit-V

Traditional processed products:- fermented food cereal based, pulse based, fruit/vegetables based.

Unit-VI

Leavened product:- leavening agents, biological leavened & chemically products.

Practicals:

related to subject.

Related books:-

- Theory of cookery- Krishna Arora Institute of hotel management & catering technology, New Delhi.
- Experimental cookery- Lowe
- Sweet man- food selected & preparation IVth edition 1954
- Mejer- food chemistry

## PAPER V- SOS/HFN/E07- HUMAN NUTRITION

1. **Basis for computing nutrient requirements**, latest concepts in dietary recommendations, RDA- ICMR and WHO; their uses and limitations.
2. **Body fluids and water balance**: Body water compartments. Regulation of water balance, disorders of water **imbalance**
3. **Body composition: Methods of studying body composition**- underwater weighing, air displacement technique, DXA (dual X-ray absorptiometry), skin fold caliper, bioimpedance.  
Body composition changes during lifecycle- relationship between maternal anthropometry with fetal composition, determinants of postnatal growth and body composition during early child hood, during pregnancy, and elderly years. Nutritional disorders and effect on body composition- protein energy mal nutrition, cancer, renal failure and thyroid related disorders.
4. **Energy metabolism**: Basal and resting metabolism- influencing factors. Methods to determine energy requirements & expenditure. Thermo genesis, adaptation to altered energy intake, latest concepts in energy requirements and recommendations for different age groups.
5. **Carbohydrates**: Occurrence and physiological functions, factors influencing metabolism. Lactose intolerance. Dental caries. Artificial sweeteners. Role of dietary fiber in health and disease; Disorders related to carbohydrate metabolism. Glycemic index and glycemic load of foods and their uses, **intrinsic and extrinsic factors affecting glycemic index**.
6. **Lipids**: Concepts of visible and invisible fats. EFA, SFA, MUFA, PUFA- sources and

## PAPER VI, SOS/HFN/SS 03-Enzymes in Food Processing

1. Enzymes- Review of classification, specifications, factor affecting rate of enzyme catalyzed reactions, enzyme inhibitors, enzymic browning, immobilized enzymes.
2. A. Application of enzymes in food processing: Need for enzyme usage, sources of enzymes.  
B. Application of enzyme in industrial production of starch, high fructose corn syrup, enzymes in sucrose industry.
3. Use of enzyme in beverages- fruit juices, beer, wine, and distilleries; dairy, baking, oils and fats, plantation products, animal products.
4. Malting and germination of grains - process, characteristics, nutritional benefits and uses.

**Shri Dev Suman University New Tehari**  
**Uttarakhand**

**SYLLABUS AND ORDINANCES**

**Wef – 2015-16**

**SYLLABUS**

**OF**

**M.Sc. (HOME SCIENCE)**  
**(TEXTILE AND CLOTHING)**

**P.G. Course**

**M.Sc Semester Pattern in Textile and Clothing Subject (Home Science)**  
**Shri Dev Suman University New Tehari, Uttarakhand, India.**

<b>Semester-I</b>				
Paper	Subject Code	Name of Paper	Marks	Credits
Paper-I	1TC-T1	Textile testing & quality Control-paper-I	100(80+20)	
Paper-II	1TC-T2	Advance Pattern making & Construction Techniques Paper-II	100(80+20)	
Paper-III	1TC-T3	Festive science Paper-II	100(80+20)	
Paper-IV	1TC-T4	Research Methods and Statistics-I Paper-IV	100(80+20)	
<b>Practicals</b>				
Practical-I	1TC-P1	Textile testing & quality control-Practical-I	100(75+25)	25
Practical-II	1TC-P1	Advance Pattern making & construction Techniques Paper-II Practical-II	100(75+25)	
Seminar-I	1TC-P3	Current Trends and issue in textile and Clothing*	100(4+30)	
			<b>Grand Total=600</b>	
<b>Semester-II</b>				
Paper-I	2TC-T1	Advance Draping Paper-I	100(80+20)	
Paper-II	2TC-T2	Advance Textile Designing Paper-II	100(80+20)	
Paper-III	2TC-T3	Sociological and Psychological Aspects of Clothing and Historic Costume, Paper-III	100(80+20)	
Paper-IV	2TC-T4	Research Methods and Statistics-II, Paper-IV	100(80+20)	
<b>Practicals</b>				
Practical-I	2TC-T1	Advance Draping Paper-I Practical-I	100(75+25)	25
Practical-II	2TC-T2	Advance Textile Designing Paper-II Practical-II	100(75+25)	
Seminar-I	2TC-T3	Current Trends and issue in textile and Clothing*	100(80+20)	
<b>Semester-III</b>				
Paper-I	3TC-T1	Fashion Designing, Paper-I	100(80+20)	
Paper-II	3TC-T2	Programme Design and Evaluation in Textile Clothing, Paper-II	100(80+20)	
Paper-III	3TC-T3	Textile Chemistry, Paper-III	100(80+20)	
Project	3TC-T4	Project Design		
<b>Practical</b>				
Practical-I	3TC-P1	Paper I (Fashion Designing) Practical-I	100(80+20)	25
Practical-II	3TC-S1	Paper I S (Sessional-I)	100(80+20)	
Sessional-II	3TC-S2	Paper II S (Sessional-II)	100(80+20)	
<b>Semester-IV</b>				
Paper-I	4TC-T1	Entrepreneurship Development in Textile and Clothing, Paper-I	100(75+25)	
Paper-II	4TC-T2	India Textile Industry, Paper-II	100(75+25)	
Paper-III	4TC-T3	Apparel Merchandising, Paper-III	100(75+25)	
Project	4TC-PB	Research Project		
<b>Practicals</b>				
Practical-I	4TC-P1	Entrepreneurship Development in Textile and Clothing, Paper Practical-I	100(75+25)	25
Sessional-I	4TC-S1	India Textile Industry Paper II S	100(75+25)	
Sessional-II	4TC-S2	Apparel Merchandising Paper III S (Sessional)	100(75+25)	
			<b>Total</b>	<b>100</b>

M.Sc. (HOME SCIENCE)

TEXTILE AND CLOTHING

Semester -I

Paper-I

TEXTILE TESTING & QUALITY CONTROL

SUBJECT :- ITC-T1

Periods:50hr/15hr per units

Marks:80Theory and 20 Internal

Objectives :

- 1 To acquire knowledge of various physical properties of textiles.
- 2 To develop an understanding of utility of different physical testing equipment.
- 3 To develop an understanding of the principles involved in different testing methods of textiles.

Content – Theory

UNIT – I

- 1 Introduction, objectives, importance of standards, different type of standard based on established science. Introduction to international bodies such as I.S.I. and A.S.T.M.
- 2 Selection of textile material for research based on textile testing methods. Random Sampling procedure for determination of properties of fibers, yarn and fabric.

UNIT – II

- 3 Fabric dimensions and properties Fabric thickness - measurement of thickness of fabrics. Fabric weight per unit area and per unit length, crimp of yard in fabric crimp and fabric properties faults in fabric measurements of crimp percentage.
- 4 Measurement of air permeability, air permeability of fabrics, fabric drape. Drape meter crease resistance and crease recovery, abrasion testing of abrasion resistance. Different Color fastness tests.

UNIT – III

5 Fiber Testing

Definition, objective and methods of testing staple length, mean length. Short fiber percentage. Fineness, maturity, tensile strength and elongation at break interpretation of results.

6 Yarn Testing

Definition, objective method of testing, to test-count denier twist, diameter, tensile strength, elongation at break, stress strain curves, elastic recovery, yarn appearance, even-ness. Interpretation of results.

UNIT – IV

7 Fabric Testing

Pilling of fabric, pilling tester assessment of pilling.

Flammability some definition and terms. Used relating to flammability, flame proof material, factors affecting flame resistance.



8 Water and fabric relationship:

Water repellent wetting of fabric in rain method of testing spray and shrinkage test.

### Practical-I

Textile testing & quality Control

Practical Subject Code- ITC-P1

Periods: 8hr per week

Marks: 80Practical and 20 Internal

#### Practical:

- 1 Identification of textile fibers by microscopic burning and chemical test.
- 2 Quantitative estimation of mixtures of blends.
- 3 Determination of yarn count by Bees e.g. & yarn count balance.
- 4 Determination of Crease recovery tester.
- 5 Determination twist of the yarn by twist tester.
- 6 Determination of abrasion resistance of fabric.
- 7 Determination of pilling of fabric by using pilling tester.
- 8 Determination of stiffness by stiffness tester.
- 9 Determination of bursting strength of fabric.
- 10 Determination of shrinkage.

#### References :

- 1 J. E. Booth- Principle of Textile Testing – Moaness Butterworths London.
- 2 Grower & Hamley – Handbook of Textile Testing and quality control wileg.
- 3 John H. Skittle – Textile Testing – Chemical Publishing Co. Inc. Brooklyn, New york.
- 4 ISI Specifications.
- 5 A.S.T.M. Standards.
- 6 Herr J.W.S. and Pafers P.H. The Physical Testing of Textile Fibres. The Textile Institute Hannover 1975

Semester -I  
Paper-II

ADVANCE PATTERN MARKING & CONSTRUCTION TECHNIQUES

Subject Code :- ITC-T2

Periods:60hr/15hr per units

Marks:80Theory and 20 Internal

Objectives :

- 1 To enable students to select design and draft patterns for various garment based on body measurements.
- 2 To gain experience in handling of different fabrics and advanced construction techniques.
- 3 To develop understanding of the relation of the pattern and garment to the body measurement.

Content – Theory

Unit –I

- 1 Tools and equipment used for pattern marking and clothing construction. Varieties and special attachment. Common problems causes and remedies.
- 2 Importance of body measurement, how to take body measurements for different type of garment, taking and comparing measurements.

UNIT – II

- 3 Working with patterns -  
Reading pattern envelope understanding pattern markings, Pattern marking – methods of making patterns.  
(i) Drafting (ii) Draping (iii) Flat Patterns (iv) Use of commercial patterns.  
Pattern alteration, lengthening and shortening patterns, making bust, shoulder, crotch length alteration, increasing and decreasing waistline and hipline, neckline and sleeve alteration.
- 4 Costing-
  - a) Method of costing
  - b) Element cost for fabric
  - c) Calculating cost for a fabric
  - d) Methods of project evaluation

UNIT-III

- 5 Pattern Grading-  
Introduction to grading (a) General Principles (b) Practical principles, Basic grading applications- Master grades, Basic whole back, Front, Sleeve Collar, Neck piece. Different methods of grading patterns.
- 6 Fabric Types their selecting, Handling of different type of fabric. Preparation of fabric of cutting, layouts of different type of garment, basic cutting procedures (tracing, pinning and cutting) working with checks and strips.

#### UNIT – IV

- 7 Basic Stitches- Hand Stitches-tacking stitches. Working making up stitches-Quick slip stitch. Overcast stitch. Lockstitch, finishing touches interfacings and linings.
- 8 Study of fasteners; pocket, plackets, hem finish, trimming and decoration, applying collars, sleeves, types of sleeves.

### Practical-II

#### Advance Pattern marking & construction Techniques

#### Practical Subject Code -ITC-P2

Periods: 8hr per week

Marks: 80 Practical and 20 Internal

#### Practical :

- 1 Making different type of paper pattern. With pattern marking and grading for different type of garment-skirt, top, salwar kamees and infant, toddler and preschool and garments and also preparing envelop with details.
- 2 Designing cutting and stitching of following garments
  - 1 Party wear(Any one of garment )
  - 2 House coat with shawl collar/ night suit
  - 3 Skirt and jacket & top
  - 4 Trousers
- 3 Preparation of resource book on high fashion fabric.

#### References :

- 1 Doling Kindsley, The complete book of sewing.
- 2 Erwin Mable D. Practical Dress Design, New ork, Mac Milan Co. 1964
- 3 Gerry Cookin, Pattern Grading for women's clothes, published by Cm book service.
- 4 Gerry Cookline, Garments-Technology for Fashion Designers.
- 5 Jilverk W.B. Easy Cutting.
- 6 Ireland Patric : Basic Fashion Design, London, B.T. Bastsford Ltd., 1972
- 7 Reader Digest- Complete guide to sewing, Reader's Digest Association, 1982
- 8 Strickland Getrude, A Tailoring Manual. New York, Mac Milan, 1976
- 9 Singers Sewing Book
- 10 Zarpekar K.R, System of cutting Bombya, Zarpekar Tailoring College.

Semester-I  
Paper-III  
Textile Science  
Subject Code: - 1TC-T3

Periods:60hr/15hr per units

Marks:80Theory and 20 Internal

**Objectives**

1. To enable student to study the essential and desirable properties of textile fibres.
2. To acquire the knowledge of different type of fibers and yarns.
3. To gain knowledge of weaving
4. To understand the significance of Non woven-bonded fabrics.

**UNIT -I**

Introduction to Textiles-Textile fibers-Classification-Essential and desirable properties of textile fibres. Natural fibers-cultivation, physical & chemical properties. Man-made fibers-manufacturing, physical & chemical properties.

**UNIT-II**

Study of new fibers- lycra, lyocel, ultra fine fibers, chameleon fibers, photo adoptive fibers, intelligent fibers, nano fibers & medical fibers. Brief study of manufacturing, physical & chemical properties.

Brief study of yarns, manufacturing process, Types of yarns, simple yarn, ply yarn-novelty and fancy yarns. Texturising -important methods-types of textured yarns.

**UNIT-III**

Weaving introduction – passage of material through power loom- primary, secondary and auxiliary motions. Shuttle less looms – air jet looms- water jet looms-rapier looms- projectile looms-basic principles and operations. Knitting introduction-welt knitting & warp knitting-basic principles and operations.

**UNIT-IV**

Non woven-bonded fabrics -felt fabrics-laminated fabrics-decorative fabrics-branding-netting-lace-crocheting & tatting industrial textiles-t Yfe cord Geo textiles-medical, nano-textiles textiles-smart textiles.

**REFERENCE**

1. Fiber to fabric, Regnard P. Corbman, McGrawHill International editions.
2. Principles of weaving-R.Marks & A. T. C. Robinson,
3. Knitting technology-D.B. Ajronkar
4. Bonded Fabrics-I.B. Kolker, Shirely Institute U.K
5. Non-Woven manufacture-NN. Banerjee
6. Industrial Application of Textiles-K.I. Floyd & H.M. Taylor, Textile Institute, Manchester.

**Semester-I**  
**Paper-IV**  
**RESEARCH METHODS AND STATISTICS**  
**Subject Code -LRMS-T4**

Periods:60hr/15hr per units

Marks:80Theory and 20 Internal

**Objectives:**

- 1 To understand the significance of statistics and research methodology in Home science Research.
- 2 To understand the types, tools and method of research and develop the ability to construct data gathering instruments appropriate to the research design.
- 3 To understand the apply the appropriate technique for the measurement scale and design.

**Content-Theory**

**UNIT-I**

- 1 Definition of Research and Scope of Research in Home Science.
- 2 Anthropological and Epidemiological Research.
- 3 Selection of research problem: need, relevance and feasibility.

**UNIT-II**

- 1 Problem analysis : definition and stating hypothesis / objectives.
- 2 Literature search : Referencing, abstracting, computer search, bibliography.
- 3 Selection of research design: purpose, internal and external validity.
- 4 **Basic principles of research design :**
  - Fundamental, applied and action, exploratory and experimental survey and case study, ex-post recto, Longitudinal and cross sectional, co-relational.
- 5 Sampling :  
Objectives of sampling, principles, limitations of sampling, types of error in sampling, major types of sampling, choice of sampling techniques, characteristics of good sample.
- 6 **Data Gathering Instruments:**
  - Primary and secondary data, schedule, questionnaire, observation and case study, scaling methods.
  - Validity, reliability, Sensitivity and specificity of research tools.

**UNIT -III**

- 1 **Scientific writing as a means of communication.**
  - Different forms of -scientific writing.
  - Articles in Journals, Research notes and reports, Review articles.
  - Monographs, Dissertations, Bibliographies.
- 2 **How to formulate outlines.**
  - The reasons for preparing outlines.
  - As a guide for plan writing.
  - As a skeleton for the manuscript:
    - -Kinds of outline.
    - -Topic outlines.
    - -Conceptual outlines
    - -Sentence outlines
    - -Combination of topic and sentence outlines.

### 3 Drafting Titles, Subtitles, Tables, Illustrations.

- Tables as systematic means of presenting data in rows and columns and lucid way of indicating relationships and results.
- Formatting tables title, Body stub, Stub column, Column head, Spanner head, Box head.
- Appendices; use and guidelines.

## UNIT – IV

### 1 The Writing process

- Getting Started.
- Use Out line as a starting device
- Drafting
- Reflecting, Re-reading
  - Checking organization
  - Checking headings
  - Checking content
  - Checking clarity
  - Checking Grammar.

### 2 Parts of Dissertation / Research Report / Article

- Introduction
- Review of Literature
- Method
- Results and Discussion

### 3 Computer Application in Data analysis

- Use of Ms-Office for Research
- MS Words
- MS Excel
- MS Power Point
- Use of SPSS for data Analysis

#### References :

- 1 Best J.W. (1983) : Research Education, Prentice Hall, New Delhi.
- 2 Dody, J.T. (1967) : An Introduction to Social Research, Appleton Center.
- 3 Philips, B.S. (1977) : Social Research Strategy and Tactics, Mac Millan.
- 4 Devdas R.P. (1971): Jamdnppi of Research Methodology, Shri Ramkrishna Mission Vidyalaya.
- 5 Young, P.V. and Schmid, C.F. (1986) : Scientific Social Survey and Research, Prentice Hall, New Delhi.
- 6 Shukal, M.C. and Gulshan, S.S. (1970) : Statistics Theory and Practice, S. Chand, New Delhi.
- 7 Gupta, S.P. (1970) : Statistical Methods, S. Chand Co., New Delhi
- 8 Garrett, H. : Statistics in education and Psychology
- 9 Sinha S.L. : Statistics in psychology and Education, Anmol Publications Pvt. Ltd., New Delhi.
- 10 Daryab Singh : Principles of Statistics, Atlantic Publishers & Distributors.
- 11 Bernard Ostle : Statistics in Research.
- 12 M.H. Gopal : Introduction to Research Methodology for social Sciences.
- 13 C.R. Kothari : Research Methodology (Method Techniques)
- 14 Fedrick Lamson, Whitencey : The Elements of Research.
- 15 Good, Carter, Scales and Douglas: Methods of Research.

**Practical-III**  
**Current Trends in Textile and Clothing**

Practical Subject Code: ITC-P3

Periods: 2hr/week

Marks: 25 Internal

Current Trends and issues will have seminar presentation and carry Internal marks.

**Semester –II**  
**Paper-I**  
**ADVANCE DRAPING**  
**Subject Code 2TC-T1**

Periods:60hr/15hr per units

Marks:80Theory and 20 Internal

**Objectives:**

- 1 To teach students in detail the principles of draping fabric on the dress form for pattern making.
- 2 To develop an understanding to design in three dimension with the understanding of design/ pattern.
- 3 To apply art principles of design in creating dress designing and selecting suitable fabric particular design.

**Content – Theory**

**UNIT-I**

- 1 **Fashion Illustration-**  
Aspect of fashion, good fashion illustration, design research and sources of ideas-films, T.V., painting, historic costume etc. Changes and development in fashion.
- 2 **Fashion Drawing-**  
Basic figure drawing basic for men, women and children, anatomy, facial features movements and basic garment shapes. Quick sketching and interpretation of appeared design. Finished drawing.

**UNIT –II**

1. **Fashion Drawing-**Study of shaping devices gathers pleats darts, yokes, pockets cowl, princess line, sleeves collars etc.
2. Fashion accessories shoes headgear hand back neck wears, other accessories. Advertising and Sales promotion-Brand standard, labeling, Fashion Show, Exhibition, Display etc.

**UNIT – III**

1. Preparation of adhesive dress form: Equipment needed, grain, preparation of fabric for draping, draping steps.
2. Seam allowances marking and tracing. Making basic front and back skirt sleeve bodice block by draping on the dress form.
3. Draping on the dress form – dart manipulation, pleats, darts, tucks and gathers. Neckline variation, armhole variation, waistline variation. The princess waist, yokes, basic cowl and variation.

**UNIT-IV**

1. Skirts Flared, Skirt, Gored skirt, pleated skirt, hip yoke skirt.
2. Draping of collars- mandrin collar, Band collars, convertible collar, peterpan collar, shawl collar.
3. Draping sleeves-basic sleeve, dolman sleeve, raglan sleeve, kimono sleeve.

**Practical-I**  
**Practical Subject Code: 2TC-P1**  
**Advance Draping**

Marks:80 Practical and 20 Internal

Periods:8hrs/week



Practical :

- 1 Sketches with various patterns and styles in garment on basic croquis for men, women and children, skirts/ blouse frocks, swim suit, height wear sports wear, summer wear, salwar kameez.
- 2 Creating and constructing new styles in following garment by draping method.  
(i) Skirts (ii) Blouse or Top (iii) Jacket (iv) Evening Dress (v) Salwar Kameez.

References :

- 1 Drake Michoias, Fashion Illustration today.
- 2 Kojiro Kamagai Children Fashion Illustration Dec-1990.
- 3 Kojiro Kamagai, Fashion Illustration @ L, Expressing Texture 1988
- 4 Hillhouse M.S. and Mansfield E.A. Dress Design- Draping and Flat Pattern London U.S.A. Houghton Mifflin Co.

**Semester –II**  
**Paper-II**  
**ADVANCE TEXTILE DESIGNING**  
**Subject Code -ZTC-T2**

Periods:60hr/15hr per units

Marks:80Theory and 20 Internal

**Objectives :**

- 1 To develop skills in textile design.
- 2 To train students in printing and dyeing methods.

**Content-Theory**

**UNIT-I**

- 1 Classification of different types of yard and fabric weaves-Jacquard, Swivel, Lappet, figure and dobby weave.
- 2 Methods of weave representation, repeat of weave drafts, requirement to drawing in weaving plan, lifting plan, peg plan, relation between weave draft and lifting plan basic weaves cocksaw weave cheks and strips.

**UNIT –II**

- 1 Preparation of cloth for printing , printing paste ingredients and their functions, different types of thickeners, general principles of printing. Study of machinery used for printing such as table, roller stencil, flat bed screen, rotary screen faults and remedies in printing.
- 2 Styles of printing and their fixation methods

**UNIT-III**

- 1 Basic concept of dye and pigment. Classification of dyes. Influence of pre-treatment on dyeing proportion, classification of direct dye, principles and method of application of Direct dye. Faults and remedies in direct dyeing, various after treatment to improve fastness of direct dyed fabric.
- 2 Important step involved in reactive, vat, dyes and sulphur dyes. faults and remedies.

**UNIT-IV**

- 1 Dyeing of wool and silk with basic and acid dye & Cotton with vat & naphthol dye Dyeing with natural dyes (vegetable dye) faults and remedies, after treatments.
- 2 Different methods of dyeing fiber yarn and piece dyeing. Dyeing of blends cross dyeing & union dyeing.

Semester-II  
Practical-II  
Advance Textile Designing  
Practical Subject Code -ZTC-P2

Periods:8hrs/week

Marks: 80Practical Theory and 20 Internal

- 1 Application of dyes and variation of shade. Direct dye for cotton, and viscose rayon acid dye for silk and wool vat dye for cotton, disperse and reactive for nylon.
- 2 Analysis of fabric- identification of different weave, fabric count.
- 3 Construction of sample of basic weave and figure weave on loom.
- 4 Preparation of samples of different type of printing block screen batik stencil, khadi and tie and dye.
- 5 Drawing and painting of different types of design for saree, dress material, bed cover, curtain etc.

References :

- 1 Birrel V. Textile Arts, harper & Brothers New York, 1958.
- 2 Bhabalya : Batik for beginners author Baroda.
- 3 Clarke W. :An Introduction to Textile Printing.
- 4 Phyllis Tora Tora- Understanding textiles.
- 5 Shenal V. A. History of Textile Design.
- 6 Shenal V. A. Principles and practice of dyeing.
- 7 Watson : Textile design and colour, universal publishing corporation.
- 8 Storey J. Mannual of dyes and fabric.
- 9 Russ S. S. Fabric printing by hand studio visata Ltd., London 1964.

**Semester -II**  
**Paper-III**  
**SOCIOLOGICAL AND PSYCHOLOGICAL ASPECTS OF CLOTHING & HISTORIC COSTUME**  
**Subject Code -ZTC-T3**

Periods: 60hr/15hr per units

Marks: 80 Theory and 20 Internal

**Objectives :**

- 1 To enable student to study the psychological aspect of clothing in social situation.
- 2 To study the design and constructional details of historic costume and making use of knowledge in modern garment designing.
- 3 To enable students to gain knowledge on historic costumes and textiles of different countries.

**Content- Theory**

**UNIT-I**

- 1 Psychological aspects of clothing.
  - a) For adolescent adults and old age : self respects, human dignity, emotional response, sex desirability, self expression, individually.
  - b) Psychological effect of clothing on children.
- 2 Importance of effect of colour in clothing.
  - a. Sex differences in use of colour.
  - b. Colours for different occasions and ceremonies.

**UNIT-II**

- 3 Sociological aspects of clothing-changes in society and culture.  
Meaning of style fashion and fad influence of fashion and fashion changes, role of uniform, occupational clothes, national clothes.  
  
Class distinction and socio-economics status, Family and social influencing.

**UNIT-III**

- 4 Origin and development of costume. Origin of clothing. Functions of clothing. Types of ornament used in the beginning. Tattooing and mutilation and other method of skin decoration.
- 5 Indian Costumes- Historic approach from ancient period to 20<sup>th</sup> Century emphasizing the mogal period, British period and post independence period.
- 6 Study of regional costumes of India of different states, Punjab, Maharashtra, Gujrat, Rajasthan, H.P. Assam, Manipur, Nagaland, Bihar, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, West Bengal, Kashmir, Mizoram, Meghalaya, Sikkim, Orissa, Madhay Pradesh, Tripura.

**UNIT-IV**

- 7 Costumes Of Ancient Civilization-  
Egypt, Babylonia, Greece, Rome, England, France, Japan and America.
- 8 National Costumes of different countries Philippines, china, Burma, Arabia, India, Pakistan, (Study of Indian Saris.)

**References :**

- 1 Akari Roshan : Ancient Indian Costumes, New Delhi, Art Heritage.
- 2 Devaport Milla : The Book of costumes, Vol. I, II, New York, Coroun Publishers,
- 3 Egan CC : Costumes throughout the ages, New York J. B. Limanocott.
- 4 Ghweey G.S.Indian Costume. Bombay Popular Prakashan, ,1951
- 5 Kemper Racher 4 : The History of costumes
- 6 Laver James : Costume through the ages, New York, Simon and schustar 1968
- 7 Moti Chandra : Costumes Textiles Cosmetics Costumes in Ancient and Medieval, New Delhi  
Orient Publishers 1973.
- 8 J.C. Huger-The Psychology of clothing
- 9 Mahal D. Erooin : Clothing for modern colliear Mac Millan Publisher.

Semester –II  
Paper-IV

Statistical Research Method-II

Subject Code -2RMS-T4

Periods:60hr/15hr per units

Marks: 80 Theory and 20 Internal

**Objectives**

- To understand the significance and research methodology in Home Science research.
- To understand the types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.
- To understand and apply the appropriate techniques for the measurement scale and design.

**Contents**

**UNIT I**

**1. Meaning and Scope of Statistics in Home Science :**

- Concept of statistics.
- Scope of statistics.

**2. Descriptive statistics : Classification, tabulation, frequency distribution, diagrammatic and graphic representation of data,**

**3. Measure of central tendencies : Mean, Median, Mode.**

**4. Concept of deviations : Range, Quartile deviation, Mean deviation, Standard deviation.**

**5. Concept of normal distribution curve and probability : use of normal distribution curve, skewness and kurtosis.**

**UNIT II**

**Elements of testing a Hypothesis :**

- Concept of null hypothesis.
- Meaning of level of significance. Type I and Type II errors.
- Students 't'-test for small samples for testing differences in proportion for means and differences in means.
- Large sample test (C.R. test) for testing significance of difference between mean of two groups.
- Analysis of variance (one-way ANOVA, two-way ANOVA).
- Correlation coefficient, Product moment method, rank difference method for small samples and scattered diagram method for large sample.
- Regression analysis and prediction: Simple and multiple regression.

**UNIT III**

#### Non parametric tests for testing null hypothesis :

- Application of Chi square test on :
  - equal probability type
  - normal distribution type
  - 2 x 2 contingency tables type
  - $\chi^2$  test of independence
- Participatory rapid assessment.
- Participatory learning assessment.

#### UNIT IV

##### 1. The writing process

- Getting started.
- Use out line as a starting device
- Drafting
- Reflecting, Re-reading – Checking organization, Checking headings, Checking content, Checking clarity, Checking Grammar.

##### 2. Parts of Dissertation/ Research Report/article

- Abstract
- Introduction
- Review of Literature
- Materials and Methods
- Results and Discussion
- Summary and Conclusion
- Bibliography
- Recommendation

##### 3. Computer Applications in Data analysis

- Use of MS-Office for Research, MS Word, MS Excel, MS Power Point
- Graphic representation
- Use of SPSS for data Analysis

#### REFERENCES:

1. Best J. W. (1983) : Research Education, Prentice Hall, New Delhi.
2. Dady, J. T. (1967): An Introduction To Social Research, Appleton Center.
3. Philpit, B.S. (1977): Social Research Strategy And Tactics, Mac Millan.
4. Devdas R.P. (1971): Jamdipol Of Research Methodology, Sri Ramakrishna Mission Widyayata.
5. Young, P.V. And Schmid, C.F. (1968) : Scientific Social Survey-And Research, Prentice Hall, New Delhi.
6. Shukla, M.C. And Gulshan S.S. (1970): Statistics Theory And Practice, S. Chand New Delhi.
7. Gupta S.P. (1970): Statistical Methods, S. Chand Company, New Delhi.
8. Garrett, H. : Statistics in Education And Psychology
8. Sinha S.L. : Statistics in Psychology And Education, Anmol Publications Pvt. Ltd., New Delhi.
10. Daryab Singh Principles of Statistics, Atlantic Publishers & Distributors.

11. Bernard Ostle Statistics in Research.
12. M.H.Gopal | Introduction to Research Methodology for Social Sciences.
13. C.R. Kothari | Research Methodology (Methods & Techniques)
14. Fredrick, Lamson, Whitney: The Elements of Research.



Semester -II  
Practical-III  
Current Trends in Textile and Clothing  
Practical Subject Code 2TC-P3

Periods:2hr/week

Marks: 25 Internal

Current Trends and issues will have seminar presentation and carry internal marks.

**Semester -III**  
**Paper-I**  
**FASHION DESIGNING**  
**Subject Code: 3TC-T1**

Periods: 80hr/15hr per units.

Marks: 80 Theory and 20 Internal

**Objectives:**

1. To gain knowledge about fashion sketching.
2. To develop an understanding structural and decorative design.
3. To apply art principle of design in creating dress designing and selecting suitable fabric for particular design

**UNIT - I**

Fashion sketching - Introduction, Drawing, Aspects of drawing, Tools, Differences between normal and fashion figures. Human proportion-Head. The unit of measurement, average proportion. Method of determining an individual proportion -proportion of the womens figure. The balance like eight head theory, sketching of different fashion figures, basic gorment shape and accessories.

**UNIT-II**

Design - definition, types - structural and decorative design and their requirements. Elements of design-Line, Form, shape, colour and texture. Principles of Design, balance rhythm, emphasis, harmony and proportion. Applications of principles and elements of design in dress.

**UNIT-III**

Colour - definition, colour theories - prang colour chart and munsel system. Dimensions of colour hue value and intensity & colour harmonies - Design, principles applied to colour in dress design.

**Methods of Dress making** - home made, tailor made and readymade garments. Merits and Demerits. Factors affecting selection of clothing - choice of clothing, accessories to express individuality and distinction in appearance. Applications of basic and principles in achieving pleasing personality

**UNIT-IV**

Dress design- standards for judging costume - Aesthetic requirements for dress suitability to the individuals. Factors in personality - planning a wardrobe. Requirements for health and modesty. Planning of dressing, selection of material, texture, pattern, and colour. Suggestion for person who have unusual problems in dress. Trimmings and decorations used in Dress. Adjuncts of dress- hats, hair dressing, shoes etc.,

**REFERENCE :**

1. Fashion Sketch Book Written & illustrated by Bina Ahling, Fair child publications, New York.
2. "Inside the Fashion Business" 4th edition by Jeannette A. Jaranow, Miriam Guerreins and Beatrice Judelle, Macmillan publishing company, New York.
3. Mary Mathews, "Practical clothing construction" Part II Cosmic press, Madras.
4. Mr. Jimsy and Harriet "Art and Fashion in clothing solution", Iowa state, University Press, Iowa.

Semester –III  
Practical-I  
FASHION DESIGNING  
Practical Subject Code: 3TC-P1

Periods: 8hrs per week

Marks: 80 Practical and 20 Internal

1. Eight head theory lay figure sketching. Drawing different fashion figures poses for garment and accessory displays.
2. Drawing and preparing samples for the following: Application of principles of design in dress designing  
Prang colour chart  
Value chart  
Intensity chart  
Standard color harmonies
3. Design development - developing textile design suitable for over spot borders of all design for accessories and garments
4. Preparing samples for surface trimmings.
5. Drawing diagrams for fashion designing for the persons problems in who have unusual dress.
6. Planning wardrobes for different age groups.
7. A report on visit to fashion show and window displays.

**Semester – III**  
**Paper-II**  
**Programme Design and Evaluation in Textile Clothing**  
**Subject Code: 3TC-T2**

Periods: 60hr/15hr per units

Marks: 80 Theory and 20 Internal

**Learning Objectives:-** After completing this course students will be able to-

- understand the process of program designing.
- develop ability in planning programmes related to textile and clothing.

**Theory**

**Unit-1 : Programme Planning-Meaning, and importance.**

- Pre requisite of developing plan.
- Programme planning processes. Implementation:-
- Aspects of Execution.
- Factors responsible for the successful conduction of a programme

**Unit-2 : Evaluation, Follow up and Documentation Evaluation**

- Meaning and purpose of Evaluation.
- Types and tools of Evaluation. Follow up
- Need for follow up.
- Methods of follow up Documentation
- Need for reporting and recording.
- Aspects to be covered.

**Unit-3: Training Programme on Dyeing and Printing**

- Developing skill
- Developing New Shades.
- Quality Control and Testing

**Unit-4: Skill development programme in-**

- Embroidery techniques/Garment
- Designing / sewing techniques.

**Unit-5: • Management Information System (MIS)**

- Organisation of exhibitions and fashion shows.

Semester – III  
Programme Design and Evaluation in Textile Clothing, Paper II 5 (Sessional)

Internal Assessment (Sessional)

Subject Code JTCP-51

Period: 4hr per week:

Marks: 50

1. Design consumer awareness/skill development/capacity building programme.
2. Implementation, Evaluation and follow up of the programme.
3. Visit ongoing programmes.
4. Write reports of aforesaid programmes.

References :-

- 1) Albrecht, H. et. al. (1989). Rural Development Series Agricultural Extension Vol. I & II. Basic Concepts and Methods, Wiley Eastern Limited, New Delhi.
- 2) Chaubey, B.K. (1979). A Handbook of Extension Education, Jyoti Prakashan, Allahabad.
- 3) Dahama, O.P. and Bhatnagar, O.P. (1987). Education and Communication for development. Oxford and IBH Publishing Co., Pvt. Ltd., New Delhi.
- 4) Extension Education in Community Development. (1961). Ministry of Food and Agriculture. Government of India, New Delhi.
- 5) Pankajam, G. (2000). Extension - Third Dimension of Education, Gyan Publishing House; New Delhi.
- 6) Ray G.L. (1999). Extension Communication and Management. Naya Prokashi, Calcutta.

Semester -III

Paper-III

TEXTILE CHEMISTRY

Subject Code- 3TC-T3

Periods:60hr/15hr per units

Marks: 80 Theory and 20 Internal

Objectives:

- 1 To acquire the advanced knowledge of different kinds of natural and man made fibre.
- 2 To increase awareness of the students regarding the chemistry of cellulose, protein and synthetic fiber.

Content-Theory

UNIT - I

- 1 Classification to textile fibers.

Polymer Chemistry - Polymerization process, Functionality : Linear and cross linked polymer. Condensation and addition polymers. Polymerization techniques, Characteristics of Fibre, Forming Polymers, Melt, Dry & Wet Spinning.

- 2 Fiber Structure, Formation and arrangement of Crystalline and Amorphous region in fiber and their influence on various properties of fibres - Essential properties of fiber and general properties of fiber.

UNIT -II

- 1 Chemistry of cellulose fibers-Molecular structure of cellulose I.S. and CS. of cotton. Capillary Structure of cellulose, swelling, reaction of cellulose, oxy cellulose and hydro cellulose.
- 2 Chemical properties and reaction of cellulose, mercerization, esterification and etherification. Process, treatment with liquid ammonia. Manufacture properties and uses of regenerated cellulose fibers, viscose rayon and cuprammonium rayon, high wet modulus rayon, polyosic fibers, cellulose, acetates rayon's.

UNIT-III

- 1 Protein fiber - molecular structure of protein. Microscopic view of wool and silk. Physical chemical and thermal properties of wool and silk degumming and weighing of silk, felting of wool, shrink proofing of wool.
- 2 Synthetic fibers: Nylon, Polyester, Acetate, acrylic, their molecular structure, microscopic view. Physical, Chemical and Thermal properties. Blends - properties uses and analysis.

UNIT - IV

- 1 Dye Stuff Chemistry, Colour theory difference between a coloured compound and a dye. Suitable for textiles.

2. Classification of dyes. Azoic, Aniline black, Acid, Basic, Mordant, Disperse, Vat, Reactive, direct, pigment. Brief, introduction about chemical constitution, properties methods of application and suitability of various dyes to different fibers and their blends.

**References :**

1. Cookett, S. R. & Hilton K.A. Basic Chemistry of Textile
2. Hattuch Bruce, E. Textile Chemistry in Laboratory.
3. Hattuch Bruce B. Introduction to Textile Chemistry
4. Howard I. Meedies, Textile Fibers, Dyes, Finishes and Processes.
5. Moncrieff R. W. Man made fibers.
6. M.D. Potten and Corbman, B.P. Fiber to Fabric
7. Peter R.H. Textile Chemistry Vol. I The Chemistry of fibers. R.Mishra S. P.

A text book of Fabric science and technology. New Age international.

**Semester-III**

**Textile Chemistry, Paper III (Sessional)**

**Practical Subject Code: 3TC-52**

**Period: 4hr per week**

**Marks: 50**

1. Preparation of different dyes.
2. Preparation of different types of detergents
2. Preparation of optical brightness
3. Preparation of Bleaches.

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**Semester -III  
Project Design**

**Subject Code 3TC-PD**

**Periods: 5hr/week**

**Marks: 125 Internal**

**Note :** See the Guidelines in Appendix B in the Direction.

Semester –IV  
Paper-I

Entrepreneurship Development in Textile and Clothing

Subject Code - 4TC-11

Periods:60hr/15hr per units

Marks: 80 Theory and 20 Internal

Learning Objectives :-

- To promote entrepreneurship skills among student
- To understand the process and procedure of setting up small enterprises.
- To develop management skills for entrepreneurship developments.

Theory

UNIT-1 •Entrepreneurship - Definition, concept and Characteristics.

- Government policies towards promotion of entrepreneurship.

UNIT-2 Agencies for development of entrepreneurship. Role of SSI, MIDC and NSIC, Banks and voluntary organizations.

- Personal Effectiveness - factors affecting entrepreneur's role, effective communication skill, achievement motivation, goal orientation psychological barriers to self employment, creativity, assertiveness and quick response.

UNIT-3 Importance of textile industry in Indian Economy-problems and prospects of textile industry. National Textile Policy.

UNIT-4 Principles marketing and merchandising for the domestic, and export Market, export policy of India.



Semester-IV  
Practical -I  
Practical Subject Code -4TC-P1  
Entrepreneurship Development in Textile and Clothing

Periods:8hrs per week

Marks: 80 Practical and 20 Internal

Practicals :-

(1) Related Experience :-

- Visit to small scale industry.
- Visit Agencies that finance SSI.

(2) Project:-Survey of local market to know needs of consumer-

- Formation of project proposal.
- Report on visits.

3) Practical: Preparation of Articles based on following-

Dyeing, printing, embroidery, Garment manufacturing, soaps, detergents, stain removers.

Minimum two articles from the above are to be prepared and

organize exhibition-cum-sale of the prepared products.

References :-

- 1) Akhauri, M.M.P. (1990), Entrepreneurship for Women in India, NIESBUJ, New Delhi.
- 2) Patel, V.C. (1987), Women Entrepreneurship - Developing New Entrepreneurs, Ahmedabad EB 11.
- 3) Hisrich, R.D. and Peters M.P. (1995), Entrepreneurship - Starting, developing and managing a new enterprise, INC USA.

Semester -IV  
Paper-II  
INDIAN TEXTILE INDUSTRY

Subject Code: 4TC-T2

Periods: 60hr/15hr per units

Marks: 80 Theory and 20 Internal

**Objective:**

- i) To know India's growth and development in textile industry.
- ii) To analyze the percentage growth rate in textile industry.
- iii) To examine the development in Printing and Dyeing Industry.

**UNIT-I**

Origin, Growth and Development of Indian Textile Industry - Cotton, Wool, Silk, Rayon, -Man-Made Textiles, Ready made garments  
Five year plans for the textile Industry - Recent plan and previous 5 Five year plans,  
Organizations related to the Textile and clothing Industry Concept of GATT, MFA, WTO, AIC, Globalization)

**UNIT-II**

Technological developments in Fiber Industry, Significance and uses  
Technological developments in Yarn Industry, significance and uses.

**UNIT-III**

Technological developments in Fabric Industry - woven, significance and uses. Technological developments in Fabric Industry - knitting, significance and uses. Technological developments in Garment Industry, significance and uses.

**UNIT-IV**

Technological developments in Printing and Dyeing Industry, significance and uses.  
Technological developments in Processing Industry, significance and uses.

**REFERENCES :**

1. Textiles - Fiber to fabric, Bernard P Corbman, 6th edition. Mc Graw Hill Book Co, Singapore
2. Fabric forming systems, Peter Schwartz, Trevor Rhodes, Mansour Mohammed, Noyes Publications, New Jersey, USA(1996)
3. Fabric Care, Norma D'Souza, New Age International Pvt Ltd, New Delhi Journals: Rudder Datt, KPM Soodharam, Indian Economy P-558. S. Chand & Company Ltd, New Delhi, 2006.
2. S. K. Misra & V. K. Pari, Indian Economy P.450, Himalaya Publishing House, Delhi, 2006.
3. Francis Cherunilam, Industrial Economies, Indian Perspective p.457, Himalaya

Publishing House, 1994.

4. Dr. Anupam Agrawal, Prativogita Darpan, Indian Economy P.110, Upkar

Prakashan, Agra 2009.

5. Economic Survey, 2009-10.

6. Textile Review – Nov., 2009, April 2010, Oct. 2010.

7. [www.indianbusiness.nic.in](http://www.indianbusiness.nic.in)

8. [www.textilecommittee.com](http://www.textilecommittee.com)

9. [www.business.mapsofindia.com](http://www.business.mapsofindia.com)

10. [www.toxmin.nic.in](http://www.toxmin.nic.in)

11. [www.texprncil.com](http://www.texprncil.com)

12. [www.economywatch.com](http://www.economywatch.com)

13. [www.textilereview.com](http://www.textilereview.com)

**Semester -IV**  
**(Sessional)**  
**Indian Textile Industry**  
**Subject Code- 4TC-51**

**Period:4hrs per week**

**Marks:50**

- 1 Visit to different textile mills.
- 2 Technological developments in printing & dyeing industry.

Semester -IV  
Paper-III

APPAREL MERCHANDISING

Subject Code: 4TC-T3

Periods:60hr/15hr per units

Marks: 80 Theory and 20 Internal

Objectives :

1. To increase awareness of the students regarding merchandising.
2. To know the importance of LC amendments.
3. To acquire the advanced knowledge of Boutique.

**UNIT-I**

Introduction to Merchandising, Understanding fashion Merchandising , Scope of Merchandising, Fashion merchandising terminology, Role of Merchandiser)  
Types of Merchandising - Export House - manufacturer- Buying house. Buying Agency - Selection of Buyer's & Buying Agency.

**UNIT-II**

Pre-buying Activity, Fabric types, properties and Behavior, selection of Fabric, Garment construction. Quality requirements, quality problems, Merchandiser's role after production, Delivery date extension, transport delays - Natural calamities. Importance of LC amendments

**UNIT-III**

Knowledge of Fashion Trends, Brands and Designers, Introduction to international designers. Business opportunities and avenues. Interdepartmental relationship for merchandiser, Boutique handling.

**UNIT-IV**

Marketing analysis - Advertising and Media Planning, Fashion shows and other events, industry tour and Project. Role play, Surveys and organizing of exhibitions-Visual Merchandising.

**REFERENCES:**

- 1 Fashion Design and Product Development, Harold Carr and John Pomeroy, Black well Science Inc. Cambridge (1992)
- 2 Fashion Marketing, Mike Eassey, Oxford University press, Wynford Drive, Don Mills, Ontario (1995)
- 3 Introduction to Fashion, Patrick John, B T Batsford Ltd, Ireland, Fulham road, London (1992).
- 4 Fashion From Concepts to Consumer, Stephens Frings, PrenticeHall, 7<sup>th</sup> Edition 2002.
- 5 Marketing Management, Philip Kotler, Prentice Hall, 7th Edition 1996.

Semester -IV  
(Sessional)

**APPAREL MERCHANDISING**  
Subject Code- 4TC-52

Period: 4 hrs per week

Marks: 50

- 1 Arranging fashion shows in the institute
- 2 Documentation Fashion Brands, & textile brands and textile symbols.
- 3 Organizing Exhibitions.

Semester -IV  
Research Project (Viva voce)  
Subject Code: 4TC-PR

Periods: 5hr/week

Marks: 125

Note : See the Guidelines in Appendix B in the Direction.