

MAA SHAKUMBHARI UNIVERSITY, SAHARANPUR

National Educational Policy-2020 Syllabus development guidelines (PG)

Semester-wise Titles of the Papers in M.A. (Home Science)

| Year as per NEP | Sem as per NEP | Course code | Core/Elective/Value Added | Paper Title | Theory/Practical/Project | Credits | Marks(Int+Ext) =Total |
|-----------------|----------------|-------------|---------------------------|-----------------------------------------------------------|--------------------------|---------|-----------------------|
| 4 | VII | | Core Compulsory | Advance Food Nutrition | Theory | 4 | 25+75=100 |
| 4 | VII | | Core Compulsory | Child Development: Prenatal to Old Age | Theory | 4 | 25+75=100 |
| 4 | VII | | Core Compulsory | Traditional Textiles and Fabric Construction | Theory | 4 | 25+75=100 |
| 4 | VII | | Core Compulsory | Any one of the following | Theory/Project | 4 | 25+75=100 |
| | | | | Research Methods in Home Science | | | |
| | | | | Research | | | |
| 4 | VII | | Core Compulsory | Practical Paper I | Practical | 4 | 25+75=100 |
| 4 | VIII | | Core Compulsory | Approaches to Resource Management and Interior Decoration | Theory | 4 | 25+75=100 |
| 4 | VIII | | Core Compulsory | Extension Education and Communication Management | Theory | 4 | 25+75=100 |
| 4 | VIII | | Core Compulsory | Any one of the following | Theory/Project | 4 | 25+75=100 |
| | | | | 1. Human Physiology | | | |
| | | | | 2. Marriage and The Family | | | |
| | | | | 3. Entrepreneurship Development | | | |
| | | | | 4. Research | | | |
| 4 | VIII | | Core Compulsory | Any one of the following | Theory | 4 | 25+75=100 |
| | | | | 1. Community Nutrition | | | |

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|---|------|--|-----------------|--------------------------------------------------------|-----------|---|-----------|
| | | | | 2. Early Childhood Care and Parenting | | | |
| | | | | 3. Consumer Economics and Market | | | |
| 4 | VIII | | Core Compulsory | Practical Paper II | Practical | 4 | 25+75=100 |
| 5 | IX | | Core Compulsory | Therapeutic Nutrition | Theory | 4 | 25+75=100 |
| 5 | IX | | Core Compulsory | Child Guidance and Counseling | Theory | 4 | 25+75=100 |
| 5 | IX | | Core Compulsory | Practical Paper III | Practical | 4 | 25+75=100 |
| 5 | IX | | Core Compulsory | Any one of the following | Theory | 4 | 25+75=100 |
| | | | | 1. Management of Energy and Household Equipment | | | |
| | | | | 2. Fashion Basics and Merchandising | | | |
| | | | | 3. Extension Programme Planning and Evaluation | | | |
| | | | | 4. Sustainable Development Research | | | |
| 5 | IX | | Core Compulsory | | Project | 4 | 25+75=100 |
| 5 | X | | Core Compulsory | Gender and Development | Theory | 4 | 25+75=100 |
| 5 | X | | Core Compulsory | Any two of the following | Theory | 4 | 25+75=100 |
| | | | | 1. Children with Developmental Challenges | | | |
| | | | | 2. Food Safety, Storage and Preservation | | | |
| | | | | 3. Clothing Construction | | | |
| | | | | 4. Ergonomics | | | |
| 5 | X | | Core Compulsory | Practical Paper IV | Practical | 4 | 25+75=100 |
| 5 | X | | Core Compulsory | Research | Project | 4 | 25+75=100 |

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DETAILED SYALLABUS
M.A HOME SCIENCE
SEMESTER VII as per NEP

Paper I
Advance Food Nutrition

Course Type: Major
Credit: 4

Objectives:

- To understand the basic concept of food, nutrition and role of nutrition maintaining health.
- Get an insight about the various major and micro nutrients.
- To gain knowledge regarding methods of cooking and methods to improve nutritional quality of food.

Contents

| Unit | Topic | No. of Lectures |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Introduction to the Study of Nutrition- Food, Nutrition and Health. Digestion, Absorption and Utilization of Nutrients. The Recommended Dietary Allowances for Nutrients | 07 |
| II | Energy Metabolism- Determination of energy value of food-Bomb Calorimeter, Basal Metabolic rate and factors affecting Basal Metabolic Rate | 04 |
| III | The Nutrients | |
| | Carbohydrates- Composition and Classification, Sources, Properties, Functions. Food sources. Utilization in the Body, Regulation of Blood Sugar, RDA, Dietary Fiber, Clinical Problems | 07 |
| | Fats and Lipids- Composition and Classification, Sources, Properties. Functions, Food Sources, Essential Fatty Acids, Digestion and Absorption, RDA, Clinical Problems | 07 |
| | Proteins and Amino Acids- Composition and Classification. Sources, Properties, Functions, Food Sources. Essential Amino Acids, Digestion and Absorption, RDA, Clinical Problems | 07 |
| | Vitamins- Introduction. Nature of Vitamins, Fat soluble Vitamins- Vitamin A, D, E, K- Functions, Food Sources, RDA, Effect of Deficiency. Water Soluble Vitamins- Vitamin B Complex and Ascorbic Acid- Functions, Food Sources, RDA, Effect of Deficiency | 07 |
| | Major and Trace Minerals- Introduction, Functions of Minerals. Major Minerals (Calcium, Phosphorous, Magnesium, Sodium, Potassium)- Food sources. Function | 07 |

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| | and Deficiency, Trace Minerals (Iron, Iodine, Copper, Zinc, Selenium, Cobalt, Fluorine, Molybdenum, Manganese) | |
| | Water- Functions, Acid-Base Balance, Food Sources, Requirement, Problems of Dehydration and Oedema | 04 |
| IV | Methods of Cooking and Preventing Nutrients Losses- Moist Heat Methods of Cooking- Boiling, Poaching, Steaming, Stewing, Braising, Dry Heat Methods of Cooking- Baking, Roasting and Grilling, Frying, Modern Methods of Cooking- Microwave Cooking, Infra-red Cooking | 06 |
| V | Methods to Improve Nutritional Quality of Food- Germination, Fermentation, Supplementation, Fortification and Enrichment, Substitution | 04 |

References:

1. M. Swaminathan: Handbook of Food and Nutrition, The Bangalore Printing & Publishing Co. Ltd. 2018.
2. Anita Singh: Food and Nutrition, Star Publication, Agra, India, 2018.
3. Sumati R Mudambi and M V Rajagopal: Fundamentals of Foods, Nutrition and Diet Therapy, New Age International Publishers, 2018.
4. Dr. Reena Khanuja: Aahar Evam Poshan Vigyan.
5. Dr. Sarita Kumawat: Aahar Evam Poshan Vigyan .
6. Dr. Vrinda Singh: Aahar and Poshan Vigyan.

Sessional Work:

1. Seminar presentation
2. Internal Assessment test
3. Assignmentson any topic from entire syllabus
4. Attendance



Paper II
Research Methods in Home Science

Course Type: Major

Credit: 4

Objectives:

- To understand the significance of research methodology in Home Science research.
- To enable the students to understand about data collection tools and various statistical method to interpret the data.
- To develop skills to preparation of research proposal and report writing.

Contents

| Unit | Topic | No. of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Introduction and Meaning of Scientific Research- Definition Characteristics, Scope, Importance, Need and Criteria of research | 05 |
| II | Types of Research- Basic/Pure, Applied, Fundamental, Descriptive, Analytical, Explorative, Explanatory, Experimental, Evaluative, Quantitative, Qualitative | 05 |
| III | Nature and Scope of Research in Home Science- Research in Food & Nutrition, Research in Family Resource Management, Research in Textile & Clothing, Research in Human Development, Research in Extension Education | 03 |
| IV | Stages involved in research- Formulation of the problems, Formulation of Hypothesis, Research Design, Sampling, Data processing and Classification, Data Analysis and Interpretation, Report writing and Conclusion. | 12 |
| V | Sources of Information: Concept and sources of information, Importance Classification and sources of data collection | 03 |
| V | Methods of Sampling- Characteristics of good sampling, Probability or random sampling, non-probability sampling | 03 |
| VI | Concept of data- Types of Data: Qualitative and Quantitative data analysis, Analysis of Data: Qualitative and Quantitative data analysis | 03 |
| VII | Data Collection Tools and Statistical Methods- Tools in data collection (Schedule, Questionnaire, Interview, Case study method etc., Measurement and Scaling Techniques, Validity, Reliability, Processing of data: Editing, Coding, Classification, Tabulation and interpretation of data, Measurement of central Tendency: Mean, Median, Mode | 13 |
| VIII | Scientific Writing- Different forms of Scientific | 13 |



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|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | writing: Articles in journals, Research notes, Review articles, Monographs, Dissertations, Bibliographies. Parts of Dissertation/ Research Report Article: Introduction, Review of Literature, Methodology, Result of discussion, Conclusion | |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

References:

1. C. R. Kothari: Research Methodology- Method and Techniques (English, Hindi Both), 2000.
2. R. Kumar: Research Methodology: A step by Step Guide for Beginners.
3. M. H. Gopal: Introduction to Research Methodology for Social Sciences.
4. Dr. B.L Fadia: SodhPaddhati, Sahitya Bhawan Publication.
5. A.Kumar: ResearchMethodology inSocial Sciences,Sarupand Sons,NewDelhi, 2000.
6. H.R Bernard: Social Research Methods- Qualitative and Quantitative,2000.

Sessional Work:

1. Seminar presentation
2. Internal Assessment test
3. Assignments on any topic from entire syllabus
4. Attendance

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Paper III
Traditional Textiles and Fabric Construction

Course Type: Major

Credit: 4

Objectives:

- To enable students to understand about traditional textiles of India
- To develop skills to create basic weaves and learn techniques and methods of developing fabric using different fibres and yarns.
- To familiarize with clothing construction and care of clothing

Contents

| Unit | Topic | No. of Lectures |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Study of traditional embroideries of India (History, production area, techniques, designs, colour and products)- Embroidered Textiles of India- Kasuti, Kashida, Sindhi, Phulkari, ChambaRumal, Chikankari, Kasuti, Kantha, Pipli Applique | 10 |
| II | Resist Dyed Textiles- Bandhani of Gujarat, Bandhej&Lehariya of Rajasthan, Patola of Gujarat, Bandhas of Odisha, Ikat Textiles of Andhra Pradesh | 05 |
| III | Printed Textiles- Bagru prints from Rajasthan, Sanganer prints from Rajasthan, Kalamkari from Andhra Pradesh | 03 |
| IV | Hand-woven Textiles- Banaras Brocades, Baluchari Saris, Jamdani Saris, Paithani Saris, Kanjeevaram Saris, Chanderi Saris, Maheshwari Saris, Kashmir Shawls, Kullu& Kinnaur Shawls, Wraps of North-east | 04 |
| V | Fabric construction analysis- weave, ends, picks, count of cloth, weight, crimp & thickness | 04 |
| VI | Fabric construction methods- foam, felt, non-woven, braid, lace & knit, other methods of fabric construction: felting, non-woven, laces, braids, and nets- their properties | 05 |
| VII | Weaving technology- Parts and functions of handlooms and power looms, Types of weaves: Plain, Twill, Satin, Sateen, Terry Pile, Double Cloth | 08 |
| VIII | Knitting technology- Types of knits: Weft knitting, Warp knitting, Basic knitted structures | 05 |
| IX | Finishes (purpose and types)- scouring, bleaching, mercerization, texturing, shearing, singeing, Mechanical finishes- calendering, napping, moirering,, Chemical finishes- spill off, wash and wear, parchmentization, durable press, antcrease. Special purpose finishes- flame retardant, water repellent antistatic, soil release, moth proofing. | 08 |
| X | Dyeing and Printing- classification of textile dyes- synthetic and natural, CI number, colour and chemical | 08 |



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| | component of dyes, dyeing theory and method. Printing-difference from dyeing. Method and techniques of printing, styles of printing-block, roller, screen, stencil, rotary screen, auxiliaries used in printing | |
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References:

1. Smt. Santosh Batalia: *Bharat Ki Paramparagat Kashidakari* (Hindi Book).
2. Shailaja D. Naik: Traditional Embroideries of India.
3. [cbseacademic.nic.in/web_material/Curriculum/Vocational/2015/Traditional India Textile and Basic Pattern Dev XII/CBSE Traditional Indian Textiles XII.pdf](http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2015/Traditional%20India%20Textile%20and%20Basic%20Pattern%20Dev%20XII/CBSE%20Traditional%20Indian%20Textiles%20XII.pdf)
4. Manju Patni: Family Clothing, Star Publication.
5. Pramila Verma: *Vastra Vigyan Aivam Paridhan*, Hindi Granth Academy.
6. Reena Khanuja: *Vastra Vigyan Ke Sidhant*, Agarwal Publication.
7. K.N. Srivastava and Meenakshi Gupta: *Pramparagat Bhartiya Vastra*, Rajasthan Hindi Granth Academy.
8. Anjali Kairolia: Traditional Indian Handcrafted Textiles: History, Techniques, Processes, and Designs -Vol. I & II, 2019.
9. M.D. Potter and B.P. Corbman: *Fibre to Fabric*. The Crafts and Publishing Company New York.
10. V.A. Shenai.- History of Textile Design. Sevak Publications Mumbai

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation on any topic from entire syllabus
3. Attendance





Paper IV
Child Development: Prenatal to Old Age

Course Type: Major

Credit: 4

Objectives:

- To have an overview of development from prenatal stage to old age stage.
- To develop the ability among students to understand the aspects of all development stages during different phase of life cycle.

Contents

| Unit | Topic | No. of Lectures |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Concept of development- Introduction to Development, Stages and Principles of growth and development, Developmental tasks, Individual Differences. Heredity and Environment | 08 |
| II | Prenatal Development- Conception, stages of Prenatal Development, Factors affecting Prenatal Development, Common complications during pregnancy, Types and Stages of Birth Process | 06 |
| III | Birth to Infancy- New Born – Physical description, Sensory capacity and reflexes, Stages of Language Development, Social Development during infancy | 06 |
| IV | 2-6 Yrs. (Early Childhood)- Physical and motor development, Cognitive Development, Language Development, Emotional Development, Social Development | 10 |
| V | 7-11 Yrs. (Middle Childhood)- Physical and Motor Development, Cognitive Development, Language Development, Emotional Development, Social Development | 10 |
| VI | Adolescence- The concept of adolescence, developmental task of Adolescence, Development of Primary and Secondary sex characters, sex education, Family, Peers and friendship | 08 |
| VII | Adulthood- Introduction, physical continuity and changes, Health and Diseases | 06 |
| VIII | Old age- Introduction and changes during old age, Health and Diseases and Psycho social Changes | 06 |

References:

1. Vrinda Singh: *Bal Vikas*, PanchsheelPrakashan
2. Hurlock E. B.: *Child Development*, New Delhi, McGraw Hill
3. Kuppaswamy, B.: *Text Book of Child Behaviour and Development*. Konark Publication.
4. Devdas, R.P. and Jaya N.: *Text Book of Child development*, New Delhi, Macmillan Publishing Co.



5. Anita Shrivastava: *Adhunik Vikasatmak Manovigyaan*, Lal J.N., Vinod Pustak Mandir, Agra.
6. Neeta Agrawal: *Matru Kala Avam Shishu Palan*.
7. D.E Papalia: *Human Development*, Tata McGraw Hills Publication, 1997.
8. A. Singh: *Foundations of Human Development: Lifespan Approach*. (Ed.), Orient Blackswan, 2015.
9. N. Jaya and R.P Devdas: *Text Book of Child development*. New Delhi. Macmillan Publishing Co., 1996.
10. Dehart G.B. & Sroufe. L Alan: *Child Development- its Nature and Course*.

Sessional Work:

1. Internal Assessment Test
2. Assignment/Seminar presentation on any topic from entire syllabus
3. Attendance

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Paper V
Practical paper I

Course Type: Major/Practical

Credit: 4

Objectives:

- To have practical knowledge of Food Science and Nutrition.
- To acquire practical knowledge of preparation of research proposal, data gathering tools, conducting research and analysing data.
- To enable students to understand about traditional textiles of India
- To enable students to create basic weaves and learn techniques and methods of developing fabric using different fibres and yarns.
- To have practical overview of development from prenatal stage to old age stage.

Contents

| Unit | Topic | No. of Lectures |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Preparation of recipe- Use of cooking methods preventing nutrient loss (Moist Heat Methods of Cooking, Dry Heat Methods of Cooking, Modern Methods of Cooking), improve nutritional quality of food (Germination, Fermentation, Supplementation, Fortification and Enrichment, Substitution). | 12 |
| II | Prepare a research plan in any field of Home Science. Construct a Questionnaire / Schedule as data gathering tool. | 12 |
| III | Samples of various traditional embroideries- Kasuti, Kashida, Sindhi. Phulkari. Chamba Rumal, Chikankari, Kantha, Applique work. Weaves- Identification and their design interpretation on graph, Samples of different types of knit, Samples of Tie and dye technique, Block printing and Batik technique. | 24 |
| IV | Case Study of late childhood to adolescence with reference to physical, motor, social, emotional, language, intellectual and moral development. | 12 |

References:

1. K, Chattopadhyay: Handicrafts of India, All India Handicrafts Board, New Delhi, 1975.
2. Traditional Indian costumes and Textiles, Parul Bhatnagar, Abhishek Publication, Chandigarh, 2004.
3. Jaslen Dhamija and Jyotindra Jain: Hand-woven Fabrics of India, Mapin Publishing Pvt. Ltd. Ahmedabad. 1989
4. G.P Shorie: *Vastra Vigyan Ke Mool Sidhant*, Vinod Pustak Mandir, Hospital Road, Agra, 2007. (Hindi Book)
5. Promila, Verma, : *Vastra Vigyan Avam Paridhan*, Madhya Pradesh Hindi Granth Akademy, Bhopal, 2003. (Hindi Book)

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6. G.J., Monaster: Adolescent Development Life Tasks. Mc.Graw Hill, 1977.
7. Shri Vinod Pustak Mandir: *Aadhunik Vikasatmak Manovigyan*, Agra Edition 3rd 2015.
8. C.R. Kothari: Research Methodology, Methods and Techniques –Wiley Eastern Limited.
9. P.L. Bandarkar & T.S. Wilkinson: Methodology and Techniques of Social Research — Himalaya Publishing House- Mumbai.
10. G.L. Bhatnagar: Research Methods & Measurements in Behavioural & Social Sciences, (1990): Agri. Cole. Publishing Academy, New Delhi.
11. Shakuntala Manay, Shadaksharaswamy. M: Foods, Facts and Principles, New Age, 2000.
12. Chandrasekhar, U: Food Science and applications in Indian Cookery (2002) Phoenix Publishing House, New Delhi International Pvt Ltd Publishers, 2nd Edition
13. Swaminathan M.: Food and Nutrition, Vol I & Vol II, BAPPCO
14. <https://uou.ac.in/sites/default/files/slm/BHM-2011.pdf>

Sessional Work:

1. Preparation of practical files
2. Attendance

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SEMESTER VIII as per NEP

Paper I

Approaches to Resource Management and Interior Decoration

Course Type: Major

Credit: 4

Objectives:

- To enable students to understand the significance of management in the micro and macro-organization.
- To enlighten students about the techniques involved in lighting, colour, landscape and interiors.
- To enable the students to understand the principles of the interior design, to operate effectively within a professional environment and interior design.

Contents

| Unit | Topic | No. of Lectures |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Management as a system and process- Definition, elements, types and application in family resource management, Management process- Planning, Organizing, Supervision, Controlling and Evaluation. | 10 |
| II | Time & energy management- Time Plan, Peak load, Techniques to study method of workers, work place and Work Simplification- Pathway Chart, Process Chart, Micro motion Chart. Principals of Body mechanics, Fatigue- Definition, types, methods to avoid fatigue. | 06 |
| III | Motivating factors of Resource Management- Definitions, Characteristics and types of values, goals and standards. | 06 |
| IV | Family Decision Making - Definition, characteristics & types, Decision Making process. | 06 |
| V | Interior decoration- Introduction and Objective, Elements of art and their importance in interior decoration. Principles of design and their application to enrich the interiors, dimensions of colours, colours scheme. | 08 |
| VI | Psychological impact of colours – warm, cool and neutral colour, impact of specific hue, use of colour in various functional contexts- Residential interior, Non-residential interiors, use of colours in special situations- outdoor/indoor spaces, accessories and art works. | 06 |
| VII | Accessories in Interior- Definition, classification, selection and placement of accessories -pictures, sculptures, antiques, indoor plants and flower arrangements, Lighting in Interiors. | 06 |
| VIII | Furniture- Basics of furniture design and types of furniture design. | 04 |
| IX | Space Saving Techniques- Need for saving indoor space, technique such as combination/multipurpose | 04 |



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| | rooms, combination/multipurpose furniture, in-built furniture, techniques of creating illusion | |
| X | Soft floor covering - Selection factors for carpets and rugstypes (woven and non-woven) materials used, care and maintenance. Household linen – types, selection, use and care. | 04 |

References:

1. Suja Nair: Consumer behaviour, Sultan Chand and sons, New Delhi, 2002.
2. M.Sethi and Seetharaman: Consumerism a growing concept, Phoenix publishers, New Delhi, 1994.
3. S.SSharma: Consumer behaviour, Arihant Publishing, 1992.
4. Seetharaman P., Bata, S., Mehra, P: An introduction to family resource management, CBS Publishers and distributors, New Delhi, 2005.
5. Gross Crandall: Management for Modern Families: Wiley Eastern Ltd. New Delhi.
6. Bakshi B.K: *GrahPrabandh*.
7. Manju Patni: *GrahPrabandh*.
8. Gross I.H. &Crendall E.W. Knoll M.M.: Management for Modern Families, Prentice Hall Inc., New Jersey 1980.
9. Bhargava, B.: Family Resource Management and Interior Decoration. University Book House Ltd. Jaipur, 2001.
10. Bhargava, B.: Housing and Space Management, University Book House Ltd. Jaipur, 2001.
11. Deshpande, R.S.: Build Your Own House. United book Cooperation, Pune, 2000.
12. Chaudhari, S.N.: Interior Design, Aavishkar Publishers, Jaipur, India, 2006.
13. Choudhury, A.K.R. Modern Concepts of Colour and Apperance, Oxford and IBH publishing Co. Pvt. Ltd., New Delhi, 2000.
14. Hillard, E.: Brilliant Colour at Home, Kyle Cathie Ltd., London, 2000.
15. Kasu, A.A.: Interior Design, Ashish Book Centre, Delhi, 2005.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Attendance

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Paper II
Extension Education and Communication Management

Course Type: Major

Credit: 4

Objectives:

- To acquaint the students about the role of extension – education in community development.
- To understand the various programmes, favoring the wellbeing of the community.
- Comprehend the various effective communication methods.

Contents

| Unit | Topic | No. of Lectures |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Fundamentals of Extension Education- Meaning and Definition, types of education, Scope of Extension Education, Principles and Objectives of Extension Education, Extension Education Process. | 08 |
| II | Extension Programme Planning- Objectives of Programme planning, Principles of Extension Programme Planning, Steps of Extension Programme Planning Process. | 06 |
| III | Extension System in India- Pre-independence era Programmes: Sriniketan Project, Marthandam Project, Firka Development scheme, Post- Independence Era Programme: Etawah Pilot Project, Nilokheri Project. | 10 |
| IV | Teaching and learning: Principles of teaching and learning, Learning process, Laws of learning, Factors affecting learning, Teaching process, Principles for consideration in selection of teaching methods, Qualities of good teacher, Essentials of a teaching plan. | 08 |
| V | Extension teaching methods- Meaning nature and classification, Individual, Group and mass contact methods, Selection and use of extension methods, Audio visuals aids – meaning and nature graphics aids (flash cards, flannel graphs charts, posters), Projected aids (Slides & film projector overhead projector) other aids – models, mockups). | 10 |
| VI | I.T Technology and Tools- concept & importance, Tools-Radio, TV, Teleconferencing, Internet, e-mail, Telephone, Fax. | 03 |
| VII | Communication- Concept, importance, elements, characteristics, functions, models, principles and types of communication. Levels of communication and barriers in communication. | 07 |
| VIII | Audio visual aids - Meaning, importance & classification of audio-visual aids. | 02 |




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| IX | Communication skills- Role of ICT in communication, soft skills; effective oral communication, public speaking; non-verbal communication, writing skills; soft skills; role of ICT in communication. | 04 |
| X | Diffusion and Adoption- Innovation, innovation adoption process, factors influencing innovation. Diffusion of innovation and classification of Adopters | 04 |

References:

1. Manju Sharma and Sandhya Choudhary: *Karyakaramniyojan and Mulyankan*, Shivprakashan.
2. Aggarwal, R.: *Communication- today and tomorrow*”, New Delhi.: Sublime Company, 2008.
3. Dubey V.K., Srivastava Archana, Agrawal Garima,: *Grah Vigyan PrasarAvamSampreshan*, Star Publications Agra.
4. Harpalni B.D. Patni.Manju,: *Prasar Shiksha Avam Sanchar*, Star Publications, Agra. ISBN 978-93-81246.
5. Shaw Geeta Pushp, Shaw Jois Sheela,: *PrasarShiksha*, Vinod Pustak Mandir Agra. ISBN 81-7457-104-3
6. Dahama, O.P., & Bhatnagar, O.P.: “Education and Communication for Development”. New Delhi. - Oxford and IBH Publishing Co. Pvt.Ltd, 1998.
7. Jaipal Singh: *Prasar Shiksha avam Gramin Vikas*, SR Scientific Publications, Agra
8. Reddy. A.: *Extension Education*. Bapatha, Andra Pradesh, India.: Sreelekshmi Press, 1987.
9. Supe A.N.: *An introduction to Extension Education*. Delhi: Oxford IBH Publishing, 1983.
10. Kuppasawmi B: *Communication and Social Development in India*, Media Promoters and Publishers Pvt. Ltd. Mumbai.
11. Honolulu: *Communication and change: The Last Ten Years and Next*, University of Hawai Press. 1976.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Attendance

Paper III
Human Physiology

Course Type: Major (OPTIONAL)

Credit: 4

Objectives:

- To enable students to understand the relevant issues and topics of human physiology.
- To get an insight about the integrated function of all major organ system.
- To understand the structures and functions of various organ system in relation to the diseased condition.

Contents

| Unit | Topic | No. of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Cell and Tissues- Structure and function of cell, organ and system, elementary tissues in human body. | 03 |
| II | Musculoskeletal system- Types of muscles, their properties, characteristics, structure and function, structural and function of bone. | 05 |
| III | Blood- composition and function of blood, blood group and blood clotting. | 05 |
| V | Respiratory system- Structure and Breathing mechanism. Exchange and transport of gases and its regulation, Lung Volumes and capacities. | 06 |
| VI | Excretory System- Structure and Mechanism of urine formation, the role of the kidneys in maintaining water and electrolyte balance. | 06 |
| VII | Digestive System- Structure and Functions of the salivary glands, stomach, pancreas, liver and the intestines, mechanism of digestion and absorption of carbohydrates, proteins and fats, role of enzymes in digestion of carbohydrates, proteins and fats. | 12 |
| VIII | Endocrine System- Structure and functions of the following glands: thyroid, parathyroid, adrenal, pancreas, pituitary and pineal gland. | 05 |
| IX | Reproductive System- Structure and function of male and female sex organs, menstrual cycle. | 06 |
| X | Nervous System and Senses- Structure and function of nerve and receptor organs, central nervous system: brain spinal cord, transmission of nerve impulse, autonomic nervous system, physiology of vision, hearing, taste and smell. | 12 |

References:

1. Jain, A K.: Textbook of Physiology (5thed.). Avichal Publishing Company. Vol I and Vol II, 2012.
2. Best and Taylor's.: Physiological Basis of Medical Practice. The Williams and Wilkins Company.



3. Chatterjee, C.C.: Human Physiology. Vol I and Vol II. Medical Allied Agency, 1997.
4. Ganong W.F.: Review of Medical Physiology. 21st ed. McGraw Hill, 2003.
5. Guyton A.C. and Hall J.E.: Textbook of Medical Physiology. 10th ed. India: Harcourt Asia, 2000.
6. Tortora G.J and Grabowski S.R.: Principles of Anatomy and Physiology. 9th ed. John Wiley and Sons. Inc., 2003.
7. West J.B.: Physiological Basis of Medical Practice. 12th Edition. B. I. Waverly Pvt. Ltd, 1996.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Chart on any topic from entire syllabus
4. Attendance

Major *Adar* *Chait*

Paper IV
Marriage and the Family

Course Type: Major (OPTIONAL)

Credit: 4

Objectives:

- To develop understanding towards the institution of marriage in different cultural context.
- To develop conceptual understanding for harmonious and wholesome family living.

Contents

| Unit | Topic | No. of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Marriage- Definition, goals/functions, types/forms of marriage in India. | 06 |
| II | Marital roles and behaviours- Definition and importance of marital roles, determinants of marital behaviour. | 03 |
| III | Marital adjustment- Definition, areas of marital adjustment, factors influencing marital adjustment, obstacles in marital adjustment. | 05 |
| IV | Family- Definition, functions, types of family, family structure, pattern of changes in family structure and relationships in India. | 08 |
| V | Family life cycle- Definition, importance of studying family life cycle. | 06 |
| VI | Marital dissolution- Definition, types-voluntary and involuntary, factors responsible for an increase in the rate of legal marital dissolution, consequences of divorce, adjustment to divorce family | 08 |
| VII | Typical and alternative forms of families- Characteristics of Single parent families, female headed families, childless families, adoptive families, dual earner families and its merits and demerits | 08 |
| VIII | Laws and Acts- Marriage, Adoption, Divorce in India | 10 |
| IX | Counselling (premarital, marital and family)- Objectives, Importance, Types, Process and Effects | 06 |

References:

1. Benokraitis.V.N.: Marriage and families. 8th ed. Pearson publication, 2014.
2. Ahuja, R.: Indian social system. Rawat publication. New Delhi, 2005.
3. Kumar, R.: Violence against women. Anmol publication pvt ltd., New Delhi, 2000.
4. Goode, W.J.: The family. New Delhi: Prentice Hall of India Private Limited, 1989.
5. Adams B.N.: The family: A sociological interpretation. 3rded. Rand McNally College Publishing Company, Chicago, 1980.
6. Nye, I.: The family: Its structure and interaction, 1973.
7. Tiwari G.: Dynamics of Marriage and Family Agrotech publishing Academy, 2015.



Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Study of matrimonial advertisements published in popular daily news papers
4. Merits and demerits of nuclear family/joint family - Group discussion
5. Attendance

Maya Adar Chandra

Paper V
Entrepreneurship Development

Course Type: Major (OPTIONAL)

Credit: 4

Objectives:

- To develop understanding the nature of entrepreneurial activities.
- To enable the students to seek self-employment ventures.
- To understand the challenges of women entrepreneurs and the institutional support for start-ups.

Contents

| Unit | Topic | No. of Lectures |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Entrepreneurship- Introduction, definition, concept, types, characteristics and importance. Factors stimulating entrepreneurship, traits of entrepreneurship, factors affecting entrepreneurial growth - economic, social, cultural and personal. | 10 |
| II | Entrepreneurship Development Skills- Meaning and types of Entrepreneurship skill, Business management skills, Teamwork and leadership skills, Communication and listening, Customer service skills, financial skills, Analytical and problem-solving skills, Critical thinking skills, Strategic thinking and planning skills, technical skills, Time management and organizational skills, Branding, marketing and networking skills. | 10 |
| III | Entrepreneurial Motivation- Motivation, Maslow's theory, Herzberg's theory, McGregor's Theory, McClelland's Need – Achievement Theory, Culture & Society, Values / Ethics, Risk taking behaviour | 10 |
| IV | Women Entrepreneur- Concept, Importance, Challenges of women entrepreneurs. Means of overcoming challenges of women entrepreneurs. Suggestions for development of women entrepreneurs. | 06 |
| V | Institutions Supporting and Taxation Benefits- Central level Institutions: NABARD; SIDBI, – State Level Institutions –DICs – SFC - Government Policy for MSMEs - Tax Incentives and Concessions | 06 |
| VI | Organizations- Meaning and Definition of organizations, Types of organization-Sole proprietorship, partnership, joint stock company, State enterprises and Co-operative societies – meaning, merits and demerits of each. | 06 |
| VII | Communication- Importance of communication, barriers and gateways to communication, listening to | 05 |



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| | people, the power of talk, personal selling, risk taking & resilience, negotiation. | |
| VIII | Project Formulation- Meaning, Concept, Significance, Objective, Elements, Classification, Identification, Constraints-Internal and External, and Feasibility Analysis | 07 |

References:

1. Dr. V. C. Sinha, Dr. Pushpa Sinha:- Indian Economy and Entrepreneurship Development, *Bhartiya ArthayaVayvasthaAivamUdhmita Vikas*
2. SanjeetSharma: Entrepreneurship And Small Scale Business.
3. B.Krishna Murthy, and K. malar Mathi: Becoming a Woman Entrepreneur, Arya Kumar, Entrepreneurship, Pearson, Delhi
4. Poornima: Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi
5. Sangeetha Sharma, Entrepreneurship Development, PHI Learning
6. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi
7. Anil Kumar, S., *et.al.*: Entrepreneurship Development, New Age International Publishers, New Delhi
8. Khanka, SS: Entrepreneurship Development, S. Chand, New Delhi
9. Peter F. Drucker: Innovation and Entrepreneurship
10. A. Sahay, M. S. Chhikara: New Vistas of Entrepreneurship: Challenges & Opportunities
11. Dr B E V L Naidu: Entrepreneurship. Seven Hills Publishers

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Group discussion on START- Up in India.
4. Attendance



Paper VI
Community Nutrition

Course Type: Major (OPTIONAL)

Credit: 4

Objectives:

- To enable students, have knowledge about various nutritional problems and their prevention.
- To understand the causes and consequences of nutrition problem in society.
- Acquire basic knowledge about various approaches to nutrition and health programmes.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Community Nutrition -Concept, Definition and Scope | 03 |
| II | Health Care - Concept of Health Care, Levels of Health Care, Primary Health Care, Health Care Delivery | 04 |
| III | Nutritional Assessment and Surveillance -Meaning, need, objectives and importance | 03 |
| IV | Nutritional assessment of human- Direct: Anthropometric, clinical and Biochemical, Indirect: Vital Static diet survey. | 06 |
| V | Nutrition Problems (Strategies to combat public nutrition problems) - PEM Vitamin A deficiency Iron deficiency Anaemia (IDA) Iodine deficiency disorder (IDD) Zinc deficiency. Vitamin Deficiencies Beriberi Ariboflavinosis Pellagra Folic acid and B12 deficiency Scurvy Rickets and osteomalacia | 12 |
| VI | Sociological factors contributing in the Etiology and Prevention of Malnutrition - Foodproduction and availability, cultural influences, socio-economic factors, food consumptionand distribution, emergency disaster conditions. | 06 |
| VII | Food and Nutritional Security - Understanding the concept of food and nutrition security, Determinants of food security, India's food security system. | 06 |
| VIII | National and International Agencies (Women and Child Welfare - National agencies – ICDS, ICMR, ICAR, NIPCCD, International agencies – WHO, FAO, UNICEF | 08 |
| IX | Nutrition Education - Need, scope, importance, theories, Process of nutrition education, Nutrition education communication, Programme, formulation, implementation and evaluation. | 12 |

References:

1. Gopalon. C.: Nutrition Foundation of India, Special Publication service.
2. Gopaldas, T. Seshadri. S.: Nutrition Monitoring an Assessment: Oxford University Press.
3. Park K.: Park's Text Book of Preventive and Social Medicine, 18th Edition, M/S BanarasidasBhanot Jabalpur, 2000.
4. National Nutrition Policy Deptt. of WCD, Govt. of India, 1993. [nnp_0.pdf \(wcd.nic.in\)](#)
5. Suryatapa Das: Textbook of Community Nutrition. Academic Publishers.
6. Mahtab S Bamji: Text Book of Human Nutrition, Oxford Publication, New Delhi
7. Joshi Shubhangini A.: Nutrition and Dietetics, Tata McGraw Hill Co. Ltd. New Delhi, 2002.
8. Swaminathan M.: Food and Nutrition, Vol I & Vol II, BAPPCO
9. Mudambi. S R. and Rajagopal M.V.: Fundamentals of Foods Nutrition and Diet Therapy, New Age International Publisher, New Delhi.
10. Shukla P. K.: Nutritional Problems of India. Prentice Hall of India, 1982.

Sessional Work:

1. Internal assessment test
2. Development of low-cost nutritious recipes suitable for various vulnerable groups.
3. Techniques of assessment of nutritional status.
4. Attendance

Three handwritten signatures in blue ink are visible. The first signature on the left is 'Nagor'. The middle signature is 'Gadaw' with a large circular flourish. The signature on the right is 'Joshi'.

Paper VII
Early Childhood Education and Parenting

Course Type: Major (OPTIONAL)

Credit: 4

Objectives:

- To gain knowledge regarding early childhood care and education.
- To develop the skills to plan activities of creches, day care centers, pre-school and *aganwadi* center.
- To understand the significance of parent role in early childhood.

Contents

| Unit | Topic | No. of Lectures |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Educational psychology- Meaning, nature, Scope and importance, History of its evolution in abroad, in India, Recent trends, Challenges. | 04 |
| II | Concept of learning- definition, essential features, types of learning, laws of learning, principles of learning, learning traits, learning environment, reinforcement, punishment, Motivation | 04 |
| III | Early Childhood Care and Education- Importance, need, scope, objective, Types of preschool- play centers, day care, Montessori, kindergarten, <i>balwadi</i> , <i>aganwadi</i> . | 03 |
| IV | Contribution and thinkers in Early Childhood Care and Education- Rousseau, Froebel, Maria Montessori, Mohan Das Karam Chandi Gandhi, Rabindra Nath Tagore, Aurobindo, Tarabai Modak. | 06 |
| V | Early Childhood Care and Education in India- Pre Independence era and Post independence era. | 06 |
| VII | Activities to promote all round development of preschool children- Physical and motor development cognitive, speech and language, socio-emotional, moral development | 05 |
| VIII | Disciplining children- Tips for teachers and parents to introduce positive discipline. | 04 |
| IX | Parenting skills- The task of parenting and the concept of parenting skills, Changing concept of parenthood and childhood, types of parenting. | 06 |
| X | Individual parenting roles- Determinant of Parenting behaviour, Characteristics of the parenting roles, Role of Father, Role of Mother, Concept of Family | 12 |
| XI | Developmental interaction in early childhood years- Parent role in developing self-awareness in children, Family relation and communication, Helping the child to | 10 |

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| | learn to express and control emotions. Helping the children to discover personal capabilities, establishing routine and showing responsible behaviour. | |
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References:

1. Kilkarni, S.: Parents Education Perspective and Approaches, Rawat Publication, Jaipur, 1988.
2. Gopal Krishnan N.: Mental Health in You, Popular Prakashan, Mumbai.
3. Gupte: Speaking of child care, everything you wanted to know, 2nd Edn. Sterling Publication, NewDelhi, 1981.
4. Lidhop, M.: Child Rearing and Psycho-Social Development, Ashish Publication, New Delhi, 1987.
5. Bigner J.: Parent Child Relation: An Introduction to Parenting, Mc Million Publication, New York, 1979.
6. Agarwal, J S.: Early Childhood Education. Foundation & Practice. National Psychological Corporation, Agra, 1984.
7. Bhatia and Bhatia: Theory and Principles of Education, Doaba house, Delhi.
8. Kaul, V.: Early Childhood Education Programme, New Delhi, NCERT.
9. Sushma Parek: *Bharat Me ParambhikBalawasthayaDekhbhal Aur Siksha*, Doaba house, Delhi.
10. A.Chowdhury& R. Choudhury: Pre-school Children – Development, care & Education — New Age International Limited – Publishers, New Delhi.

Sessional Work:

1. Internal assessment test
2. Preparation of suitable teaching learning material used for preschool children.
3. Visit to play centres/ day care/ Montessori/ kindergarten/ balwadi/aganwadi
4. Attendance





Paper VIII
Consumer Economics and Market

Course Type: Major (OPTIONAL)



Credit: 4

Objectives:

- To understand the basic concept of consumer economics
- To enlighten students about the duties and responsibilities of a wise consumer.
- To impart knowledge in consumer behaviour, consumer acts and regulations.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Consumer Economics -Definition and importance of the subject. types of economic system- capitalist, socialist, mixed economy its characteristics and effect on consumer, concept of goods and services and its classification. | 08 |
| II | Consumption - Meaning, laws of consumption, utility, law of diminishing marginal utility, marginal and total utility, utility and price of the commodity, nature of wants, classification of human wants and standard of living. | 08 |
| III | Consumer Demand - Demand and types of demand, factors affecting demand, characteristic of good budget planning. | 05 |
| IV | Consumer Buying Decision - Process, types and motivating factor of purchase- decision, types of purchasing practices of consumers, role of price, factors affecting price, competition and monopoly. | 08 |
| V | Consumer Education and Protection - Introduction, significance of Consumer Education and Protection, Basic concepts, Consumer Product, Consumer Behaviour, Consumer Forum, Consumer Footfalls, Consumer Problems, Consumer Rights, Standardized Marks (ISI, Wool Mark, Hall Mark, Silk Mark), Protection Councils, Consumer Responsibilities. | 12 |
| VI | Adulteration - Definition, types of adulteration, detection methods, health hazards of adulteration, measures to control adulteration. Consumer Protection Acts 1986, Standard institutions - BIS, AGMARK, ISO. | 10 |
| VII | Consumer co-operatives & Public utilities and services - Structure and functions of consumer co-operatives. Role and functions of public utilities and services. | 05 |
| VIII | Advertisement - Definition and objectives, classification of advertisement, Methods of advertisement. | 04 |

Major:  

References:

1. Wilhelms and Heamer: Consumer Economics – Principles and Problems.
2. Oppenheim- The Family as Consumer.
3. Elizabeth B. Goldsmith: Consumer Economics: Issues and Behaviors.
4. Naresh Chandra Tripathi and Garima Tripathi- *UpbhoktaArthshastra*.
5. Bhupinder Kaur Bakshi: *UpbhoktaArthshastra*.
6. Durairaj Maheswaran: Understanding Indian Consumers, Oxford University Press, 2017.

Sessional Work:

1. Internal assessment test
2. Survey and report writing on motivating factors on purchase decision/types of purchasing practices.
3. Attendance

Three handwritten signatures in blue ink are displayed horizontally. The first signature on the left is 'Neel'. The middle signature is 'J. K. Bakshi'. The signature on the right is 'Chandra'.

Paper IX
Practical paper II

Course Type: Major/Practical
Credit: 4

Objectives:

- To developed knowledge and understanding of the creativesubject, and able to appreciate the essence of art and deign
- To acquaint students about communication process, recent advances in communication and diffusion.
- To help students acquire necessary communication skills.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Basic Application of Design- Types of Design: Structural and decorative, Design Decorative designs: Naturalistic, stylized, geometric and abstract. | 06 |
| II | Basic Application of elements of Design in interior Design- Line. point, form and shape, size, colour, light, pattern, texture and space. Balance, rhythm, emphasis, harmony, proportion, Unity. | 08 |
| III | Dimension of the colour- Hue, Value, Intensity. Colour wheel colour Schemes- Harmonious colour Schemes: Monochromatic & analogous. Non-Harmonious colour Schemes: Triad, Complementary, Double Complementary Spilt Complementary, Double Complementary. Tetrad, Polychromatic. Neutral colour harmonies & Accented Neutral. Impact of Colours on Psychology: Advancing, Receding, Warm Cool colour. | 15 |
| IV | Planning and designing of following aids- Chart, Poster, Flash cards, Leaflet/ folder/ pamphlet, Puppet. | 15 |
| V | Planning & use of selected extension teaching method- Farm and home visit, Demonstration, Group discussion, Role play, Exhibition. | 06 |
| VI | Planning and use of different communication approaches. | 06 |
| VII | Preparation of lesson plans of selected topics | 04 |

References:

1. Burden: Design Presentation, Mc Graw Hill, London, 1984.
2. M. Pratap Rao: Interior Design Principles and Practice, Standard Publishers, Delhi, 2005.
3. Premavathy Seetharaman and Parveen Pannu: Interior Design and Decoration."CBS Publishers and Distributors Private Limited, New Delhi, 2005.
4. Prathap Rao: Interior Design Principles and Practice." Standard Publishers and Distributors, Delhi, 2018.
5. Sally Walton: Colour Your Home." Parragon Book, UK, 2002.
6. Nisha, M.: Understanding Extension Education, Delhi, Kalpaz Publication, 2006.



7. Dahama, O.P and Bhatnagar, O.P.: Education and Communication for Development, New Delhi. Oxford & IBH Publishing Co., 1987.
8. Dubey, V.K and Indira Boshnoi: Extension Education and Communication, New Delhi: New Age International Publishers, 2009.

Sessional Work:

1. Preparation of practical files.
2. Attendance

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SEMESTER IX as per NEP

Paper I

Therapeutic Nutrition

Course Type: Major

Credit: 4

Objectives:

- To enable students to understand the etiology, physiologic and metabolic anomalies of acute and chronic diseases and patient needs.
- To acquire knowledge about the effects of various diseases on nutritional status and dietary requirements.
- To understand the aspect of required nutritional care and treatment of the various diseases.

Contents

| Unit | Topic | No. of Lectures |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Nutrition, Meal Planning and Dietary Management- Need and importance, Factors to be consider while planning meal. | 03 |
| II | Principle of Therapeutic Diet- Definitions of normal and therapeutic diet, objectives of diet therapy, types and advantages of different therapeutic diet, methods of feeding. | 15 |
| III | Malnutrition: Causes, symptoms, dietary modifications and preventive measures for protein energy malnutrition, nutritional anaemia, pernicious anaemia, underweight, overweight (obesity), anorexia, bulimia nervosa. | 12 |
| IV | Physiological changes affecting nutrient needs during pregnancy, lactation, infancy up to old age- Recommended Dietary allowances and meal planning. Nutritional concerns in pregnancy, lactation, infancy. early childhood, school going children, adolescents, adults and old age. | 15 |
| V | Etiopathogenesis, clinical symptoms, nutritional requirement and dietary management in diseases- cardiovascular, Hypertension, Hyperlipidaemia, Atherosclerosis, Diabetes Mellitus- Insulin dependent and non-Insulin dependent, Acute and liver disorder-hepatitis, cirrhosis of liver, gastrointestinal disorders-constipation, diarrhoea, peptic ulcer, renal disease, cancer, HIV AIDS. | 15 |

References:

1. B Srilakshmi, Dietetics: New age international publisher, New Delhi.
2. Mudamsi, Rajgopal: Fundamentals of Food nutritional and diet therapy
3. Dr. M.S. Swaminathan: Food and Nutrition.
4. M. S. Swarninathan: The nutritive value of Foods.
5. C.Lenka: Guidelines for planning Therapeutic diets, Akinik Publications, New Delhi

6. Subhangini A. Joshi: Nutrition and Dietetics — Tata McGraw-Hill Publishing Company Limited. New Delhi.
7. B. Srilakshmi: Dietetics New age international (P) limited, New Delhi.
8. F.A. Antia: Clinical Dietetics and Nutrition, Oxford University Press, London.
9. C.H. Robinson: Normal and Therapeutic Nutrition, Oxford & IBH publishing Co. Calcutta.
10. Mahtab S. Bamji, N. Rao & V. Reddy: Text Book of Human Nutrition, Oxford & IBH Publishing Co. Pvt Ltd.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Attendance

N. Rao *Mahtab S. Bamji* *V. Reddy*

Paper II
Child Guidance and Counseling

Course Type: Major

Credit: 4

Objectives:

- Enable the students to understand the need for guidance and counseling across the life span.
- To discuss among students the process involved in counseling at different stages in life.
- To understand peculiar needs and problems of children and methods of providing assistance to them.

| Unit | Topic | No. of Lectures |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Guidance- Introduction, concept, aims, scope, principles, need of guidance for- children, adolescents, families, qualities of an effective helper. | 08 |
| II | Guidance of Children at Home and School- Elementary school years, adolescence, middle years, old age | 06 |
| III | Counseling- Introduction, meaning, principles, skills of counselling, approaches to counselling-directive, non-directive and eclectic, difference between guidance and counseling. | 10 |
| IV | Counselor- Skills of a counsellor, counselor relationship with counselee, individual counseling, group counseling, family counseling. | 06 |
| V | Techniques of counseling- Types (Questionnaire techniques, Schedule Techniques, Interview techniques and Cumulative record card) Merits, and Demerits. | 10 |
| VI | Life Span Psychological Disorders and Counseling- Childhood, Adolescence, Adulthood, Old age | 10 |
| VII | Counselling for children with special needs- special requirements of families having children with special needs, parenting children with special needs. | 10 |

References:

1. Gibson, R.L. & Mitchell, M.H.: Introduction to counselling and guidance. New Jersey: Pearson, 2010.
2. Gladding, S. T.: Counselling a comprehensive profession. New Delhi: Dorling Kindersley India Pvt. Ltd, 2013.
3. Jones, N.R.: Basic counseling skills. Los Angeles: Sage Publications, 2012.
4. Jones, N.R.: Six key approaches to counseling and therapy. Los Angeles: Sage Publications, 2012.
5. Bennett, M. E.: Guidance and counselling in groups. McGraw-Hill, New York, 1963.
6. Burnard, P.: Counselling skills training book of activities. London: Sage Publications, 2010.
7. Burnard, P.: Counselling skills training. New Delhi: Viva Books, 1999.



8. Jaisawal Sitaram: *PramarshAivamNirdeshan*.
9. Dubey, L.N.: *PramarshManovigyan*.
10. Ram Amarnath and Asthana Madhu: *NirdeshanAaivamPramarsh*.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation
3. Attendance



Paper III
Practical paper III

Course Type: Major/Practical

Credit: 4

Objectives:

- To enable students to understand the practical concept of therapeutic nutrition.
- To identify the different types of need and therapeutic diet for hospitalized patients.
- To learn about the counseling process role play, mock sessions.

Contents

| Unit | Topic | No. of Lectures |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Planning and preparation of therapeutic diets for individual suffering from- obese, malnutrition person, acute and liver disorder-hepatitis, cirrhosis of liver, gastrointestinal disorders-constipation, diarrhoea, peptic ulcer, renal disease, cancer, HIV AIDS. | 24 |
| II | Assessment of nutritional status- 24-hour dietary recall, anthropometry, clinical assessment of any age group. | 05 |
| III | Planning and Preparation of diets for different age groups – Infancy, preschool age, school age, adolescent, adult and old age. | 12 |
| IV | Planning and Preparation of diets for Pregnant and Lactating women. | 06 |
| VI | Make Scrap Book related to any field- Child Guidance and Counseling. | 05 |
| VII | Conducting mock sessions in Guidance and Counselling- Preparing students for role play, Role-play as counsellor and counsee, Group discussion. | 08 |

References:

1. Lee RD & Neiman DC: Nutritional Assessment. 5th Edition. Brown & Benchmark, 2009.
2. Gibson SR.: Principles of Nutritional Assessment. 2nd Edition. Oxford University press, 2005.
3. Williams, S.R.: Basic Nutrition and Diet Therapy. 11th ed. Times Mirror Mosby College Publishing, 2001.
4. Verma Rampal Singh and Upadhaya: *NirdeshanAaivamPramarsh*.
5. Sukanya Ghosh and Dr. Subir Nag: Hand book of practical guidance and counselling.

Sessional Work:

1. Preparation of practical files.
2. Attendance



Paper IV

Management of Energy and Household Equipment

Course Type: Major (Optional)

Credit: 4

Objectives:

- To understand the concept of better management of household energy and equipment.
- To make students more responsible by educating regarding the concise use of energy resources.
- To familiarize students with the recent development in household equipment design and technology.

Contents

| Unit | Topic | No. of Lectures |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Energy sources and classification- Renewable and non-renewable sources, conventional and non-conventional sources, commercial and non-commercial sources of energy, study of alternative sources of energy. | 10 |
| II | Conservation of energy- Energy conservation Act 2001 and its features, notifications under the Act, Schemes of Bureau of Energy Efficiency (BEE) including Designated consumers, state designated agencies, ECBC code for building construction, proper use and maintenance of domestic cooking, lightening and other appliances, energy conservation in transport sector. | 12 |
| III | Household equipment- Meaning, classification – in terms of cleaning, food processing, laundry equipment and equipment for personal care and recreation, electrical and non- electrical, portable and non-portable, importance of various household equipment in conserving time, energy and money, factors affecting selection of equipment. | 15 |
| IV | Material used for household equipment- Base material – Aluminium, Iron, Steel, Copper, Glass, Plastic. Insulating material – Mica, Fiberglass, Fiberwool, Mineral wool, Plastic, Foam. | 07 |
| V | Operational principle, use and care of electrical appliances- Vacuum Cleaner, Mixer-juicer-grinder, Food processor, Oven and cooking range, Microwave oven, Eggbeater, Washing Machine, Geyser, water immersion rod, Iron, Hair dryer. | 05 |
| VI | Operational principle uses and care of non-electrical equipment used in home- Cleaning Mop, Gas stove, Smokeless <i>chulah</i> , Solar cooker, Pressure cooker, Solar water heater. | 05 |
| VII | Product testing- Need, types of testing, equipment required for testing. | 03 |
| VIII | Safety of household appliances- Need, classification of | 03 |

May 2019

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| safety. electric shock, its prevention, quality control norms. |
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References:

1. Avery, M.: Household Physics, McMillan Co., New York, 1955.
2. Johnson, B.J: Equipment for Modern Living, , McMillan Co., New York, 1970.
3. Wilson, P.: Household Equipment Management and Selection, Houghton Mifflin Co., Boston, 1981.
4. Reddy B.S.: Urban Energy System, Concept Publishing Company, New Delhi, 1998.
5. Chatterjee Manas: Energy and Environment in Developing Countries, John Wiley, Chichester, 1981.
6. Parich, J.K.: Energy, System and Development, OUP, New Delhi, 1980.
7. Raj, G.D.: Non-Conventional Energy, Khanna Publishers, New York, 1996.
8. Van Zante H.: Household Equipment Principles, Prentice Hall, New York.

Sessional Work:

1. Internal assessment test
2. Assignment
3. Seminar presentation/Discussion on any topic from entire syllabus
4. Survey of available household equipment and appliances in the market
5. Attendance

Maya *Adar* *Chas*

Paper V
Fashion Basics and Merchandising

Course Type: Major (Optional)

Credit: 4

Objectives:

- To impart the knowledge of fashion, textile and designing among students.
- To develop sense of different types of marketing and retailing procedure.

Contents

| Unit | Topic | No. of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Fashion Introduction- Concept of Fashion, Role of Fashion Designer, New Fashion and Technology. | 06 |
| II | Fashion Origin- Fashion clothing theories, Clothing as modesty, protection and status symbol, study of major fashion centers. | 06 |
| III | Fashion Terminologies- Fashion, Fad, Fashion cycle, Style, Classic, Boutique, Trend, Haute couture, Designer, Pret-a-Porter, Silhouette, Croquis, Fashion icon, Fashion follower, Muse. | 10 |
| IV | Fashion Brands- Fashion industry, Branding, Promotion, Fashion Leaders | 06 |
| V | Introduction to Fashion Merchandising- Definition, Functions of merchandisers, Sampling & Sources, Elements of Merchandiser, Qualities of Merchandiser | 10 |
| VI | Fashion Retail- Introduction, Scope and Importance, Types of stores – Departmental, Speciality and chain stores, Channels of distribution – Designer shops, outlet, Consumer service, Human resource, Sales methods and Competition | 10 |
| VII | Introduction to merchandise calendar- Definition, scope prospects of merchandise calendar, Advantages of merchandise calendar, Working and planning process as per merchandise calendar | 06 |
| VIII | Merchandise Information- Identify the components of the promotional mix, identify merchandise classifications, Explain sizing in apparel. | 06 |

References:

1. Fashion Promotion: Building a Brand Through Marketing and Communication. Gwyneth Moore.
2. Fashion From Concept to Consumer, Gini Stephens Frings.
3. Encyclopedia of Fashion Details, Patrick John Ireland.
4. Introduction to Fashion Designs, Patrick John Ireland.
5. Sharon Lee Tate, Inside Fashion Design Harper and Row.
6. Chowdhry Sonia: A unique phenomenon: understanding the dynamics of fashion, Clothiersline 11 (11) Nov, 1998.
7. Ireland John Patrik : Basic fashion design, London B. T., Bradford Ltd., 1975.



Sessional Work:

1. Internal assessment test
2. Seminar presentation/Discussion on any topic from entire syllabus/ Sketching styles for different age group
3. Attendance



Paper VI

Extension Programme Planning and Evaluation

Course Type: Major (Optional)

Credit: 4

Objectives:

- To make students understand about the need and steps in programme planning.
- To identify the factors that influence successful programme implementation.
- To familiarize with the evaluation tools and methods.
- To prepare programme for implementation at village level.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Programme Planning- Meaning and importance of programme planning in extension. Principles of programme planning – programme development cycle and its components. | 07 |
| II | Plan of work- Meaning, importance, components of a plan of work, developing a plan of work, factors to be considered in preparing the plan of work. | 06 |
| III | Resources for programme planning- Meaning of resource, types of resources, identification and appraisal of resources – resource. | 06 |
| IV | Programme Implementation- Aspects of execution. Factors responsible for the successful conduct of a programme. | 06 |
| V | Evaluation and Follow-up- Meaning and purpose of evaluation – types of evaluation - self-evaluation, and external evaluation, criteria for evaluation. Follow-up- Need for follow-up, methods of follow-up. Correspondence, spot visit, meetings. | 08 |
| VI | Documentation- Need for reporting and recording. Procedures for recording – aspects to be covered. Record and registers to be maintained in programme implementing institutions. | 07 |
| VII | Participatory Tools and Urban Development Methods- Participatory Management and Importance of Participatory Methods. PLA (Participatory Learning and Action): Underlying Principles and Techniques, Working with Stakeholders, Using Participatory Methods: Advantages, Challenges and Ways Forward | 10 |
| VIII | Development programmes in India- Programmes for nutrition, health, education, wage and self-employment, women's development, skill development, sanitation and infrastructure. | 10 |





References:

1. Albrecsht, H.et.al.: Rural Development Series. Agricultural Extension Vol.I&II, 1989.
2. Chaubey, B.K.: A Hand book of Education Extension. Jyoti Prakashan, Allahabad, 1979.
3. Dahama, O.P. and Bharnagar, O.P.: Education and Communication for Development. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, 1987.
4. Extension Education in Community Development, Ministry of Food and Agriculture, Government of India, New Delhi, 1961.
5. Pankajam,G.: Extension-Third Dimension of Education, Gyan Publishing House, New Delhi, 2000.
6. Ray, G.L.: Extension communication and Management. Naya Prokash, Calcutta, 1999.
7. Reddy, A.: Extension Education. Sree Lakshmi Press, Bapatla, 1999.
8. Sandhu,A.S.: Extension Programme Planning. Oxford & IBH Publishing company Private Limited. New Delhi, 1994.
9. Singh,R.: Text Book of Extension Education. Sahitya Kala Prakashan, Ludhiana, 1987.
10. Supe, S.V.: Introduction to Extension Education. Oxford Publishers, New Delhi, 1982.

Sessional Work:

1. Internal assessment test
2. Assignment
3. Seminar presentation/Discussion on any topic from entire syllabus
4. Attendance

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Paper VII
Sustainable Development and Environment

Course Type: Major (Optional)

Credit: 4

Objectives:

- To enable student, understand the concept of sustainable development, environmental, social and economic dimensions.
- Understand the sustainable development challenges for communities, industries, and academic institutions, and their responsibility.
- To identify the factors that support to achieve sustainability and resilience in an individual level and in a community level.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Sustainability- Meaning, concept, importance, implications, dimensions, goals, challenges, theories of development, evolution of sustainable development perspectives over the years, Brundtland Commission and outcome, UN summits (Rio summit, etc.) and outcomes. | 12 |
| II | Dimensions to Sustainable Development- Society, environment, culture and economy, current challenges - natural, political, socio-economic imbalance. | 06 |
| III | Sustainable Development Initiatives and Policies- Global, Regional, National, Local, Needs of present and future generation - political, economic, environmental. | 10 |
| IV | Environment- Definition, concept, components, environmental pollution, sources, development & environmental issues, environmental ethics, global warming, climate change, ozone depletion, acid rain etc. Eco-friendly environmental practices-waste management, energy practices, agriculture practices. | 05 |
| V | Natural resources and conservation- Forest resources, water resources, soil resources, food resources, green revolution | 06 |
| VI | Non-renewable energy resources- Oil, Natural gas, Coal. Environmental impacts of non-renewable energy consumption, impact of energy consumption on global economy, application of green technology, future energy options and challenges. | 08 |
| VII | Renewable energy resources- Energy efficiency, solar energy, Hydropower, Nuclear power, Tidal energy, Wave energy, Ocean thermal energy conversion (OTEC), Geothermal energy, energy from biomass, bio-diesel. | 08 |
| VIII | People's participation and Sustainability- History and concept, Relationship between participation, learning and sustainability, People's participation for building | 05 |



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| | local knowledge, Capacity of people and local institution. | |
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References:

1. Robert G. H. Turnbull: Environmental and Health Impact Assessment of Development Projects, Elsevier Sciences Publication
2. B.K.Sharma: Environmental Chemistry, Krishna Prakashan Media.
3. S C Santra: Environmental Science by, Publisher New Central Book Agency Calcutta, 2001.
4. Craig, J.R., Vaughan. D.J. & Skinner. B.J: Resources of the Earth: Origin, Use, and Environmental Impacts (2nd edition). Prentice Hall, New Jersey, 1996.
5. Freeman, A.M.: Measures of value and Resources: Resources for the Future. Washington DC, 2001.
6. Ginley, D.S. & Cahen, D.: Fundamentals of Materials for Energy and Environmental Sustainability. Cambridge University Press, 2011.
7. Bharucha, E.: Textbook of Environmental Studies for Undergraduate Courses, Universities Press (India) Pvt Ltd, 2005.
8. Karpagam, M.: Environmental Economics: A Textbook. Sterling Publishers, New Delhi, 2001.
9. Rajagopalan, R.: Environmental Studies: From Crisis to Cure. Oxford University Press, New Delhi, 2005.

Sessional Work:

1. Internal assessment test
2. Assignment
3. Seminar presentation/Discussion on any topic from entire syllabus
4. Attendance



**Paper VIII
Research**

Course Type: Project
Credit: 4

Course content:

- Identification of research problem
- Preparation and finalization of synopsis
- Review of literature and methodology of the study.
- Finalization of data collection tool.

Nayan *Hedav* *Chait*

SEMESTER X as per NEP

Paper I

Gender and Development

Course Type: Major (Optional)

Credit: 4

Objectives:

- To develop awareness regarding status of women in India and sensitivity of women's issues and concerns.
- To enable women to become well informed in the changing society.
- To empower women in their struggle against inequality and gender bias.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Status of women in Ancient India- Vedic Period, Mauryan Period, Gupta Period, Medieval Period, British Period, Post Independence Period. | 10 |
| II | Issues And Problems of Women in India- Gender Division of Labour (Organised and Unorganised sector), Reproductive Health, Child Marriage, Female Feticide, Honour Killing, Dowry, Divorce, Widowhood, Trafficking, Domestic Violence, Sexual Harassment. | 12 |
| III | Gender and Environment- Nature and Feminine Principle, women's dependency on eco system., Care and management of natural resources, sustainable development, Rise of eco – feminism in India and women's resistance to environmental destruction (Chipko Movement and Narmada BachaoAndolan). | 10 |
| IV | Gender and Development: Concept of gender, gender roles, Changing trends, gender analysis matrix, shift from welfare to development and empowerment, gender in development, gender and development, National and International efforts for gender empowerment. | 10 |
| V | Polices for Women's development: National Policy for Women's empowerment, Policy perspective, mainstreaming, a gender perspective in the development process. Economic, Social, Legal and political empowerment of Women. | 10 |
| VI | Women and Law: Marriage, divorce, dowry, property, employment and adoption, political participation, Legal literacy for Women, Family Counselling centre | 05 |
| VII | Women and Media- Portrayal of Women in The Media (newspapers, magazines, televisions, movies), Media as A Tool for Women's Education, Employment of Women in Media, | 08 |


May 15, 2020
 Prof. Dr. [Signature]
 Chair

References:

1. Agrawal, S.P.: Women's Education in India, Guwahati, Eastern Book House, 2001.
2. Andal, N.: Women and Indian Society: Options and Constraints, Guwahati, DVS Publishers, 2002.
3. Arya Sadhna: Women, Gender Equality and the State, New Delhi, Deep & Deep Publications, 1999.
4. Bakshi, S.R.: Empowerment of Women and Politics of Reservation, Guwahati, DVS Publishers, 2002.
5. Bharathi Ray: Women of India: Colonial and post colonial periods of History of Sciences and Philosophy in India Civilization, Vol, IX part 3, Sage, New Delhi, 2005.
6. Kamal K.Misra, Janet Huber Lowry: Recent Studies on Indian Women, Rawat Pub. Jaipur, 2007.
7. Malini Bhattacharya: Women and Globalization, Tulika Books in Association of School of Women's Studies, Jadapur University, New Delhi, 2005.
8. Basu, Durga Das: 'Introduction to the Constitution of India', Wadhwa and Company, New Delhi, 2004.
9. Country Report: Department of Women and Child Development. Government of India, 1995.
10. National Perspective Plan for Women: New Delhi: Department of Women and Child Development. Government of India, 1998.
11. Rehman, M.M. and Biswal, K.K.: Education, Work and Women. New Delhi: Common Wealth, Publishers 1993.
12. Sharma, O.C: Crime Against Women. New Delhi: Sterling Publishers Private Limited, 1994.
13. Subbamma, M.: Women, Tradition, Culture. New Delhi: Ashish Publishing House, 1985.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation /Discussion on any topic from entire syllabus
3. Attendance




Paper II

Children with Developmental Challenges

Course Type: Major (Optional)

Credit: 4

Objectives:

- To orient the students about the special education strategies available for disabled children.
- To understand about the characteristics of children with special needs.
- To become familiar with rehabilitative measures for challenging children.

Contents

| Unit | Topic | No. of Lectures |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Concept of children with Developmental challenges- Classification, definition and concepts of children with developmental challenges/ disabilities/ impairments, delays and handicapped. Current statistics, its implications on the quality of life. | 08 |
| II | Children with Disabilities and Society- Families of children with disability, prevention and management of different disabilities. educational practices- special education and inclusion, policy and laws. | 12 |
| III | Differently Abled Children- Gifted children, Mentally Challenged, Learning disability, Autism Spectrum Disorder, Attention Deficit Hyperactive Disorder (Definition, Causes, Characteristics, types of educational approaches). | 10 |
| IV | Children with Impairments- Definition, classification, Causes, Characteristics, Educational consideration (Visual disorders, Hearing impairment, Children with crippling condition /physical disorders, Speech and language disorders). | 10 |
| V | Emotional or Behavioural Disorders- Behaviour problems: Nature of behavioural problem, types, characteristics, Management of children with behaviour problems. Juvenile Delinquency, Abused/ neglected children-Characteristics and causes. | 10 |
| VI | Policies and Government Provisions- Legislations and programme for developmentally challenged children | 10 |

References:

1. Gargiulo: Special education in contemporary society – An introduction to exceptionality, Thompson Wordsworth, 2003.
2. Heward, W.L.: Exceptional children – An introduction to special education – Pearson, 2013.
3. Carson, R. C., Butcher, J.N. and Mineka, S.: Abnormal psychology and modern life. 11th Ed. Allyn and Bacon. 1998.
4. Kirk, S.A.: Educating exceptional children. Indian Edition. New Delhi: Oxford and IBH. 1970.

Maya Adar

5. Orelove, F. P. and Sobsey, D.: Educating children with multiple disabilities: A transdisciplinary approach. 3rd Ed. Baltimore: Brookes, 1996.
6. Skinner, C. E.: Educational psychology. New Delhi: Prentice Hall, 1970.
7. Chopra, G.: Early Detection of Disabilities and persons with disabilities in the community. New Delhi: Engage publications, 2012.
8. Chopra, G.: Stimulating Development of Young Children with Disabilities at Anganwadi and at Home: A Practical Guide. New Delhi: Engage publications, 2012.
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10. Ashok Chaudhary and Reena Chaudhary: Divine Child, Prabhat Publication.
11. Prof. Mamta Tiwari and Prof. D.K Singh:
Phasalotra Prabhandan Avaim Khadya Prasanskan, 2018.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation/Discussion on any topic from entire syllabus
3. Attendance

Three handwritten signatures in blue ink are visible. The first signature on the left is 'Mamta'. The middle signature is 'D.K. Singh' with a large, stylized 'S'. The third signature on the right is 'Ashok'.

Paper III
Food Safety, Storage and Preservation

Course Type: Major (Optional)

Credit: 4

Objectives:

- Students will be able to understand the importance of quality assurance in food industry.
- To educate about common food adulterants and their detection.
- To teach about food packaging, labelling and laws.

Contents

| Unit | Topic | No. of Lectures |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Food Safety- Sanitation and hygiene, Food borne disease, Causes of food spoilage | 03 |
| II | Food Adulteration - Food commonly Adulterated, Common Adulterants, Classification of Adulterants, Harmful effects of Adulterants, Methods for detection of some common adulterants. | 06 |
| III | Food Fortification- Objectives, nutritional significance, fortification of salt, cereal, dairy products. Novel processed, supplementary foods. | 08 |
| IV | Evaluation of foods- Visual examination and sensory evaluation (colour, texture, flavour and taste). | 03 |
| V | Food Preservation- Concept, Importance of food preservation, Principles underlying food preservation, Preservation by using Preservatives (Natural and Artificial), Preservation by drying, Preservation by use of high temperature & Low Temperature (Pasteurization, Boiling, Canning). | 12 |
| VI | Traditional Methods of Food Preservation- Smoking, Sun drying, Pickling/ Salting, Fermentation. | 04 |
| VII | Recent advances in food preservation- Use of Antioxidants in food preservation, Cold pressed juices, Use of Natural Preservatives. | 06 |
| VIII | Storage- Effect of Storage condition on Quality, Canning – Principles and influence of canned food storage quality. | 06 |
| IX | Food Packaging, Labelling and Laws- Introduction of packaging technology: objectives, material used, effect of packaging on the nutritive value of foods, PFA(1954), FPO(1955), MFP(1973), The Vegetable Oil Products (Control) Order, 1947, The Edible Oils Packaging (Regulation) Order, 1998, The Milk and Milk Products Order, 1992, EFA, 1955 (in relation to food), Role of Agmark FSSAI, HACCCP. | 12 |






References:

1. Borvers, J.: Food Theory and Application (2ndEd), New York: Maxwell MacMillan International Edition, 1992.
2. Manay, N. S. and Sharaswamy, S. M.: Foods: Facts and Principles New Delhi: New Age International Publishers, 1997.
3. McWilliams, M.: Foods: Experimental Perspectives 5th Ed, New Jersey: Macmillar Publishing Co., 2007.
4. Potter, N. N. and Hutchkiss, J. H.: Food Science, 5th Ed, New Delhi: CBS Publishers and Distributors, 1997.
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6. Subbulakshmi, G and Udipi, S. A.: Foods Processing and Preservation, New Delhi: New Age International (P) Ltd. Publishing, 2001.
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8. Vacklavick, V. and Christian, E.: Essentials of Food Science. New York: Kluwer Academic/ Plenum Publisher. ** All new journals related to Food Preservation**, 2003.
9. PrakashTriveni : Food Preservation, Aadi Publication, Delhi.
10. M. ShafiurRahman : Hand Book of Food Preservation, Marcel Dekker Inc, New York.
11. McWillims and Paine : Modern Food Preservation, Surjeet Publication.
12. Dr. Navneet Kaur: Fashion Design Vol.1 Fashion Concept, Comdex /Dreamtech press.

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation/Discussion on any topic from entire syllabus
3. Attendance

Navneet Kaur



Paper III
Clothing Construction

Course Type: Major (Optional)

Credit: 4

Objectives:

- To enable students to understand the concept of design as related to apparel and fabric.
- To enhance awareness and appreciation of art and aesthetics through design.
- To enable the student to develop skills in clothing construction.

Contents

| Unit | Topic | No. of Lectures |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Selection of Clothing- Scope and types of design (Structural and Decorative), factors influencing selection of fabrics (age, sex, season, occasion, occupation, fashion, budget). | 03 |
| II | Principles of design- Elements of arts, principles of design. | 02 |
| IV | Body measurements- procedure, need, figure types and anthropometry. | 03 |
| V | Equipment and tools for manufacturing garments- advancements and attachments used for sewing machine. Types of machines used and their parts, Study the interrelationship of needles, thread, stitch length and fabric. | 08 |
| VI | Pattern making- drafting, draping and flat pattern making techniques, pattern alteration and dart manipulation techniques. | 10 |
| VII | Basic cutting procedure – tracing, pinning & cutting. | 04 |
| VIII | Laying & cutting special fabrics - plaids, one-way fabrics, bi-directional, border. | 08 |
| IX | Facts about fabrics- Importance & identification of grain, identifying right & wrong side, different widths of fabrics, economical layout plan. | 08 |
| X | Folding fabrics for cutting – lengthwise, crosswise, bias. | 03 |
| XI | Fitting Credit- Figure irregularities, factors affecting good fitting, common problems encountered in fittings of garments, basic alterations – remedies for fitting defects – lengthwise & width wise, alteration for both above waist & below waist garments. | 07 |
| XII | Use of construction features in design- seams, darts, tucks, pleats, gathers, placket opening, shirring Different types of – necklines, collars, yokes and sleeves. | 04 |

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attendance

Paper IV
Ergonomics

Course Type: Major (Optional)

Credit: 4

Objectives:

- To make students aware of the role of ergonomics in improving workefficiency.
- Enable students to understand the importance of adopting good work postures, designing of workspaces.
- To understand the relation of work environment and performance of work.

Contents

| Unit | Topic | No. of Lectures |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Introduction to Ergonomics- Meaning, importance and basic ergonomic principles, Scope of ergonomics in modern society, Man-Machine-Environment system interactions. | 06 |
| II | Physiology of Work and Motion and Time Study- Structure and function of muscles, Physiology of muscular work, Energy for muscle action, Efficiency of muscle contraction, limiting factors on muscular contraction and factors affecting physical work capacity. Static and dynamic muscular work, muscular strength and endurance, assessment of muscular strength and endurance, benefits of muscular strength and endurance. Workload, classification of workload, repetitive work, acceptable workload in occupational activities, prevention of muscular overload. Mental workload, factors affecting mental workload, Definition and Principles of motion economy. | 15 |
| III | Body Postures and Musculo Skeletal Disorders (MSDs)- Common postures at work -standing, sitting, reaching, moving, Factors that influence working posture – user characteristics, task requirements and design of the workspace, Effect of wrong postures on cardiovascular and musculoskeletal system, Suggestive techniques of guidelines for safe body postures at work, Assessment of work postures using Rapid Upper Limb Assessment (RULA) tool and Rapid EntireBody Assessment (REBA) tool, Work-related MSDs – definition, causes, types and their prevention. | 15 |
| IV | Anthropometry and its Applications- Definition of anthropometry and anthropometric variables /measurements, percentile humans, types of anthropometric data used in ergonomics – structural, functional. Applications of anthropometry. | 10 |
| V | Application of Ergonomic Principles- Ergonomic principles basic to hand tool design, Ergonomic design considerations for kitchen and Ergonomic Computer workstation set up. | 06 |
| VI | Work Environment- Effect of hot and cold environments | 08 |

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| | on work performance. Control of exposure to / protection against heat and cold, effect of noise on work performance, methods to reduce noise, effect of light on work performance, effect of colour on work performance, effect of furniture on work performance. | |
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References:

1. Stephen Pheasant: Body space. Anthropometry, Ergonomics and the Design of Work, Taylor & Francis Ltd, London, 2003
2. Grandjean E: Fitting the task to man – An ergonomic Approach, Taylor and Francis, London, 1985. www.ilocis.org
3. Barnes R M.: Motion and time study, John Wiley & Sons.
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5. Varghese M. A., Saha P. N. and Atreya, N.: Ergonomics of women at work, Allied Publishers Ltd, Mumbai, 2000.
7. R S Bridger: Introduction to Ergonomics, Taylor and Francis, London.
8. Gross I.H. and Crendall, E.W. and Knoll, M.M.: Management for Modern Families, Prentice Hall Inc. New Delhi

Sessional Work:

1. Internal assessment test
2. Assignment/Seminar presentation /Discussion on any topic from entire syllabus
3. Attendance

Paper III
Practical paper III

Course Type: Major/Practical
Credit: 4

Objectives:

- To develop in them the sensitivity for working with developmentally challenged children.
- To understand the principles and methods of food preservation.
- To provide with technical knowledge in techniques of clothing construction.
- To know application of ergonomics consideration in designing of work place.

Contents

| Unit | Topic | No. of Lectures |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| I | Study of etiology, characteristics, diagnosis of children with different disabilities, development of intervention packages for children with special needs, survey of attitudes of people towards disability, collection of pictures & brochures of assistive devices. | 20 |
| II | Dehydration of fruits and vegetables and shelf-life studies: is effect on colour, texture and flavour. Preparation of Pickles – Mix Vegetables, Mango, Lemon. Chillies. Preparation of Papad, Potato wafers, Preparation of Squash, Marmalade. | 20 |
| III | Construction of darts, pleats, tucks, gathers, basic seams, collars and sleeves. Stitching of garment: Salwar /Churidar, kameez/blouse, party wear frock/ gown, knitting of sweater/ making of designer's dupatta. | 20 |
| IV | Market survey and listing of ergonomic furniture and household tools (detail characteristics), Anthropometry for household work. Report on ergonomic assessment in the workplace/institution and presentation. Preparing file and report writing. | 20 |
| | Note: Student will select any THREE practical units according to the opted three courses. | |



References:

1. Kirk Samuel: Educating Exceptional children, TBH, New Delhi.
2. Bhargava M.: Introduction to exceptional children, Sterling Publishers, New Delhi, 1994.
3. Grewel J.S: Early Childhood Education, foundation in Practices, HarprasadBhargwa Publication, Agra, 1998.
4. Desrosare N.W.: Technology of Food Preservation, ABT Pub – company.
5. Deulkar D.: "House hold textile & Laundry work" Atmaram& son. New Delhi.
6. Shree Doongaji and Roshani Desh Pande: Basic Process and Clothing Construction, Publisher Unique Education Books, Raj Parkashan , New Delhi.
7. MulhakPremlata: Garment Construction Skills, Sewing Techniques, ADKPublishing Books, New York 1996.
8. Thomas, Anna. Jacob: The Art of Sewing, UBSPDPublisherDistributors Ltd , Delhi.
9. Grand JeenEttiens: Ergonomics of the Home, Taylors and Francis Ltd. London, 1978.
10. Chaffinm D.B. and Anderson G.B.: Occupational Bio-Mechanics, John Wiley & Sons, 1984.
11. Subbamma,M.: Women, Tradition, Culture. New Delhi: Ashish Puhlishing House, 1985.
12. Baruah, A.: Women in India, Anmol publication Pvt. Ltd.
13. Kahol, Y.: Violence Against Women, Reference Press.

Sessional Work:

1. Preparation of practical file
2. Attendance



**Paper VIII
Research**

Course Type: Project
Credit: 4

Course content:

- Data collection of the study.
- Interpretation of data.
- Report writing and finalization of research project.

Note:

- Research project should be Accompanied by Presentation and Interview.
- Hard Bound Dissertation with Minimum 100 Pages.

Mayor: -  