

M.Sc. HOME SCIENCE

Syllabus 2016

General Home Science

The specialists in Home science play a vital role in promoting the quality of life of individuals and communities, which contributes significantly to the economic and overall development of the nation. This is achieved through a blend of academics, research training and extension as well as industrial applications. The post graduate programme in this discipline has been designed to provide the students with intensive and extensive theoretical and experiential learning. The programme allows flexibility in the choice of thrust areas, which students can select, based on their career goals. It is envisaged that the current scenario at the regional and national level require trained professionals in areas such **Clinical and Therapeutic Nutrition, Extension Management, Apparel Design and Construction, Child and Human Rights, Nutrition for Health and Fitness, Fashion Design.**

Aim of the Course

The curriculum integrating several elective courses, besides the core, has been formulated to provide professionally competent manpower for

- a. Academic and research activities
- b. Hospitals, food service institutions and industries
- c. Managerial roles in agencies and institutions both Government and NGO sector.
- d. Planning, monitoring and evaluation of nutrition and health programmes
- e. Training and IEC activities of regional and national programmes
- f. Ensuring food safety and quality for consumers
- g. Entrepreneurial ventures
- h. Advocacy and consultancy

Eligibility for Admission

The candidates should have completed General Home Science/CD/CT/EDEX/FN/ Home Management at B.Sc. level with a minimum percentage of marks decided by the University time to time. Candidate having B.Sc. with Foods & Nutrition will not entitle to get admission.

Note: It is a full time degree course and therefore cannot run part time or as external. The contact hour is **minimum five hours including practical per week** should be given to the student if it is run by the P. G. Department or any other centre. A total of 96 credits have to be taken by the students to complete the programme. If the number of credits exceeds 96, it permissible, but the calculation of the grade point average will be done on the basis of 96 credits only.

DURATION OF THE COURSE

Two years Courses: The duration of the course is for two academic years consisting of four semesters.

EXAMINATIONS

There shall be four semester examinations: first semester examinations at the middle of the first academic year and the second semester examination at the end of the first academic year. Similarly, the third and fourth semester examinations shall be held at the middle and the end of

the second academic year, respectively. The courses are divided into two parts among one is internal consists of 30 marks for core, skill oriented and multidisciplinary courses and 15 marks for elective courses and external consists of 70 marks for core, skill oriented and multidisciplinary courses and 35 marks for elective courses. Internal marks are further divided into three parts among one is MCQ test of 10 marks for CC, MD and SO while 5 marks for elective which is conducted during middle and end of each semester and average of two is consider as a final score. 10 mark of assignment for CC, MD and SO while 5 marks for elective. 10 mark of seminar for CC, MD and SO while 5 marks for elective. Course contain practical works is exempted from seminar.

PATTERN OF QUESTION PAPER: For theory

For 4 credit course, question paper will be of 2.5 hours duration.

Question paper will contain total six questions.

Question No-1 or Question No. 1 will be compulsory and objective type.

Students will have to attempt any three questions from the rest of the questions.

All Questions will carry equal grades.

For 2 credit course, question paper will be of 1.5 hours duration.

Question paper will contain total four questions.

Question No-1 or Question No. 1 will be compulsory and objective type.

Students will have to attempt any two questions from the rest of the questions.

All Questions will carry equal grades.

For practical

For practical examination, a skeleton will be designed and given to examiner every year. The duration of examination is five hours. Passing standard is 40 %.

Detail Syllabus of M.Sc. General Home Science Programme

Implementation from June 2016

Semester-1: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
16081202010100	Research Methods	MD	04	04	30	70	100
16080202010200	Extension Management & Media Production	Core	04	04	30	70	100
16080202010200(P)	Extension Management & Media Production (Pra)		02	04	---	50	50
16080202010300	Entrepreneurship and Marketing Management	Core	04	04	30	70	100
16080202010300(P)	Entrepreneurship and Marketing Management (Pra)		02	04	---	50	50
16080202010401	Maternal Nutrition	EL (any one)	02	02	15	35	50
16080202010402	Residential Interior Space Design						
16080202010403	Gender and Development						
16080202010404	Textile Chemistry						
16080202010405	Rural Development						
16081202010500	Clinical and Therapeutic Nutrition	Core	04	04	30	70	100
16081202010500(P)	Clinical and Therapeutic Nutrition (Pra)		02	04	---	50	50
Total			24	30	135	465	600

CC=Course Category, CCr= Course Credit, WH= Working Hours, IM=Internal Marks, EM =External Marks, TM=Total Marks, Course revision year=16, Faculty code=08, Subject code,= 01 for Foods & Nutrition, 02 for General Home Science and 12 for common for both, Level=02 (PG), Sem=01-04, Paper no= 01-05, Options 00 for Core, Multidisciplinary (MD), and Skill oriented (SO), for Elective =01-05 (EL **(Interpretation of code 16081202010100 Here 16 means 2016, 08 Home science faculty, 12 means this paper is common for foods & nutrition and general home science, 02 means PG level, 01 Semester I , again 01 is paper no and last 00 is for Multidisciplinary course.)**)

Semester-II: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM	
16080202020100	Care of elderly	Core	04	04	30	70	100	
16080202020200	Apparel and Textile Design	Core	04	04	30	70	100	
16080202020200(P)	Apparel and Textile Design (Pra)		02	04	---	50	50	
16081202020300	Food Science	Core	04	04	30	70	100	
16081202020300	Food Science pra		02	04	30	70	100	
16081202020401	Nutrition for Health & Fitness	EL (any one)	02	02	15	35	50	
16080202020402	Consumer information and redressal							
16080202020403	Child and Human Rights							
16080202020404	Color Science and Instrumentation							
16080202020405	Programme Design and Evaluation							
16081202020500	Statistics	SO	04	04	30	70	100	
16081202020500(P)	Computer Application (Pra)		02	04	---	50	50	
Total				24	30	135	465	600

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Semester-III: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
16080202030100	Development Communication	Core	04	04	30	70	100
16080202030100P	Development Communication (Pra)		02	04	---	50	50
16080202030200	Dyeing and Printing	Core	04	04	30	70	100
16080202030200P	Dyeing and Printing (Pra)		02	04	---	50	50
16080202030300	Care of Children with Disability and illness	Core	04	04	30	70	100
16080202030300P	Care of Children with Disability and illness (Pra)		02	04	---	50	50
16081202030401	Dietetic techniques and patient counseling	EL (any one)	02	02	15	35	50
16080202030402	Ergonomics						
16080202030403	Sustainable Development						
16080202030404	Fashion Retailing						
16080202030405	Guidance of Counseling						
16081202030500	Scientific Writing	SO	04	04	30	70	100
Total			24	30	135	465	600

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Semester-IV: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
16080202040100	Communication Technologies in Extension	Core	04	04	30	70	100
16080202040100(P)	Communication Tech. in Extension (Pra)		02	04	---	50	50
16080202040200	Institutinal Management	MD	04	04	30	70	100
16080202040300	Advance Apparel and Fashion Design	Core	04	04	30	70	100
16080202040300(P)	Advance Apparel and Fashion Design (Pra)		02	04	---	50	50
16080202040401	Public Nutrition	EL (any one)	02	02	15	35	50
16080202040402	Human Resource Management						
16080202040403	Environment Management						
16080202040404	Textile Testing and Quality Control						
16080202040405	Family and Child Welfare						
16081202040500	Assessment of Nutritional Status	SO	04	04	30	70	100
16081202040500(P)	Assessment of Nutritional Status (Pra)		02	04	---	50	50
16081202040500(D)	Dissertation Of 150 marks instead of 16081202040500 and 16081202040500(P)	----	----	---	--	50 for Viva-voc e 100 Report	150
Total			24	30	135	465	600

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List of Elective Subjects in M. Sc. General Home Science Programme

Semester	General Home Science				
	Related to Food & Nutrition	Related to Home Management	Related to Extension & Communication	Related to Clothing & Textile	Related to Child Development
I	Maternal nutrition	Residential Interior Space Design	Rural Development	Textile Chemistry	Gender and Development
II	Nutrition for health and fitness	Consumer information and redressal	Program design and evaluation	Color Science and Instrumentation	Child and Human Rights
III	Dietetic techniques and patient counseling	Ergonomics	Sustainable Development:	Fashion Retailing	Guidance and Counseling
IV	Public Nutrition	Human Resource Management	Environment Management	Textile Testing and Quality Control	Family and child welfare

SEMESTER – I

Semester-1: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
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16080202010200	Extension Management & Media Production	Core	04	04	30	70	100
16080202010200(P)	Extension Management & Media Production (Pra)		02	04	---	50	50
16080202010300	Entrepreneurship and Marketing Management	Core	04	04	30	70	100
16080202010300(P)	Entrepreneurship and Marketing Management (Pra)		02	04	---	50	50
16080202010401	Maternal Nutrition	EL (any one)	02	02	15	35	50
16080202010402	Residential Interior Space Design						
16080202010403	Gender and Development						
16080202010404	Textile Chemistry						
16080202010405	Rural Development						
16081202010500	Clinical and Therapeutic Nutrition	SO	04	04	30	70	100
16081202010500(P)	Clinical and Therapeutic Nutrition (Pra)		02	04	---	50	50
Total			24	30	135	465	600

CC=Course Category, CCr= Course Credit, WH= Working Hours, IM=Internal Marks, EM =External Marks, TM=Total Marks, Course revision year=16, Faculty code=08, Subject code,= 01 for Foods & Nutrition, 02 for General Home Science and 12 for common for both, Level=02 (PG), Sem=01-04, Paper no= 01-05, Options 00 for Core, Multidisciplinary (MD), and Skill oriented (SO), for Elective =01-05 (EL (**Interpretation of code 16081202010100 Here 16 means 2016, 08 Home science faculty, 12 means this paper is common for foods & nutrition and general home science, 02 means PG level, 01 Semester I , again 01 is paper no and last 00 is for Multidisciplinary course.**))

Course Code: 16081202010100

Course Category: Multi-Disciplinary

Course Title: RESEARCH METHODS

Credit: 04

Contact hour/week=04

Objectives

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

Objectives:

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

Unit I: Research- Meaning, purpose and approaches

- Exploration, Description, Explanation
- Scientific method and research
- Research Designs –Experimental and Observational
- Quantitative and Qualitative approaches
- Conceptualization and Measurement Variables, concepts and measurement
- Levels of measurement
- Units of analysis

Unit II: Sampling & Tools

- Role of sampling in research
- Types of sampling
- Research Tools and Techniques Validity and reliability
- Interviewing and observational methods

Unit III: The Research Process

- Defining the problem, research questions, objectives, hypotheses
- Review of related literature and originality in writing
- Planning the research
- Subjects context and ethics
- Methodology and tools
- Citation formats: in medical sciences, social sciences
- Unit III:

Unit IV: Types of Research Tools (Qualitative and Quantitative)

- Quantitative research tools
- Qualitative research tools
- Focus Group Discussion
- Case studies
- Observations-Direct, Spot observations
- Body mapping
- Pile sorting
- Free listing
- Narrations
- In depth interview
- Drawing as dialogue

Unit V: Representation of Data

- Graphical and Diagrammatic Presentation of Data (Bar diagrams, Pie-diagram, Histogram, Frequency Polygon, Smoothed frequency curve and Ogives)
- Tabulation and Classification
- Frequency Distribution

Unit V I: Ethics and Politics of Research

- Identify, define, and analyze ethical issues in the context of human subject research.
- Reasons for conducting ethical review of research, theories and concepts related to ethical decision-making including consequentialism, deontology, respect, dignity, discourse ethics, communitarianism, liberalism and the four principles approach.
- Ethical importance of consent, privacy and confidentiality in research
- Issues of academic fraud and plagiarism, conflicts of interest, authorship and publication

RECOMMENDED READINGS

- Agrawal C. , Joshi S.P. and Sinha A. : Communication Research and development, The ISRO Experience, new Delhi, Nawray Rai concept Pub. Co.

- Beaglchole R, Bonita R and Kjellstrom T (1993). Basic Epidemiology. World Health Organization, Geneva.
- Best J. (1959) : Research in education. Englewood, Cliffs. New Jersey Prentice Hall Inc.
- Bhattacharya DK (2004). Research Methodology. Published by Anurag Jain for excel books, New Delhi, India
- Biderman A. and Drury T. (1976) : Measuring work and Quality for social reporting New York, John Willy and Sons.
- Brow F. (1988) : Statistics for Behavioural Science, Boston, Allyn and Barm Inc. Centry Gofes Company, Inc. New York.
- Delhi, Sultan Chand and Sons. Design, Prentice Hale Inc. N.J.
- Fowler FJ (2001). Survey Research Methods (3rd ed.). Sage Publications, Newbury Park
- God V. Caite (1972) : Essentials of Educational Research Methodology and
- Good C.N. (1963) : Introduction to Educational research, New York, Appleton
- Gupta S.C. and Kapodi V.R. (1990) : Fundamentals of Applied Statistics, New
- Hinton P (2004). Statistics Explained: A Guide for Social Science Students. Routledge Publishing, London
- Kaul L. (1980) : Methodology of Educational Research, Vani educational books, Vikas Pub., New Delhi.
- Keennetb King. (1978) : Final report Literacy Research in developing countries -
- Kerlinger F.n. (1965) : Foundations of Behavioural Research, N., Holl Rinehart and Winston Inc.
- Kothari C R (2008). Research Methodology: Methods and Techniques (2nd ed.). New Age International Publishers, New Delhi, India. Ltd., Ramnagar, Delhi.
- Methodology of Research in Education – Publishing Sidhu Sterling Publishers Pvt.Ltd. New Delhi.
- Monly C.J. (1964) : The Science of Educational Research, Einaasia Pub. House New Delhi.
- Patton Q.M. (1990) : Qualitative evaluation and Research methods, sage Pub.,
- Ratnapala N. (1993) : New Horizons in Research methodology, Sri Lanka,
- Rolvert horndike (1977) : Measurement & Evaluation in Psychology & Education.4th ed. John Willy & Sons Sarvodaya Research Institute. Sciences, Tata McGraw Hill Pub. Co. Ltd., New Delhi.
- Singh A.K. (1986) : Tests, Measurement and Research Methods in Behavioral
- Sproull N (2003). Handbook of Social Research Methods: A Guide for Practitioners and Students in the Social Sciences. The Scarecrow Press, Inc., New Jersey
- Wandt Edwin (1968) : A cross section of educational Research, David Mckay workshop on education research with special research on literacy. Geneva

Course Code: 16080202010200

Course Category: Core

Course Title: Extension Management & Media Production

Credit: 04

Contact hour/week=04

Objectives

To enable students to:

- Understand the concepts and process of management.
- Realize the importance of management for achieving organizational goals.
- Apply the principles of management to the management of extension organizations / services.

Contents

1. Concept of Extension Management

- Definition, nature and process and need
- Models and principles of extension management

2. Steps in Extension Management:

- Planning – Meaning and characteristics – elements, policies, strategies, procedures, rules, budgets – planning process, types of plan – Decision making: meaning – forecasting and decision making – decision making under uncertainty.
- Organising – organizational structure – organizational chart – organizational relationship – formal and informal organization – span of management – scalar principle, departmentation – line staff – functional committee – delegation of authority – principles of delegation – authority and responsibility – centralization and decentralization.
- Co-ordination – meaning, objectives, linkage mechanisms – involvement of organizations at local level–non-profit & profit making organizations.
- Staffing – meaning, manpower planning, selection – training and development needs – methods – performance appraisal, organizational conflict and conflict resolution, grievance handling.
- Directing – methods – motivation – theories. Communication: Importance, types and barriers to communication. Leadership: theories and styles – managerial grid.
- Controlling – meaning and process of control – management Control Techniques – budgetary and non-budgetary control – Modern techniques – PERT, CPM, requirements for effective control system.
- Monitoring and evaluation – meaning, purpose and differences. Types of evaluation, steps in evaluation, efficiency cum performance audit, reporting.

3. Theories, types and Role of Media

- Theories and models of mass communication.
- Role of media in communication process
- Various types of media for communication
- Various constraints in the use of media
- Criteria in selection and use of various media

Course Code: 16080202010200P

Course Category: Core

Course Title: Extension Management & Media Production

Credit: 02

Contact hour/week=04

1. Use and Operations of various audiovisual aids
 - OHP, Slide projector, Film projector LCD, VCD and DVD.
2. Preparation of visual materials and aids-Booklets, Pamphlets, Leaflet, Manuals, Cover pages for text and other books, - Charts, posters , flesh cards, diagrams, graphs
- 3 ADHESIVE DISPLAY(felt boards, flannel board, hook-and loop boards, and magnetic boards (prepare any one) , MARKER BOARDS AND ELECTRONIC MARKER BOARDS (use only)

References:

1. Barger, A. A. (1991): Script Writing for Radio and Television, Sage Publication.
2. Berdeek (1946): Making the Movies, Paul Eiek Halton Garden, London.
3. Brown et al. (1983): A. V. Instruction Technology. Media & Methods. 6th Ed., McGraw Hill Book Co., New York.
4. Brown J.W. (1977): Educational Media Year Book.
5. Dale (1964): Audio-Visual Methods of Teaching. Holt, Rinhart and Winston, London.
6. Banerjee, S. (1981). Principles and Practice of Management. Oxford and IBH Publishing Company, New Delhi.
7. Basu, C.R. (1989). Organisation and Management S. Chand & Co. Ltd., New Delhi.
8. Burton, Gene and Hanab Thakar (1997). Management Today. Tata McGraw Hill Publishing Company, New Delhi.
9. Chandan, J. S. (1997). Management – Concepts and Strategies. Vikas Publishing House ; New Delhi.
10. Koontz and Heinz Wehrich (1990) Essentials of Management. McGraw-Hill; New Delhi.
11. Prasad, M.L. (1999). Principles and Practice of Management. Sultan Chand & Sons, New Delhi.
12. Ramasamy, T. Principles of Management. Himalaya Publishing House, Mumbai.
13. Rao, V.S.P. and Narayana, P.S. (1987). Principles and Practice of Management. Konark Publishing Private Limited, New Delhi.
14. Tripathi, P.C. and Reddy, P.N. (1993). Principles of Management: Tata McGraw Hill, New Delhi.

15. Rajpura M R (2002) "communication Media' (Booklet) Shree U K V Mahila Arts & Home Science College Keshod.
16. Rajpura.,M.R.(2004).Gruh Vigyan Vistaran ane Pratyayan.Rajkot:Pravin Prakashan.Gujarat

Course 16080202010300

Course Category - Core

ENTREPRENEURSHIP AND MARKETING MANAGEMENT

Credit:04

Contact hour/week=04

Objectives

- To provide conceptual inputs regarding entrepreneurship management.
- To sensitize and motivate the students towards entrepreneurship management.
- To orient and impart knowledge towards identifying and implementing entrepreneurship opportunities.
- To develop management skills for entrepreneurship management.
- To become aware of different market organizations in our economy.
- To understand the different marketing functions and the distribution system in our economy.
- To familiarize with the marketing strategies and market research.

Contents :

1. Conceptual Framework
 - Concept, need and process in entrepreneurship development.
 - Types of enterprise – Merits and Demerits
 - Concept of marketing.
2. The Entrepreneur
 - Developing Entrepreneurial competencies – requirements and understanding the process of Entrepreneurship development, self awareness, interpersonal skills, creativity, assertiveness, achievement, factors affecting Entrepreneur's role
3. Launching and organizing an enterprise :
 - Environment scanning – information, sources, schemes of assistance, problems.
 - Enterprise selection, market assessment, enterprise feasibility study, SWOT Analysis.
 - Resource mobilization – finance, technology, raw material, site and manpower.

- Costing and marketing management and quality control.
 - Feedback, monitoring and evaluation.
4. Product development and forecasting
 - Developing, testing and launching new products
 - Idea generation, screening and business analysis
 - Understanding market demand and consumer adoption process.
 - Labeling and packing.
 - Stages in product life cycles.
 5. Pricing practices and consumer interest pricing.
 6. Advertising , sales Promotion and management.
 - Advertising objectives, functions, benefits
 - Advertising budget and costs of sales promotion
 - Types of advertising
 - Evaluating of advertising effectiveness

References

1. Meredith, G. G. et al. (1982): Practice of Entrepreneurship, ILO, Geneva.
2. Patel, V.C. (1987): Women Entrepreneurship-Developing, New Entrepreneurs, Ahmedabad EDII.
3. Akhauri, M.M.P. (1990): Entrepreneurship for Women in India, NIESBUD, New Delhi.
4. Hisrich, R.D. and Peters, M.P. (1995): Entrepreneurship – Starting, Developing and Managing a New Enterprise, Richard D., Inwin, INC, USA.
5. Hisrich, R.D. and Brush, C.G. (1986). The Women Entrepreneurs, D.C. Health & Co., Toronto.
6. Barolia, G.R. & Sharma N.K. (1998). Effective Advertising. Marketing and Sales Management, mangaldeep Publications, jaipur.
7. Dhar, P.K. (1991): Indian Economy- its Growing Dimensions, Kalyan Publishers, new Delhi.
8. Hawking D.I., Besi, R.J., Coney K.A. (1983). Consumer Behaviours, Revised Ed., Newman, J.W. Motivation Research & Marketing management, Prentice Hall.
9. Kotler, Philip. (1983). Marketing management. Analysis, Planning and Control, Prentice Hall Ltd., New Delhi.
10. Schillman G. Leon, Kauk Lazer Lesha (1992): Consumer Behaviour, Prentice hall of India, New Delhi.

11. Zikmund, G. William & Michael Daunico (1996). Basic Marketing West
Publishing Co.,

Course Code: 16080202010300P

Course Category: Core

Course Title: Entrepreneurship and Marketing Management Practical

Credit: 02

Contact hour/week=04

1. Preparation of various types of advertisement for eg. News paper, leaflets, magazines, hording boards,
2. Collect the information of financial and other assistance from various government agencies to start new entrepreneurial business unit

- 3 Interview any one women entrepreneur and study the same business unit and study:
Entrepreneurship and Marketing Management Practices

Course Code: 16080202010401

Course Category: Elective

Course Title: MATERNAL NUTRITION

Credit: 02

Contact hour/week=02

Objectives

This course is designed to enable the students to:

- Understand physiological changes in pregnancy and lactation.
- Understand the inter-relationship between nutrition and growth and development during life cycle.

Contents

1.Importance of Maternal Nutrition

- Importance of Nutrition prior to and during pregnancy.
- Pre-requisites for successful outcome. effect of under nutrition of mother and child including pregnancy outcome and maternal and child health
- Short and long term.
- Physiology and endocrinology of pregnancy and embryonic and fetal growth and development.
- Nutritional requirements during pregnancy.
- Adolescent pregnancy
- Intra-uterine growth retardation
- Complications of pregnancy and its management

2. Lactation

- Nutritional requirements during lactation
- Human milk composition during lactation
- Human milk composition and factors affecting breastfeeding and fertility.
- Management of lactation-prenatal breast feeding skill education. Rooming in.
- Problems-sore nipples, engorged breast, inverted nipples etc.
- Exclusive breastfeeding.

3. **Common disorders of pregnancy:** Anemia, TB, HIV Infection, Hypertension, moderate and severe malnutrition

References

1. International Food Policy Research Institute (1997). Care and Nutrition: Concepts and Measurement. International Food Research Institute Washington DC., USA.
2. International Child Health: A Digest of Current Information.
3. Barker, D.J.P. (1998). Mothers, Babies and Health in Later Life. Edinburgh, Churchill Livingstone
4. Ward, R.H.T; Smith, S.K. Donnai, D. (Eds.) (1994) Early Fetal Growth and Development. London, RCOG Press.
5. Sachidev, IIPS and Choudhary, P. (1995), Nutrition in Children Developing Country Concerns. Cambridge Press, New Delhi.
6. King, F.S. (1992). Helping Mothers to Breastfeed Association for Consumers Action on Safety and Health, Mumbai.
7. Wallace, H.M. and Giri, K. (1990). Health Care of Women and Children in Developing Countries. Third Party Publishing Co. Oakland.
8. Tanner, J.M. (1988) Foetus into Man: Physical Growth from Conception to Maturity. Weaton and Co. Ltd., Great Britain.
9. Luke, B. Johnson, T.R.B.; Petrie, R.H. (1993). Clinical Maternal Fetal Nutrition. Little Brown and Co. Boston
10. ACC / SCN Reports.
11. WHO (1999) Nutrition for Health and Development: Progress and Prospects on the Eve of the 21th Century. WHO / NHD /99.9. Geneva.
12. Alderman, H; Behrman, J.; Lavy; Menon, R. (1997) Child Nutrition, Child Health and School Enrollment. Policy Research Working Paper 1700. Washington DC. World Bank
13. Rajpura.,M.R. (2012).Maternal and Child Nutrition. Jaipur:Arravali Prakashan

Course Code: 16080202010402

Course Category: Elective

Course Title: RESIDENTIAL INTERIOR SPACE DESIGN

Credit: 02

Contact hour/week=02

Objectives

- To understand the factors influencing space design organization for optimum comfort and functionalism.
- To understand the application of anthropometric data in designing interior
- To evaluate ergonomically residential interior space for various activities.
- To provide adequate facility for work, relaxation, rest, comfort, privacy, care, aesthetics etc. through interior space designing.
- To study the materials along with fittings and fixtures used in residential interiors.
- To develop skills of drawing the working details and execution drawings.

Contents

1. In-depth understanding of residential interior space design from design point of view.
2. Study of factors influencing furnishing of residential interior spaces. Their use & care.
3. Factors to be considered while designing.
 - Orientation
 - Grouping of user's area.
 - Circulation between and within user's area.
 - Light and ventilation.
 - Flexibility.
 - Privacy.
 - Roominess (Spaciousness).
 - Services.
 - Aesthetics.
 - Cost.
 - Basics of furniture design and types of furniture design.
4. Current trends in interior design.
5. Consideration of ergonomics in interior design.

- Importance of ergonomics in interior design.
 - Work, worker and working environment relationships
 - Kitchen and storage as most important work area.
 - Ergonomical evaluation for health and safety of user in residential space design.
 - Study of different body postures used in different activities and its relation to fatigue.
6. Application of appropriate materials for various uses.

References

1. Alexander, N.J. Mercoust Brace (1972): Designing Interior Environment. Havanovich Inc.
2. Ball, Victoria K 1655 (1980): The Art of Interior Design. Mc Millan & Co., New York.
3. Bhatt, P.D., Goenka S. (1990): Foundation of Arts Design, lakhari Book Depot, Bombay.
4. Butler Margaret G.E. Greaks Benyl S. (1980): Fabric Furnishing, E.T. Badsford Ltd., London.
5. Chudley, R. (1987): Construction Technology Vol. 1-2 1-IBS Long man Ltd., new York.
6. G.V. Robert (1983): Rendering with Pen + Ink. Thames, Hudson, London
7. Gustafsan Karen and Yes Robert (1983): Corporate Design, Thomas and Hudson, London.
8. Grandjean Ettiens (1978): Ergonomics of the Home, Taylors and Fracis Ltd., London
9. Grandjean Ettieens (1979): Human Dimensions and Interior Space Whitney, New York.
10. Laoch, Sid Del har, Techniques of Interior Design, Rendering and Presentation, McGraw Hill, New York.
11. Leinbac (1986): Visualisation Techniques, McMillan (Prentice hall), new Jersey.
12. Rangwala, N. Building Materials.
13. Encyclopaedia of Interior Design.

Course Code: 16080202010403

Course Category: Elective

Course Title: Gender and Development

Credit: 02

Contact hour/week=02

Objectives

To enable students:

- To understand the concept, need, relevance and dimensions of gender empowerment.
- To get sensitised to gender disparities/imbbalances and problems of women.
- To understand the efforts at different levels for empowering women.
- To know the support system in the country for women's development.

Contents

1. **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.
2. **Status of Women:** Status - meaning, status of women – a situational analysis, demographic, education, employment, political and health (general, occupational, and reproductive). Changing scenario.
3. **Violence Against Women:** Dowry, divorce, female foeticide and infanticide, domestic violence, sexual harassment and exploitation, portrayal of women in mass media. Efforts for elimination of all forms of discrimination.
4. **Policies and Programmes for Women's Development:** National Policy for Empowerment of women, policy perspectives, mainstreaming, a gender perspective in the development process.
Economic empowerment: Poverty eradication, micro-credit, self-help groups, women and agriculture, women and industry and support services.

Social empowerment: Education, health, nutrition, drinking water and sanitation, housing and shelter, environment.

Legal empowerment: Legal literacy on personal and family laws, role of family court and legal aid centres.

Political empowerment: Role of panchayatiraj in the political empowerment of women.

References

1. Black M. (1993): *Girls and Women, A UNICEF Development Priority*, UNICEF; New York.
2. *Country Report (1995): Department of Women and Child Development. Government of India; New Delhi.*
3. Desai, N. (1986). *Indian Women – Change and Challenge to International Women's Decade.*
4. Laxmi Devi (1998). *Women and Development. Institute for Sustainable Development and Anmol Publications Pvt. Ltd.; New Delhi.*
5. *National Perspective Plan for Women (1988): Department of Women and Child Development; New Delhi.*
6. Sahay S. (1998) *Women and Empowerment: Approaches and Strategies. Discovery Publishing House; New Delhi.*
7. Shamim Aleem (ed.). *Women's Development Problems and Prospects. APH Publishing Corporation; New Delhi.*
8. Sharma, O.C. (1994). *Crime Against Women. Sterling Publishers Private Limited; New Delhi.*
9. Subbama, M. (1985). *Women, Tradition, Culture. Ashish Publishing House; New Delhi.*
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Course Code: 16080202010404

Course Category: Elective

Course Title: Textile Chemistry

Credit: 02

Contact hour/week=02

Objectives

1. To acquaint the students about the polymers of which the textile fibres are made.
2. To understand the chemistry, production and fundamental properties of natural and synthetic fibres.
3. To familiarise with the chemical processing from desizing to finishing of textiles and principles.
4. To acquaint the students with some advanced textile technology.

Contents

Chemistry Of Cellulosic Fibres

Introduction to cotton, varieties, properties, longitudinal and cross sectional view.

Molecular structure of cellulose, action of acids and alkalis, hydro cellulose and oxycellulose, mercerisation, liquid ammonia treatment.

Regenerated cellulosic fibres – viscose rayon, cuprammonium rayon, cellulose acetate, rayon, polynosic – their manufacture, properties and uses.

Protein Fibres – Wool & Silk

Chemical composition, molecular structure, physical and chemical properties, action of acids, alkalis and other chemical on protein fibres.

Brief description on, felting of wool, degumming and weighting of silk, shrink proofing of wool.

Synthetic Fibres – Polyester, polyamide and acrylonitrile fibres.

Chemistry of the fibres – raw material, manufacturing process from polymer to fibre stage.

Physical and chemical properties of all the fibres and their uses. Examples of commercial production in India.

Blends of different fibres, composition and properties and uses in textiles and clothing.

Other natural and synthetic fibres. Their chemical composition, properties and uses viz. jute, flax, hemp, tencel, polyethylene, polypropylene, carbon, polycarbonate, metallic, glass fibre and polyurethane fibres.

References

1. Shenai, V.A. (1984): Technology of Textile Processing, Vol.-IX, Sevak Publication.
2. Cook, J. Gordon, Hand Book of Textile Fibres, Man-Made Fibres, Merrow Publishing Co. Ltd., England.
3. Moncrief : R.W. Manmade Fibres, John Willey & Sons New York.
4. Trotman, E.R. (1975): Dyeing and Chemical Technology of Textile Fibres Charles Griffino Company Ltd., London.
5. Marsh, J.T. (1979): An Introduction to Textile Finishing, B. I., Publications.
6. Mark H., Wooding N.S. & Atlas, Smeeds, (1970): Chemical after Treatment of Textiles, John Willey & Sons Inc., NY.
7. Lewin, M. and Sello, Stephen B. (1983): Handbook of Fiber Science and Technology, Vol. II, Chemical Process of Fibers and Fabrics, Functional Finishes - Part A, Marcel Deker, Inc., NY and Basel.
8. Shenai, V.A. (1991): Introduction to the Chemistry of Dyestuffs, Sevak, Prakashan,.
9. Gulrajani M.L. and Gupta, D. (1992): Natural Dyes and their Application to Textiles, IIT Delhi.
10. Mohanty, Chandramouli, Naik, (1987): Natural dyeing process of India, Ahmedabad, Calico Museum of Textiles.
11. India Horti business on line, <http://www.agroindia.org/1HOL>.

Course Code: 16080202010405

Course Category: Elective

Course Title: Rural Development

Credit: 02

Contact hour/week=02

Objectives

- To make students aware about rural Indian society.
- To make students aware about conditions and living in rural areas.
- To make students aware about ongoing rural development programmes.
- To make students aware about need for future development in rural areas.

Contents

1. RURAL DEVELOPMENT -INDIAN CONTEXT

a. Rural Society and Economy - Introduction to Rural Sociology, Rural Demography, Rural Social Structure, Rural Economic Structure, Rural Poverty

b. Rural Development : Concepts, Structure and Experience - Development-An Overview, Rural Development : Concepts and Strategies, Rural Development – Agrarian Issues - Agrarian Movements, Land Reforms, Green Revolution Agricultural Extension Services
Rural Development Administration - Administrative Structure, Panchayati Raj, Cooperatives in Rural Development, Rural Credit and Banking

c. Dynamics of Change in Rural India - Social Change : Mobility & Mobilization, Empowerment information, Education and Communication (IEC), Information Technology and Rural Development

2. RURAL DEVELOPMENT PROGRAMMES

Poverty Alleviation Programmes – A Retrospect - Poverty Alleviation Programmes – A Retrospect

Minimum Needs Programme, Integrated Rural Development Programme (IRDP), TRYSEM and DWCRA

Jawahar Rozgar Yojana (JRY), Employment Assurance Scheme (EAS)

Programmes for self & Wage Employment and Social Security Current Strategy -

Swarnjayanti Gram Swarozgar Yojana (SGSY)-1, Swarnjayanti Gram Swarozgar Yojana (SGSY)-2, Sampoorna Grameen Rozgar Yojana (SGRY), National Social Assistance Programme (NSAP), Food Security – TPDS 9

Other Development Programmes - Prime Minister's Rozgar Yojana (PMRY), Rural Employment Generation Programme (REGP), Rashtriya Mahila Kosh, Programmes of Development Finance Corporations

Rural Basic Services and Infrastructure - Elementary Education and Total Literacy Campaign (TLC), Rural Housing, Rural Health Care, Drinking Water and Rural Sanitation, Rural Electrification & Energy, Rural Connectivity.

Natural Resources Management and Environment - Drought-Prone Areas Programme and Desert Development Programme, Integrated Wasteland Development Programme, Social Forestry and Joint Forest Management, Science and Technology for Rural Development.

References:

1. Rural Development. O.P.Dhama and Bhattnagar.
2. IGNOU course on Rural Development Material.
3. Issues on Rural Finance Infrastructure and Rural D....by G DBanerjee , Srijeet Banerji , 2010.
4. Rural Development Programmes in India, Meenu Jain, 2011.
5. Rural Development and Planning in India, Dr V Nath, 2010.

Course Code: 16081202010500

Course Category: Core

Course Title: Clinical and Therapeutic Nutrition

Credit: 04

Contact hour/week=04

Objectives:

This Course will enable students to:

- Understand the etiology, Physiologic and Metabolic Anomalies of acute and chronic diseases and patient needs.
- Know the effect of the various diseases on nutritional status and nutritional and dietary requirements.
- Be able to recommend and provide appropriate nutritional care for prevention / and treatment of the various diseases.

Contents

1. Obtaining medical & dietary history of patients.
2. Nutritional support – Techniques and Feeding substrates – tube feeding, Intra venous feeding.
3. Etiopathophysiology, metabolic and clinical aberrations, complications, prevention and recent advances in the medical nutritional management of :
 - Weight imbalances
 - Cardio vascular disorders
 - Diabetes mellitus and other metabolic disorders.
 - GI Tract Disorders
 - Liver and gall bladder, Pancreatic disorders
 - Renal disorders
 - Stress and truma
 - Cancer
 - Infection AIDS
 - Respiratory problems

Course Code: 16081202010500P

Course Category: Core

Course Title: Clinical & Therapeutic Nutrition Practical

Credit: 02

Contact hour/week=04

1. Market survey of commercial nutritional supplements and nutritional support substrates.
2. Interpretation of patient data and diagnostic tests and drawing up of patient diet prescription, using a case study approach. Follow-up acceptability of diet prescription compliance; discharge diet, plan for cardiovascular disease diabetes. Liver, Renal diseases.
3. Preparation of diet counseling aids for common disorders.
4. Planning and preparation of diets for patients with common multiple disorders and complications and discharge diet plans.

References:

1. Dave, Nilambari (2004). Nutrition and Diet Therapy, 1st Edition, Dr. Nilambari Dave, Head, Dept. of Home Science, Saurashtra University, Rajkot.
2. Mahan, L.K. and Escott-stump S. (2000): Krause's food nutrition and diet therapy, 10th Edition, W.B. Saunders Ltd.,
3. Shills, M.E. Olson, J.A. Shilke, M. and Ross. A.C. (1999). Modern in Health and Disease, 9th Edition, Williams and Wilkins.
4. Escott-Stump, S. (1998) : Nutrition and Diagnosis Related Care, 4th Edition, Williams and Wilkins.
5. Garrow, J.S. James, W.P.T. and Ralph, A. (2000): Human Nutrition and Dietetics, 10th Edition, Churchill Livingstone.
6. Williams, S.R. (1993): Nutrition and Diet Therapy, 7th Edition. Times Mirror / Mosby College Publishing.
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8. Walker, W.A. and Watkins, J.B. (Ed.) (1985): Nutrition in Pediatrics, Boston, little, Brown & Co.,
9. Guyton, A.C. and Hall, J.E. (1999): Textbook of Medical Physiology, 9th Edition, W.B. Saunders Co.,
10. Ritchie, A.C. (1990): Boyd's textbook of Pathology, 9th Edition, Lea and Febiger, Philadelphia.
11. Fauci, S.A. et al. (1998): Harrison's Principles of Internal Medicine, 14th Edition, McGraw Hill.

12. World Cancer Research Fund (1997): Food, Nutrition and the Prevention of Cancer. A Global perspective Washington, E.D. WCRF.

Journal and Other References Series:

13. Nutrition Update Series
14. World review of nutrition and dietetics.
15. Journal of the American Dietetic Association
16. American Journal of Clinical Nutrition
17. European journal of Clinical Nutrition
18. Nutritional reviews.

SEMESTER II

Semester-II: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
16080202020100	Care of elderly	Core	04	04	30	70	100
16080202020200	Apparel and Textile Design	Core	04	04	30	70	100
16080202020200(P)	Apparel and Textile Design (Pra)		02	04	---	50	50
16081202020300	Food Science	Core	04	04	30	70	100
16081202020300(p)	Food Science-pra		02	04	---	50	50
16081202020401	Nutrition for Health & Fitness	EL (any one)	02	02	15	35	50
16080202020402	Consumer information and redressal						
16080202020403	Child and Human Rights						
16080202020404	Color Science and Instrumentation						
16080202020405	Program design and evaluation						
16081202020500	Statistics						
16081202020500(P)	Computer Application (Pra)		02	04	---	50	50
Total			24	30	135	465	600

CC=Course Category, CCr= Course Credit, WH= Working Hours, IM=Internal Marks, EM =External Marks, TM=Total Marks, Course revision year=16, Faculty code=08, Subject code,= 01 for Foods & Nutrition, 02 for General Home Science and 12 for common for both, Level=02 (PG), Sem=01-04, Paper no= 01-05, Options 00 for Core, Multidisciplinary (MD), and Skill oriented (SO), for Elective =01-05 **(Interpretation of code 16080202020100 Here 16 means 2016, 08 Home science faculty, 02 for General home science, 02 means PG level, 02 Semester II , again 01 is paper no and last 00 is for Core course.)**

Course Code: 16080202020100

Course Category: Core

Course Title: Care of elderly

Credit: 04

Contact hour/week=04

Objectives

- To gain knowledge and insight regarding principles of early childhood care and education.
- To develop the skill and techniques to plan activities in ECCE centers of different types, to different types to conduct activities in early childhood care and education and to work effectively with parents and community.

Objectives

- To enable students to become aware and sensitized to issues related to care of the elderly.
- To enable students to understand the theoretical perspectives of the aging process.
- To develop skills for organizing activities for the elderly.

Contents

1. Introduction

- Emergence and scope of gerontology and elderly care.
- Historical perspective ,demographic trends in India.
- Concept of aging and problems:Social,medical,psychological problems,occupational etc.

2. Theoretical perspectives

- Theories: Disengagement theory,Activity theory, Human development theory ,Continuity theory, Age stratification theory, Labeling theory

3. Aging process

- Biological and physiological aspects, psychological aspects; social aspects; Social status, retired status, single status, economic status security, guide and teacher, social adjustment and recognition;
- Spiritual aspects:karma theory and religion;
- Economic aspects.

4. Adjustment patterns and changing lifestyles in old age

- Family patterns in later life: Changing roles and the aging family; Conjugal: Husband Wife relations in old age ;sexual adjustment;
- Retirement years and marital adjustment;
- Intergenerational family relations; grand parenthood; Widowhood/singlehood ;Alternative life style; second marriage in the later life.

5. Work, leisure and retirement patterns

- Work-Meaning of work ,individual motivation; , leisure; Retirement-benefits, freedom of retirees ,fear change in personal and social life, problem like-sense of loss, women retirees ,awareness ,use of authority ,social worth;
- **Death Dying and Bereavement**
-Impact of death on society, Attitude towards death; Denial and thoughts of death; Bereavement,grief and social setting.
- **Services and programs for the Aged**
-Categories of services: Housing, health,leisure time activities; institution for the Aged day care centres; economic programmes ; Re-engagement (after retirement), Retirement pension,death cum retirement gratuity, provident fund, health measures. Insurance scheme, investment & taxation and property.

References

- Aiken ,L.R.(1978).The psychology of later life,Philadelphia:WB Saunders Company.
- Blau, Zana Smith(1983)Old age in Changing Society,New YorkNew View Prints
- Chowdhery Paul D.(1992)Aging and the aged.New Delhi:Inter india Pub.
- Cook Alicia Skinner(1983)Contemporary Perspectives on Adult Development and Aging. New York:Macmillan
- Ghosh, B.(1988).Contemporary Social Problems in India,Bombay:Himalaya Publishing.
- Kennedy Carroll(1988).Human Development.NewYork:Macmillan.
- Kimmel Dougals (1974).Adulthood and Aging. New York:Wiley.
- Pinkston,P.H.. and N.K. Linsk(1984). Care of the Elderly:A family approach.New York:Pergamon press.
- Sharma,M.L.&T.M. Dak(1987).Aging in India:Challenge for the Society. Delhi:Janta Publishing.

Course Code: 16080202020200

Course Category: Core

Course Title: APPAREL AND TEXTILE DESIGN

Credit: 04

Contact hour/week=04

Objectives

- To impart an in-depth knowledge of style reading, pattern making and garment construction technique.
- To development and understand the principles of pattern making through flat pattern and drapping

Content

Theory

1. Detailed study of industrial machines and equipment used for
 - Cutting
 - Sewing
 - Finishing
 - Embellishment
2. Study the interrelationship of needles, thread, stitch length and fabric
 - Calculating fabric requirement.
3. Methods of pattern making
 - Drafting
 - Flat pattern
 - Draping
4. Developing paper pattern
 - Understanding the commercial papper pattern
 - Layouts on different fabrics, width and types
5. Buying criteria for
 - Knits, silks, denim and other special fabrics
 - -Selection of appropriate fabrics and designs for different garments, different age groups and seasons
 - Readymade garments
6. Principles of design – harmony, balance, proportion, rhythm and emphasis
7. Elements of design – line and form, color and texture
 1. Sources of inspiration for basic sketching and painting: nature, religion and mythology, arts and crafts, architecture.
 2. Process of designing with reference to textile design

Course Code: 16080202020200 P

Course Category: Core

Course Title: APPAREL AND TEXTILE DESIGN Practical

Credit: 02

Contact hour/week=04

1. Development of variation in sleeves
 - Sleeves and bodice combinations
2. Necklines and facings
 - Scoped necklines
 - Built-up necklines
 - Cowl necklines
3. Plackets
 - Center button closing
 - Asymmetric closing
 - Double breasted
4. Textile Design Analysis
Structural and applied design variation - embroidery, dyeing, printing
5. Motif development – geometrical, simplified, naturalized, stylized, abstract and ornamental
-Big and small motifs – enlargement and reduction, growth of a motif
Combining motifs
a) big and small and b) different sources of motif
6. Colour consideration – colour harmonies and colour ways
7. Placement and repeats for all over patterns.
8. Introduction to related computer software
9. Design of Indian and western apparel.

References

1. Leonard G. Rubin (1976): The World of Fashion, Publication Canfield Press, San Francisco.
2. Thames and Hudson (1994): Fashion Illustration Today, Thames and Hudson Ltd., London.
3. Patrick John Ireland : Fashion Design Illustration, B.T. Batsford Ltd., London.
4. Kathryn Mokelvey and Jamine Munslow (1997): Illustrating Fashion, Blackwell Science Ltd.,
5. Max Tilke (1990): Costume Patterns and designs, Rizzoli, New York.
6. Anne Morroll (1995): The techniques of Indian Embroidary, B.T. Batsford Ltd., London.
7. Prakash, K. (1996): Heritage – Traditional Border Collection, The Design Point Publication.

8. Prakash, K. (1992): Expressions – Ethnic Indian Textile Designs, Deluxe Packaging.
- 12.

References

1. Armstrong, Pattern making for / fashion design
2. Gioello and Berke : Figure type range, Fairchild publication, New York.
3. Grate & Storm: Concepts in Clothing, McGraw Hill book Co. New York.
4. Bina Abling, Fashion Sketch Book. Fairchild Publications, New York.
5. Clair Shaeffers : Fabric sewing guide, Chilton Book Company, Radnot, Pennsylvania.
6. Harold Carr and Barbara Lathan : "The Technology of Clothing Manufacture, Oxford BSP Professional Book, London.
7. Slampler, Sharp & Donnell: Evaluation Apparel, Quality – Fairchild Publications, New York.
8. Natalie Bray : Dress Fitting Published by Blackwell Science Ltd.,
9. Margohs Design your own dress pattern published by Double Day and Co. Inc., New York.

Course Code: 16081202020300

Course Category: Core

Course Title: FOOD SCIENCE

Credit: 04

Contact hour/week=04

Objectives:

This Course is designed to:

- Provide an understanding of composition of various food stuffs.
- Familiarize students with changes occurring in various foodstuffs as a result of processing and cooking.
- Enable students to use the theoretical knowledge in various applications and food preparations.

Contents:

1. Constituents of Foods : Properties and significance

2. Water and Food Dispersions :

- Free and bound water
- Water activity and Food Spoilage
- Freezing and ice structure
- Colloidal salts, stabilization of colloidal systems, Rheology of food dispersions
- Emulsions: Formation, stability, surfactants and emulsifiers.
- Foams: Structure, formation and stabilization.

3. Polysaccharides, Sugars and Sweeteners

- Starch: Structure, gelatinization, methods for following gelatinization changes.
- Characteristics of some food starches. Effects of ingredients and conditions on gelatinization. Modified food starches.
- Cellulose, hemicelluloses, pectins, gums.
- Sugars and Sweeteners: Sugars, syrups, sugar alcohols, potent sweeteners, Sugar products.
- Sweetener Chemistry related to usage in food products: solubility & crystallization, hygroscopic, fermentation & non-enzymatic browning.

4. **Fats:** Functional properties of fat and uses in food preparations. Fat deterioration and antioxidants.
5. **Enzymes:** Nature of enzymes, stability and action. Proteolytic enzymes, oxidases, lipases, enzymes decomposing carbohydrates and applications.
6. **Beverages:** Synthetic and Natural, alcoholic and non-alcoholic, carbonated and non-carbonated, coffee, tea, cocoa, malted drinks.
7. **Leavened Products:** Leavening agents. Biologically leavened and chemically leavened products. Batters and dough.
8. **Food colourants** : Pigments in animal and plant tissues, Food colours – Types, properties, safety issues

REFERENCES

1. Charley, H.(1982): Food Science(2nd edition), John Willey & Sons, New York.
2. Potter, N. and Hotchkiss, J.H. (1996): Food Science, Fifth edition, CBS publishers and Distributors, New Delhi.
3. Belitz, H.D. and Gropsh, W. (1999): Food Chemistry (2nd edition), Springer, New York.
4. Abers, R.J. (Ed.) (1976): Foam, Academic Press, new York.
5. Cherry, J.P. (Ed.) (1981): Protein Functionality in Foods, American Chemical Society, Washington,D.C.
6. Pomeranz, Y. (Ed.) (1991): Functional Properties of Food Components, (2nd edition), Academic Press, New York.
7. Duckworth, R.B. (Ed.) (1978): Water Relation to Foods, Academic Press, London.
8. Parihar, P., Agarwal, R. jain D.K. and Mandhyan, B.L. (1977): Status Report on Dehydration of Eggs. PHT / CAE / Publishers.
9. Marshall, K.R. and Harper, W.J. (1988): Whey Protein Concentrates, IDF Bulletin No.233.
10. Tindall, H.D. (1983): Vegetables in the Tropics, MacMillan, Press, London.
11. Julians, B.O. (Ed.) (1985): Rice Chemistry and Technology, (2nd Edition), American Association of Cereal Chemistry, St. paul Minesota, USA.

12. Bowers, J. (1992): Food Theory and Applications, (2nd Edition), MacMillan Publishing Co., New York.
13. Peckham, G. and Freeland – Graves, G.H. (1979): Foundations of Food Preparation.
14. Becker, P. (1965): Emulsions: Theory and practice, Reinhold, New York.

JOURNALS

1. Journal of Food Sciences.
2. Advances in Food Research
3. Journal of Food Science and Technology
4. Journal of Agricultural and Food Chemistry.
5. Cereal Science
6. Journal of Dairy Science
7. Journal of the Oil Chemistry Society.

Course Code: 16081202020300P

Course Category: Core

Course Title: FOOD SCIENCE Practical

Credit: 02

Contact hour/week=04

1. Effect of solutes on boiling point and freezing point of water.
2. Effect of types of water on characteristics of cooked vegetables, pulses and cereals.
3. **Sugar ad Jaggery Cookery:** Relative sweetness, solubility and sizes of sugars, stages of sugar cookery, caramelization, crystallization, factors affecting crystal formation.
4. **Starches, Vegetable Gums and Cereals:** Dextrinization, gelatinization, retrogradation, thickening power. Factors affecting gels. Gluten formation and factors affecting gluten formation.
5. **James and Jellies:** Pectin content of fruits, role of acid, pectin and sugar in jam and jelly formation. Use of gums as emulsifiers / stabilizers.
6. **Gelatin:** Gelation, gel strength and factors affecting gelation. Ability to foam.
7. **Leavened Products:** Fermentation – Use of Micro organisms (lactic acid, yeast), Steam as an agent, egg as an agent, chemical agents.
8. **Beverages:** Factors affecting quality of beverages.

REFERENCES

15. Charley, H.(1982): Food Science(2nd edition), John Willey & Sons, New York.
16. Potter, N. and Hotchkiss, J.H. (1996): Food Science, Fifth edition, CBS publishers and Distributors, New Delhi.
17. Belitz, H.D. and Gropsch, W. (1999): Food Chemistry (2nd edition), Springer, New York.
18. Abers, R.J. (Ed.) (1976): Foam, Academic Press, new York.
19. Cherry, J.P. (Ed.) (1981): Protein Functionality in Foods, American Chemical Society, Washington,D.C.
20. Pomeranz, Y. (Ed.) (1991): Functional Properties of Food Components, (2nd edition), Academic Press, New York.
21. Duckworth, R.B. (Ed.) (1978): Water Relation to Foods, Academic Press, London.

22. Parihar, P., Agarwal, R. Jain D.K. and Mandhyan, B.L. (1977): Status Report on Dehydration of Eggs. PHT / CAE / Publishers.
23. Marshall, K.R. and Harper, W.J. (1988): Whey Protein Concentrates, IDF Bulletin No.233.
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25. Julians, B.O. (Ed.) (1985): Rice Chemistry and Technology, (2nd Edition), American Association of Cereal Chemistry, St. Paul Minnesota, USA.
26. Bowers, J. (1992): Food Theory and Applications, (2nd Edition), MacMillan Publishing Co., New York.
27. Peckham, G. and Freeland – Graves, G.H. (1979): Foundations of Food Preparation.
28. Becker, P. (1965): Emulsions: Theory and practice, Reinhold, New York.

JOURNALS

8. Journal of Food Sciences.
9. Advances in Food Research
10. Journal of Food Science and Technology
11. Journal of Agricultural and Food Chemistry.
12. Cereal Science
13. Journal of Dairy Science
14. Journal of the Oil Chemistry Society.

Course Code:16081202020401

Course Category: Elective

Course Title: Nutrition for Health & Fitness

Credit: 02

Contact

hour/week=02

Objectives

This course will prepare the students to:

- Understand the components of health and fitness and the role of nutrition in these.
- Make nutritional, dietary and physical activity recommendations to achieve fitness and well-being.
- Develop ability to evaluate fitness and well-being.

Contents

1. **Introduction to Nutrition, Health, exercise and fitness:** Nutrition, exercise, physical fitness and health and their inter-relationship. Types of exercise and its health benefits.
2. **Review of different energy systems for endurance and power activity:** Energy input and output. Calculation of energy expenditure by different methods. Fuels and nutrients to support physical activity. Mobilization of fat stores during exercise.
3. **Nutrition in Sports:** Nutritional aspects of macro and micro nutrients in sports. Sports specific requirement. Pre-game, during and post-game meals.
4. **Nutritional and exercise regimes for management of obesity.** Critical review of various dietary regimes for weight and fat reduction.
5. **Dietary supplements and Ergogenic aids:** Definitions, types and use of different ergogenic aids like nutritional, physiological, pharmacological etc and commercial supplements, Sports drinks, sports bars etc. Regulations regarding dietary supplements and ergogenics.

References

1. Mahan, L.K. & Ecott-Stump. S. (2000): Krause's Food, Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.,
- 2.Sizer, F. & Whitney, E. (2000): Nutrition – Concepts & Controversies, 8th Edition, Wadsworth. Thomson Learning.

3. Whitney, E. N. & Rolfes, S.R. (1999): Understanding Nutrition, 8th Edition, West / Wadsworth, An International Thomson Publishing Co.,
4. Ira Wolinsky (Ed.)(1998): Nutrition in Exercise and Sports, 3rd Edition, CRC Press.
5. Parikova, J. nutrition, Physical activity and health in early life, Ed. Wolinsky, I., CRC Press.
6. Shils, M.E., Olson, J.A., Shike, N. and Ross, A.C. (Ed.) (1999): Modern Nutrition in Health & Disease, 9th Edition, Williams & Wilkins.
7. McArdle, W. Katch, F. and Katch, V. (1996). Exercise Physiology. Energy, Nutrition and Human performance 4th edition, Williams and Wilkins, Philadelphia.

Journals

1. Medicine and Science in Sports and Exercise.
2. International Journal of Sports Nutrition

Course Code: 16080202020402

Course Category: Elective

Course Title: Consumer information and Redressal

Credit: 02

Contact hour/week=02

Objectives

- To equip and impart knowledge on consumer related facts and issues
- To provide an understanding of the significance of consumer information
- To develop and acquire skills in consumerism and utilizing the provisions in redress mechanism

Contents

1. Consumer movement

- Origin and growth
- Philosophy , objectives
- Consumer movement in developed countries and global experience – a brief overview.
- Indian experience, reasons for slack in consumer movement. Future of consumer movement in India.

2. Consumer protection

- Legal problems in buying and paying for goods and services.
- Consumer representation – Govt. agencies, consumer organization, legal cells in industries, public interest legislation.
- Quality control and standardization – national and global

3. Consumer information

- Need and significance
- Sources
- Consumer services – public and private – merits and limitations.
- Institutional support – corporate accountability, Government policies and responsibilities.
- Do's and Dont's towards better consumerism

4. Consumer redressal

- Consumer protection Act.1986.
- Definitions of consumer, complaint, complaint service, unfair trade practices as given in CPA.
- Procedure for filing a complaint appeal to district, state and national commissions.
- Some tips for ensuring redressal.

5. Alternative redressal mechanism for consumer grievances

- Verbal and written complaints
- Media connected services
- Third party assistance – Arbitrator, ombudsman
- Institutional assistance
- Lok Adalats
- Public interest litigation
- Government and other agencies

6. Project and research in consumer affairs – visit to consumer redressal forums.

Reference

1. D.N. Saral (1990): Law of consumer protection in India, Tripathy Private Limited, N.M.New Delhi
2. Gurjeet Singh (1996) : The Law of Consumer Protection in India, Deep and Deep Publication, New Delhi.
3. Jajie Mandana (1977) : The Indian Market Place, Guidelines to Consumer Education, Bangalore, Brindawan Publishing House, New Delhi.
4. Gaden R.Foxall(1983) : Consumer Choice, Macmillan Press Ltd, New York
5. Mehta S.C.(1993): Indian Consumers: Studies and Cases for Marketing Decisions, New Delhi. Tata McGraw Hill Pub, New York.
6. Himachalam,D.(1998): Consumer Protection and the Law, AHP Publishing Corporation, New Delhi.
7. Sherlikar , S.A. Trade Practice and Consumer Protection. Himalaya Publishing House, Mumbai.
8. Gulshan, S.S.(1994): Consumer Protection and Satisfaction,Wiley Eastern Ltd, Mumbai.
9. Azmi S.S.H.(1992): Sale Goods and Consumer Protection in India, Deep and Deep Publications, New Delhi.
10. Seelharaman, P. and Sethi, M. (2001): Consumerism: Strategies and Tactics, CBS Publishers, New Delhi.
11. Sethi, M. and Seetharaman, P. (1994): Consumerism: A Growing Concept, Phoenix Publishers, New Delhi.

Course Code: 16080202020403

Course Category: Elective

Course Title: Child and Human Rights

Credit: 02

Contact hour/week=02

Objectives

- To develop awareness and perspective of Human Rights as a professional in the field of Human Development.
- To develop sensitivity to Human Rights with specific reference to children's rights
- To gain knowledge about Charter on Human and Children's rights
- To work with women and children to create awareness about their rights and to guide them to access their rights.

Contents

1. Definition and Evolution of Rights

- Human rights
- Child rights
- Women's rights

2. Status of Indian Children and their rights

- Gender disparities (infanticide, foeticide, girl child).
- Children in difficult circumstances (Children of prostitutes, child - prostitutes, Child labour, street children, refugee children and child victims of war).
- Children with special needs.

3. Status of Women and their Rights

- Status of women in India.
- Women and human rights
- Forms of violation of women's rights

Violence against women in home, work places and society

- Sexual harassment, rape
- Crime against women
- Political discrimination

8. Human Rights

- Moral rights
 - a. Legal rights

b. Civil and political rights

1. Advocacy for Human rights.

References

1. Butterworth, D. and Fulmer, A (1993). Conflict, Control Power. Perth : Child and Family Consultants.
2. Bruner, T. (1986). Actual minds – possible words. London ; Harvard University Press.
3. Digumarti, B.R. Digumarti, P.L. (1998). International Encyclopedia of Women (Vol.1), New Delhi : Discovery.
4. D'Souza, C. and Menon, J. Understanding Human Rights (Series 1-4) Bombay: Research and Documentation Centre, St. Pius College.
5. Dreze, Jean and Sen, Amartya (1989). Hunger and Public Action, U.K. Oxford University Press.
6. Government of India (1992b). National Plan of Action: A commitment to the Child, Department of Women and Child Development, New Delhi.
7. Government of India (1993c). Education for All: The Indian Scene, Department of Education, New Delhi.
8. Government of India (1993d), Ministry of Finance, Economic Survey 1992-93, New Delhi.
9. Government of India (1994), Ministry of Finance, Economic Survey 1993-94, New Delhi. Government of Tamil Nadu (1993). Dr. J. Jayalalita 15 Point Programme for Child Welfare, Department of Social Welfare and Nutritious Meal Programme, Madras.
10. Kudchedkar, S. (Ed.)(1998). Violence against Women : Women against violence. Delhi: Percraft International.
11. National Institute of Nutrition (1993). Nutrition Trends in India, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
12. National Institute of Public Cooperation and Child Development (1993). A Statistics on Children in India Packet Book 1993, New Delhi.
13. National Institute of Urban Affairs (1993), Urban Child: Issues and Strategies In collaboration with Planning Commission, Ministry of Urban Development and UNICEF, New Delhi.
14. National Law School of India University and United National Children's Fund (1991). Report of a Seminar on the Rights of the Child, National Law School of India University, Bangalore.
15. National Commission for Women (2001). A Decade of endeavour (1990-2000), New Delhi; National Commission for Women.

16. Sachar, R.K. Verma, Dahawan, S., Prakash, Ved, Chopra, A. and Adlaka, R. (1990). Sex bias in health and medical care allocation, Indian Journal of Maternal and Child Health, 1(2) 63-65.
17. UNICEF (1992), Rights of the Child: World Declaration and Plan of Action from the World Summit for Children and the Convention on the Rights of the Child, New Delhi.
18. UNICEF (1993). The Progress of Nations, New York.
19. UNICEF (1994). The State of the World's Children 1994, Oxford University Press, U.K.
20. UNICEF (1990). Children and Women in India: A Situation Analysis: 1990, New Delhi.
21. UNICEF India (1993). Annual Report on Country Situation: 1993, New Delhi.
22. UNICEF India (1993). Annex to the Annual Report on Goals and Indicators, New Delhi.
23. UNICEF India (1993). Policy on Child Labour, New Delhi.
24. Weiner, Myron (1991). The Child and the State in India, U.K. : Oxford University Press.
25. Manav Adhikar and Sanyukta Rastra Sangh, Satis Chaturvedi
26. Manav Adhikar , A N Karia, C jamanadas & co.
27. Bal Adhikar and Kayado , Dr. K C Ravl, Guj. Uni. A'bad.
28. Mahila Jagruti And Kanun, Prakes Narayan.

Course Code: 16080202020404

Course Category: Elective

Course Title: Color Science and Instrumentation

Credit: 02

Contact hour/week=02

Objectives

1. To develop an understanding of the scientific aspects of colour, difference between dye and coloured compound.
2. Understanding of colour formulation, assessment of colour differences, colour, sorting techniques and colour perception.
3. To understand theory of colour measurements in solution and on textiles and the instruments used for colour measurement.
4. To acquaint students with the recent developments regarding eco-regulation and banned dyes.

Contents

1. Nature of light:
 - i) Electromagnetic Radiation, Electromagnetic Spectrum and its uses in physical/organic chemistry, sources of natural and artificial light, properties of artificial light sources, absorption and scattering of light, spectro-photometric curves and their relationship to perceived colour.
 - ii) Relation between colour and chemical constitution of dyes, to acquaint with colour index.
 - iii) Instruments for the measurement of colour, principles of spectrophotometry, early colorimeter, absorption spectroscopy, Beer-Lamberts law, single beam and double beam spectrophotometer.
 - iv) Colour mixing system, colour order system, CIE Colour specifications, Illuminant, yellowness Index and whiteness index, reflectance spectrophotometer, Kubelka-Munk Theory, Relation between K-S and concentration of colourant, understanding colour difference, hue, chroma etc.
- v) Introduction to chromatography and basic instrumentation; Application of Thin layer chromatography, HPLC and GC in dye analysis.

References

1. Colour physics for industry, Ed., by Roderick McDonald, Published by the Society of dyers and colourists.
2. Instrumental methods of Chemical Analysis, Galen W. E. Wing, McGraw-Hill Book Company.
3. Instrumental Methods of Chemical Analysis – G.R. Chatwal and S. Anand, Himalaya, Publishing House, Mumbai.
4. Dyeing and Chemical Technology of Fibers, S. R. Trotman, Charles Gribbin & Company Limited.
5. Chemistry of Synthetic Dyes Part I & II – K. Venkatraman.

Course Code: 16080202020405

Course Category: Elective

Course Title: Program design and Evaluation

Credit: 02

Contact hour/week=02

Objectives

To enable students:

- To understand the changing concept of extension.
- To get acquainted with the trends in extension approaches and models.
- To identify the support system development for extension education.

1. Programme planning

- Meaning and importance of programme planning in extension.
- Principles of programme planning: programme development cycle and its components.
- Programme projection :difference between Programme projection and planning.
Identifying felt needs of people, collection of base line data

2. 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.
- Pre-requisites for developing plan, guidelines for developing a written annual plan, criteria for judging the plan of work.
- Meaning of resource, types of resources, identification and appraisal of resources,resource mapping,computer application for programme planning.
- Resources for programme planning.

3. Programme Implementation

- Aspects of execution Factors responsible for the successful conduct of a program me.
- Role of officials and non officials in programme implementation.
- Linkages with other agencies. Problems in implementation.

4. Evaluation and Follow up

- Meaning and purpose of evaluation, types of evaluation, self evaluation, criteria for evaluation
- Tools for evaluation, observation sheet and checklist.
- Follow-up: Need for follow-up, methods for follow-up,correspondence, meetings.

5 .Documentation

- Need for reporting
- Procedures for recording-aspects to be covered.
- Records and registers to be maintained in programme implementing institution

References

- Dahama,O.p. and Bhattanagar,o.p.(1987) Education and communication for development. Oxford publishing co. Pvt. Ltd .New Delhi.
- Pankajam,G.(2000).Extension-Third Dimension of Education, Gyan Publishing House; New Delhi
- Ray.,G.L.(1999).Extension Communication Management. Naya Prakash Calcutta.
- Reddy,A.(1999).Extension Education. Shree Lakshmi Press,Bapatla.
- Sandhu,A.S.(1994)Extension Programme planning.Oxfordand IBH Publishing Company Private Limited,New Delhi.
- Singh,R.(1987)Textbook of Extension Education.Sahatiya kala prakashan, Ludhiana.
- Supe, S.V.(1982)Introduction to Extension Education.Oxford Publishers;New Delhi.

Course Code: 16081202020500

Course Category: Skill Oriented

Course Title: Statistics & Computer Application

Credit: 04

Contact hour/week=04

Objectives:

- To understand the role of statistics and computer applications in research.
- To apply statistical techniques to research data for analyzing & interpreting data meaningfully.

NOTE: Students should be given hands on experiences to use appropriate software packages for selected statistical analyses.

Unit I: Statistical Analysis

- Conceptual understanding of statistical measures
- Measurement of central tendency
- Measurement of variation
- Skewness and Kurtosis
- Properties and uses of Binomial and normal distribution

Unit II: Testing of Hypothesis

- Typr I and Type II errors
- Levels of Significance

Unit III: Parametric –Small and Large sample test

- Chi square test
- Independence of Attributes 2x2 and rxc contegency tables

Unit IV: Student 't' test and F test

Unit V: Correlation, coefficient of correlation

Course Code: 16081202020500P

Course Category: SO

Course title: Computer Application Practical

Credit: 02

Contact hour/week=04

1. MS Office. (A) MS Word (B) MS Excel (C) MS Power point
2. SPSS

References;

1. Dooley, D. (1995): Strategies for interpreting Qualitative Data; Sage Publications, California.
2. Gay, L.R. (1981, 2nd Ed.): Educational Research, Charles. E. Merrill, Columbus, Ohio.
3. Long, J.S. (Ed.)(1988): Common Problems Proper Solutions : Avoiding Errors in Quantitative Research. Beverly Hills, Sage Publications, California.
4. Mukherjee, R. (1989): The Quality of Life: Valuation in Social Research, Sage Publications, New Delhi.
5. Stranss, A. and Corbin. J. (1990): Basis of Qualitative Research: Grounded Theory Procedures and Techniques, Sage Publications, California.

SEMESTER III

Semester-III: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
16080202030100	Development Communication	Core	04	04	30	70	100
16080202030100P	Development Communication (Pra)		02	04	---	50	50
16080202030200	Dyeing and Printing	Core	04	04	30	70	100
16080202030200P	Dyeing and Printing (Pra)		02	04	---	50	50
16080202030300	Care of Children with Disability and illness	Core	04	04	30	70	100
16080202030300P	Care of Children with Disability and illness (Pra)		02	04	---	50	50
16081202030401	Dietetic techniques and patient counseling	EL (any one)	02	02	15	35	50
16080202030402	Ergonomics						
16080202030403	Guidance of Counseling						
16080202030404	Fashion Retailing						
16080202030405	Sustainable Development						
16081202030500	Scientific Writing	SO	04	04	30	70	100
Total			24	30	135	465	600

CC=Course Category, CCr= Course Credit, WH= Working Hours, IM=Internal Marks, EM =External Marks, TM=Total Marks, Course revision year=16, Faculty code=08, Subject code,= 01 for Foods & Nutrition, 02 for General Home Science and 12 for common for both, Level=02 (PG), Sem=01-04, Paper no= 01-05, Options 00 for Core, Multidisciplinary (MD), and Skill oriented (SO), for Elective =01-05 (**Interpretation of code**16080202030100 Here 16 means 2016, 08 Home science faculty, 02 for General home science, 02 means PG level, 03 Semester III , again 01 is paper no and last 00 is for Core course.)

Course Code: 16080202030100

Course Category: Core

Course Title: DEVELOPMENT COMMUNICATION (Core)

Credit: 04

Contact hour/week=04

Objectives

- To understand the concept of development, its indices and relationship with development communication.
- To understand the concept of development communication and its relevance to fostering development.
- To impart knowledge about the processes involved in developmental communication with special emphasis on design of communication strategy.
- To impart skill and knowledge about the relevance, potential and use of various media in development communication with due consideration to government policies and regulations.

Contents

Theory

1. Basic Concept: Development

- Definition, Basic concept, nature, evolution, significance, functions and dysfunctions, dynamics of development.

2. Basic Concept: Development Communication

- Definition, evolution with respect to historical and cultural perspective of development communications.
- Nature, role and significance of development communication
- Models of development communication
 1. Interdependent model
 2. Dependency model
 3. Basic needs model
 4. New Paradigm of development
- Approaches to development communication – Diffusion and Extension approach, participatory approach
- Strategies in development communication.

3. Media in Development Communication

- Understanding the role of traditional and modern media in development communication.

- Use of folk media, puppetry, exhibitions, theatre, posters, print media (news papers, books, leaflets, IEC material), radio, television and cinema.
- Government policies and regulations on mass media in India.
- Understanding and analysis of the ongoing Govt. and non-governmental efforts in development communication.
- New avenue for development communication – literacy, women and development, human rights, environment.

Course Code: 16080202030100 P

Course Category: Core

Course Title: Development Communication Practical

Credit: 02

Contact hour/week=04

1. Case studies in development communication (eg. Beneficiaries of government program, yojana, Mahila mandal etc.)
2. Dealing with various issues in development communication through the use of folk media.
3. Project preparation on specific area in development communication, with the use of PRA and RRA techniques.

References:

1. Capila, A. (2001): Images of Women in the Folk Songs of Garhwal Himalayas; Concept Publishers, New Delhi.
2. Communication for Development in the 'Third World Theory and Practice (1991), Sage Publication, New Delhi.
3. Honolulu (1976): Communication and change : The Last Ten Years and Next, University of Hawai Press.
4. Ithiel Pool, Frey, F.W. and Schramm Wilbur (1973): handbook of Communication.
5. Joshi Uma (1997): Textbook of Mass Communication and Medial Anmol Publications; New Delhi.
6. Joshi Uma (2001) : Understanding Development Communications : Dominant Publishers; New Delhi.
7. Journal of Communication
8. Media Asia (1979): Popular Participation through Communication.
9. Mehta, S.R. (1992): Communication and Development, Issues and Perspectives, Rawat Publications, Jaipur.
10. Modi, B.: Designing Messages for Development, Sage Publications, New Delhi.
11. Nair, R. (1993): Perspective in Development Communication, Sage Publications, New Delhi.
12. Nair, K. S. and White, Shirley (1993): Perspective on Development Communication, Sage Publications, New Delhi.
13. Narula U. (1994): Development Communication, Haranand Publications.
- 14 Rajpura M R (2003) "Home Science extension & Communication" Shree U K V Mahila Arts &

Home Science College Keshod

Course Code: 16080202030200

Course Category: Core

Credit: 04

Contact hour/week=04

DYEING AND PRINTING

Objectives

1. To impart the knowledge about preparation of fabric for dyeing & printing.
2. To understand the theory of dyeing in relation to various classes of dyes.
3. Application of various dyes & properties related to it.
4. To introduce the concept of dyeing at commercial level.
5. To inculcate awareness of the different methods of printing and appreciate the technical advantages of each.
6. To develop technical competency in printing with different dyes on different fabrics.

Theory

1. Preparation of fabric for dyeing & printing
 - Scouring, bleaching, designing
 - Reagents used & their application
 - Specific preparatory steps for cotton, wool, silk & man made fibres
 - Equipment used at cottage & industrial level for yarn, fabric & price goods
2. Dye
 - Classification, definition, components
 - Colour & chemical constitution of dyes
 - Dyeing with chemical dyes
 - a. direct, reactive, vat, sulphur, azo [for cellulosic]
 - b. acid, metal complex, chromemordant [for protein]
 - c. basic, nylomine, disperse [for man-made]
 - Dyeing with natural dyes
 - Use of pigments
 - Dyeing machines for fibers, yarns & fabrics
 - Industrial dyeing practices

- Dyeing auxiliaries & their uses
- Dyeing of blends
- 3. Textile design through dyeing
 - Tie & dye
 - Batik
 - Union & Cross dyeing
- 4. Dyeing defects & remedies
- 5. Introduction to printing – difference between dyeing and printing.
- 6. Methods of printing
 - Historical development of printing methods – block stencil, screen roller and rotary screens used at cottage and industrial level.
- 7. Printing pastes – Thickening agents and auxiliaries for printing and their suitability to various classes of dyes and fibres. Preparation of printing pastes for different dyes and different fibres.
- 8. Styles of Printing
 - Directstyle, dyed, resist or reserve style, discharge style and raised style.
 - Styles and methods of printing traditionally used in India.

Course Code: 16080202030200 P

Course Category: Core

Dyeing and Printing (Pra)

Credit: 02

Contact hour/week=04

Practicals

1. Preparation of fabric for dyeing & printing
2. Dyeing of yarns & fabric with different classes of dyes, in fibre & fibre blends (variables – MLR, con, temp, leveling/exhausting agents)
 - Direct, reactive, vat, sulphur, azo
 - Acid, chrome, metal complex
 - Basic, disperse
 - Natural dyes
3. Preparation of fabric for printing – different fibre groups with different dyes, different styles of printing.
4. Preparation of screens for printing
5. Printing with blocks and screens on cotton, silk, wool and cotton wool, cotton silk and cotton polyester blends in different styles with different dye classes.
 - Direct style
 - Mordant or dyed style, Azok style
 - Discharge style
 - Resist style

 - Raised style
 - Transfer printing
6. **Finishing the printed goods**
7. **Reports of visits to processing and printing units – cottage and industrial level.**

References

1. V.A. Shenai (1987), Chemistry of Dyes and Principles of Dyeing, Sevak Prakashan, Mumbai.
2. H.A. Lubs, Robert E. The Chemistry of Synthetic Dyes and Pigments, Krieger Publishing company, New York.
3. V.A. Shenai (1999), Azo Dyes – Facts and Figures –Sevak Prakashan, Mumbai.
4. R.S. Prayag, Technology Textile Printing –Noyes Data Corporation.
5. V.A. Shenai (1977), Technology of Printing – Technology of Textile Processing, Vol. IV, Sevak Publication.
6. M.L. Gulrajani and Deepti Gupta (1990), Natural Dyes and their Application to Textiles", ed. I.I.T. Delhi Publication.
7. John and Margarot Cannon (1994), Dye Plants and Dyeing, The Herbert Press (UK).
8. ASTM and ISI Standards.
9. K. Venkatrama (1970), Chemistry of Synthetic Dyes, Part I and II.

Course Code: 16080202030300

Course Category: Core

**Course Title: CARE OF CHILDREN WITH DISABILITIES
AND ILLNESSES**

Credit: 04

Contact hour/week=04

Objectives

- ❖ To gain information on different impairments and illnesses that affect children.
- ❖ To be sensitive to desires and wishes of children.
- ❖ To identify and assess impairment, illnesses, disability and the child's physical and social environment.
- ❖ To plan for inclusive educational programmes for children and involving the disabled child in the process.
- ❖ To become sensitive to concerns of parents of children with disabilities and collaborate with them for children's education ad development.
- ❖ To interact and relate sensitively with children with disability, accepting individual differences and enable others to do so.

CONTENTS

1. Different types of impairments and serious illness, causes and the effects on children.
 - Physical, intellectual, sensory and emotional impairments.
 - Illnesses such as juvenile diabetes, asthma
2. The philosophy of inclusion.
3. Attitudes of others in the family and community.
4. Techniques for identification ad recording progress.
5. Physical, organizational and social barriers in the development of children with disabilities
 - Modification and adaptation of physical and social environment, the meaning of inclusion, enabling participation of children with disabilities in the school and

community so that they have a sense of belonging as well a opportunity to become contributing members.

6. Use of assistive devices.
7. Listening to children and including their views in life at school and home.
8. Care of the child in the family, role of parents, siblings and other members.
9. The rights versus needs of the children.
10. Examples of programmes for children with disabilities, innovative projects.
11. Issues in planning inclusive care programmes.

Course Code: 16080202030300P

Course Category: Core

**Course Title: CARE OF CHILDREN WITH DISABILITIES
AND ILLNESSES PRACTICALS**

Credit: 02

Contact hour/week=04

1. Planning and working with children and parents.
2. Case study of a child with disability and illness.
3. Case study of one organization each for children with Blindness, Deaf and Dumb and mentally retarded with particular reference to its physical and social environment.
4. Study of Govt. Schemes and policies for Disable children.

References

1. Chand, I. (1997). Climb every mountain: Harper Collins Publishing India, New Delhi.
2. D. Mitchell & R. I. Brown (Eds.) Early Intervention studies for young children with special needs (pp. 19-14) London: Chapman and Hall.
3. Dale, N (1996). Working with families of children with special needs. London; Routledge.
4. Indira Gandhi national Open University (IGNOU), (1995). In Sen, R.S. (Ed.) , Children with special needs-1 (p. 17) DECE 3 Services and Programmes for Children, New Delhi: IGNOU school of Continuing Education.
5. Kaur, B. & Karanth, P. (1993). Education for young children with special needs. In T.S. Saraswathi & B. Kaur (Eds.), Human Development and family studies in India: An Agenda for research and policy (pp. 300-314). New Delhi: Sage.
6. Want, M.C. (1987-89). Handbook of special Education: Research & Practice. Vol. 3 Oxford: Pergamon.

Journals

1. Disability and Society
2. Action Aid Disability News
3. Impairment and disability.
4. Asia Pacific Disability Rehabilitation Journal

Course Code: 16081202030401

Course Category: Elective

Course Title: Dietetic Techniques & Patient Counseling

Credit: 02

Contact hour/week=02

UNIT -I

Dietician as part of the medical team and out reach services. Role of dietician .Essential qualities

UNIT -II

Medical history , assessment techniques for obtaining relevant information from patients profile.

UNIT -III

Dietary diagnosis and tests for nutritional status correlating clinical and dietary information.

UNIT -IV

Patient counseling Assessment of patient needs, establishing rapport and counseling relationship, resources and aids to counseling relationship, resources and aids to counseling.

UNIT -V

Aesthetic attributes- Nutritional significance of diet for different clinical conditions. Follow visit and patients education.

Reference:

1. Goyet, fish.. V.; Seaman, J. and Geijer, u-(1978): The Management of Nutritional Emergencies in Large Populations, World Health Organisation, Geneva
2. Refugee Nutrition Information System (ANIS): Newsletters UN ACCISCN Subcommittee on Nutrition.
3. Field Exchange, Newsletters by Emergency Nutrition Network, Dept. of Community Health and General Practice, Ireland.

Course Code: 16080202030402

Course Category: Elective

Course Title: Ergonomics

Credit: 02

Contact hour/week=02

Objective

To become aware of the role of ergonomics in work effective and efficiency.

To understand the environment factors contributing to productivity, safety, control and well being of individual performing the work.

Contents

1. Ergonomics

- Scope of work in household and other occupations.
- Nature of work in household and other occupations.
- Interdisciplinary and applied nature of ergonomics as a field of study.
- Man-Machine-Environment system.

2. Physiological Aspect of work

- Structure and function of the muscles.
- Biochemistry of muscle work.
- Physiological factors involved in muscular work.
 - Carbohydrates, fats & proteins
 - Oxygen
 - Cardio-vascular and respiratory system
 - Thermo-regulatory system
 - Sources of energy for muscular work
 - ATP, Energy currency
 - CP, energy reserve
 - Food, carbohydrates, fats & proteins
 - Static and dynamic muscular effort
 - Energy requirement for muscular work and efficiency
 - Energy expenditure for different activities.
 - Endurance and muscular strength
 - Dynamometer
 - Skill
 - Maximal work
 - Speed
 - Factors effective physiological reaction doing work.
 - Workload and Posture

3. Anthropometry and Biomechanics

- Definition, scope

- Human body as a system of levers
- Identification and analysis of postures
- Effect of wrong postures on cardio vascular and muscular skeletal system.
- Correct techniques of lifting and carrying weights.
- Principals of motion economy
- Design application of Anthropometry.
- Work centers
- Equipments and Tools
- Others items of concern/protective use.

4. Environment

- Physical
- Heat
 - Thermal regulation of the body at rest and during work.
 - Thermal balance
 - Factors responsible for exchange of heat between body and surrounding environment.
 - Heat stress
 - Thermal comfort
 - Noise-music
- Effect of noise, music on productivity and well-being
 - Vibrations and its effect on body parts during work with vibrating tools
 - Lighting and colour
 - Atmospheric pollution
 - Psycho-social Environment

5. Engineering Psychology

- Man-machine system
- Behavioral and motivational Factors

6. Ergonomic consideration for the physically challenged

References

1. Astrand,P.O.and Rodahi, K.(1986) : Taxtbook of work physiology, McGraw Hill, New York.
2. Haupt ,W.Q.and Feinleis, M.E.(1979) physiology of movement vol.7. Verlog Publication Berlin spinger
3. Grandjean E.(1968) Fitting the Task to the man A Textbook of occupational Ergonomics Tylor and Francis,London.
4. McArdle, D.W.Katch. F.I.and katch, V.L. (1981 & 1991) Exercise physiology, 4th Edition, Henry Kempton publishers,Baltimore.

5. Chaffin, D.B. and Anderson G.B.(1984) Occupational Biomechanics, John Wiley and Sons.
6. Well K. and Luttgens Kathryn (1976) Kinesiology: Scientific Basis of Human Motion 6th edition
7. Davies, D.R. and Shackleton, V.J. (1975) Psychology of Work, Motunen & Co. Ltd.
8. Eastman Kodak Company (1986) Ergonomics Design for People at Work vol. 1 & 2, Van Nostrand Reinhold, New York.
9. Osborne David (1980) Ergonomics at Work John Wiley and Sons, New York, London.
10. Nag.P.K. (1996) Ergonomics and Work Design: Merging Issues in Organizational Science New Age International (P) Ltd New York.
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12. Steidle and Braton Work in Home
13. Close Guy (1980) Work Improvement John Wiley and Sons, New York
14. Grandjean Ettiens (1978) Ergonomics of the Home Taylor and Francis, London
15. Mureli K.F.H. (1965) Ergonomics, Chapman Hall, London.
16. Anshel, Jeffrey (1998) Visual Ergonomics in the Workplace, Taylor and Francis London
17. Macleod, Dan (1995) The Ergonomics Edge: Improving Safety, Quality and Productivity Van Nostrand Reinhold New York.
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19. Dul, Jan and Weerdmeester Bernard (2001) Ergonomics for Beginners Taylor & Francis, London.
20. Parsons, K.C. (2001) Human Thermal Environments Taylor & Francis, London.
21. Ringahl Lars Harms (2001) Safety Analysis Taylor & Francis London.
22. Jordan, P.W. (2001) Pleasure with Products Taylor & Francis London.
23. Norris, B. and Wilson J.R. (2001): Designing Safety into Products: Taylor & Francis, London.
24. Wilson, J.R. and Covlett, N. (2001): Evaluation of Human Work: A Practical Ergonomics Methodology Taylor & Francis, London.
25. Pheasant Stephan (2001) Body Space, Anthropology, Ergonomics and the Design of Work Taylor & Francis London
26. Jordar Pat (1998) Human in Product Design: Current Design Practice and Future Trends Taylor & Francis London.
27. Wogaller, M., DeJoy, D. and Laugherty, K. (2001) Warnings and Risk Communication Taylor & Francis London

Course Code: 16080202030403

Course Category: Elective

Course Title: Guidance and Counseling

Credit: 02

Contact hour/week=02

Objectives

- To understand the need for guidance and counseling in human development.
- To introduce basic concepts in guidance, counseling and therapy.
- To discuss the processes involved in counseling at different stage in life.

Contents

1 Construct of guidance, counseling and therapy

- Basic differences.
- Guidance and counseling needs of individuals, families and systems.
- Role of culture in influencing counseling needs and practices.

2 (A) Nature of psychological disorders at different stages that require counseling and therapy

- At childhood
- At adolescence and youth
- At adulthood
- In old age

(B) Types of crises: natural disasters, manmade crisis situations.

3 principles of counseling and therapy

- Approaches to counseling at different developmental stages.
- Family therapy approach.
- Qualities and skills of a counselor

4 The process of counseling

- First contact, assessment, intervention, closure, follow-up

5 Guidance and therapeutic intervention for vulnerable/special groups of children and adolescents

- Normal developmental stages & basic needs

- Children in difficult circumstances
- Separation, loss and death
- Effect of crises events on different age groups
- Intervention techniques
- The role of the family
- Special issues in treating children

References:

- 1 Burnard, P.(1999). Counseling skills training. New Viva boks.
- 2 Manthei, R. (1997). Counseling: the skills of finding solutions to problems. Londin: routledge.
- 3 Nicolson, D.& Ayers, H.(1995). Individual Counselling: Therapy and practice. London: David Fulton.
- 4 Medicine sans frontiers (MSF)
 - Handbook for a monthly course on trauma related problems. Trainer's manual, oct 1997
 - Mental health training manual
 - Shocking events and stressful situation- their emotional consequences. Amstedram, april 1993
- 5 save the children
 - helping children in difficult circumstances. (A teacher's Manual) London, 1992
- 6 Schauer , Margarete
 - Posttraumatic stress (PTSD) and extreme stress (DES).
 - First aid kit for the mental health team providing psycho-social service for theseverelytramatized kosovoalbanians in the refugee camps. MSF mental health- Macedonia 1999
- 7 World health organization
 - Mental health of refuges, geneva, 1996

Course Code: 16080202030404

Course Category: Elective

Course Title: Fashion Retailing

Credit: 02

Contact hour/week=02

Objectives

- To understand the dynamics of fashion and role of fashion designers
- To develop understanding visual merchandising and its importance in today's consumer market.
- To gain knowledge about the management aspect of retailing.

Contents

1. The Dynamics of Fashion
Fashion Terminology, Fashion Cycle, Fashion Adoption Theories, Fashion Forecast, the role of designers in merchandising.
2. The Concept of Retailing
Definitions, Role of retailing in merchandising, the retail mix, retail environment, types of retail stores.
3. Elements and Principles of Art and Design
Elements of Design : Colour, texture, line, form, space
Principles of Design : Rhythm, Balance, Proportion, Emphasis, Unity.
Interpretation for designing a retail store.
 - Plans and schedule –seasons, holiday promotions, sales, themes /ideas.
 - Types of Displays – Window displays ,interior displays.
 - Elements of Display – The merchandise ,the backdrop walls and shelves mannequins and forms ,signage lightings – illuminance levels ,relation to colour.
5. Planning and Budgeting for a Retail Store
Maintenance and ordering of stocks, preparation of sales reports.
6. Recruitment and Management of Sales Force, Types of compensation packages for sales force, Personal Selling as a means of Promotion

References

1. Dhake, Spoons, (1992): Greenworld Retail Fashion Promotion and Advertising, Mac Millan Publication.
2. Jarnow, J.A. Judelié, B. and Guerreiro, M. (1981): Inside the Fashion Business, John Wiley & Sons, NY, Toronto, Brisbane.
3. Frings G.S. (1982): Fashion from Concept to Consumer, Prentice Hall Inc., Englewood Cliffs, New Jersey.
4. Easey, M. (1995): Fashion Marketing, Blackwell Science Ltd.
5. Majare, S. (1995): The Essence of Marketing, Prentice Hall of India, New Delhi.
6. Chuter, A.J. (1995): Introduction to Clothing Production Management, Blackwell Science Ltd.
7. Stone, E. and Samples, J.A. (1985): Fashion Merchandising – An Introduction, McGraw Hill Book Company.

Course Code: 16080202030405

Course Category: Elective

Course Title: Sustainable Development

Credit: 02

Contact hour/week=02

Objectives

To enable students:

- Understand the concept of sustainability and development.
- Critically evaluate the interlinkages of people's participation and sustainable development.
- Understand community resources and identify the trends in the extent and consequences of their utilization.
- Evaluate existing structures and established arrangements for sustainable management of community resources.
- Understand the relationship between environmentally sound technologies and sustainability.

Contents

1. Concept of sustainable development

- Sustainability – meaning, concept and implications for development. Sustainable development – concept, philosophy, goals and challenges.
- Dimensions of sustainable development: social, spiritual, economic, educational security.
- Theories of development, changes in the concept of development, factors leading to change.

2. People's participation and sustainability

- People's participation – history, concepts and controversies, types and forms in development initiatives.
- Relationship between participation, learning and sustainability. Inter linkages of people's participation for building local knowledge, capacity of people and local institutions.

3. Sustainability and community resource perspective

- *Community resources* – a perspective – concept of resources – natural and shared resources, ecological (air, water, fuel, flora, fauna) institutional inputs (community groups/net works understanding resources, their interdependency. Indicators of environmental unsustainability – new paradigm of development.

4. **Management of community resources and sustainability**

- Trends and changes in the management of community resources. Institutional practices and policies influencing community resource management, community based organisational structures and practices, state, NGOs and other driven structures, policies, advantages and disadvantages.
- Factors affecting sustainability of community resource management initiatives - institutional sustainability, credibility, public image, style of functioning, human resource accountability.
- Programme sustainability: participation, capacity building, training, skill development, developing leadership, self-reliance, gender issues.
- Financial sustainability: corpus funds, assets, net working.

5. **People's initiatives and sustainability**

- Ecology and resource conservation: concepts, bio diversity, resource conservation methods, renewable energy and resources, role of women.
- Environmentally sound technologies: their impact on sustainable management of resources, adoption patterns, impact on lives of people, technologies for agriculture, water management, fuel and energy conservation, and soil fertility.
- Initiatives by different societal structures for food production methods and practices and sustainable farming, water management practices for sustainable management of forests for fuel and fodder needs of communities.
- Environment and habitat
- Advantages and lacuna in the initiatives of different societal structures in sustainable community resource management initiatives.

References

1. Bunch, R. (1985): Two Ears of Corn. World Neighbors; USA.
2. Dale, R. (2000): Organisations and Development Strategies, Structures and Processes. Sage Publications, New Delhi.
3. Integrated Rural Development for Sustainable Livelihood. BAIF Development Research Foundation.
4. Mathur, G.C. (1993): Low-cost Housing in Developing Countries. Oxford and IBH Publishing Co. Private Limited; New Delhi.

Course Code: 16081202030500

Course Category: Skill Oriented

Course Title: SCIENTIFIC WRITING (Skill-Oriented)

Credit: 04

Contact hour/week=04

Objectives:

- To be able to appreciate and understand importance of writing scientifically.
- To develop competence in writing and abstracting skills.

Contents

Unit I: Scientific writing as a means of communication

- Different forms of scientific writing
- Articles in journals
- Research notes and reports
- Review articles
- Monographs
- Dissertation
- Bibliography
- Book chapters and articles

Unit II: Outlines

- Concept of outline
- Importance of outlines
- Objectives of outline
- Types of outlines

Unit III: General principle of writing

- preparing a text for submission and publication
- Drafting
- Outline
- Proof reading
- Brevity and precision
- concepts of preface
- notes (end and footnotes), glossary
- prologue and epilogue
- appendix
- bibliography (annotated) and references cited
- review and index

Unit IV: Dissertation/ Research reports/ Thesis

- Introduction
- Review of literature
- Research design
- Results and discussion
- Summary
- Abstracts
- References/ bibliography
- Justification and recommendations

Unit VI: Writing for Grants

- The question to be addressed
- Rational, importance and justification
- Empirical and theoretical frame work
- Pilot study
- Research proposal
- Research design
- Stage wise organization of study
- Expected outcome and importance
- Available infrastructure and resources
- Budgeting
- Executive Summary

References

1. APA (1994). Publication Manual of American Psychological Association (4th Edition), Washington: APA.
2. Copper, H.M. (1990). Intergrating research: A guide for literature reviews (2nd Edition). California: Sage
3. Dunn, F.V. & Others. (Ed.) Disseminating research: Changing practice, N.Y. Sage
4. Harman, E & Montages, I. (Eds.) (1997). The thesis and the book, New Delhi : Vistar.
5. Locke, L.F. and others (1987). Proposals that work: A guide for planning dissertations & Grant proposals (2nd Ed.) Beverly Hills: Sage.
6. Richardson, L. (1990). Writing strategies. Reaching diverse audience, California : Sage.

7. Stenberg, R. J. (1991). *The psychologist's companion: A guide to scientific writing for students & researchers*. Cambridge: CUP.
8. Thyer, B.A. (1994). *Successful publishing in scholarly journals*. California: Sage.
9. Wolcott, H.F. (1990). *Writing up qualitative research*, Newbury Park: Sage.

SEMESTER IV

Semester-IV: General Home Science

Course Code	Title of The Course	CC	CCr	WH	IM	EM	TM
16080202040100	Communication Technologies in Extension	Core	04	04	30	70	100
16080202040100(P)	Communication Tech. in Extension (Pra)		02	04	---	50	50
16080202040200	Institutional Management	MD	04	04	30	70	100
16080202040300	Advance Apparel and Fashion Design	Core	04	04	30	70	100
16080202040300(P)	Advance Apparel and Fashion Design (Pra)		02	04	---	50	50
16080202040401	Public Nutrition	EL (any one)	02	02	15	35	50
16080202040402	Human Resource Management						
16080202040403	Family and Child Welfare						
16080202040404	Textile Testing and Quality Control						
16080202040405	Environment Management						
16081202040500	Assessment of Nutritional Status	SO	04	04	30	70	100
16081202040500(P)	Assessment of Nutritional Status (Pra)		02	04	---	50	50
Total			24	30	135	465	600

CC=Course Category, CCr= Course Credit, WH= Working Hours, IM=Internal Marks, EM =External Marks, TM=Total Marks, Course revision year=16, Faculty code=08, Subject code,= 01 for Foods & Nutrition, 02 for General Home Science and 12 for common for both, Level=02 (PG), Sem=01-04, Paper no= 01-05, Options 00 for Core, Multidisciplinary (MD), and Skill oriented (SO), for Elective =01-05 **(Interpretation of code 16080202040100 Here 16 means 2016, 08 Home science faculty, 02 for General home science, 02 means PG level, 04 Semester IV , again 01 is paper no and last 00 is for Core course.)**

Course Code: 16080202040100

Course Category: Core

Course Title: COMMUNICATION TECHNOLOGIES IN EXTENSION

Credit: 04

Contact hour/week=04

Objectives

- To impart knowledge and understanding of various communication systems.
- To provide a sound knowledge base for the relevance and applicability of the various media used in human communication and their complementary role towards each other.
- To enhance the versatility of the students in the selection and use of media in different socio-cultural environments.
- To provide basic knowledge of concept of advertising and use of media in advertising.
- To impart skill in preparation of various Computer Aided Media messages.

Contents

1. Communication Systems

- Types of communication systems – concept, functions and significance. Interpersonal, organizational, public and mass communication.
- Elements, characteristics and scope of mass communication.
- Mass communication – models and theories;
- Visual communication – elements of visual design – colour, line, form, texture and space;
- Principles of visual design – rhythm. Harmony, proportion, balance and emphasis
- Visual composition and editing.

2. Media Systems: Trends and Techniques

- Concept, scope and relevance of media in society.
- Functions, reach and influence of media.
- Media scene in India, issues in reaching out to target groups.
- Contemporary issues in media – women and media, human rights and media, consumerism and media.
- Historical background; nature characteristics, advantages and limitations and future prospects of media.
- Traditional media; role in enhancing cultural heritage, co-existence with modern media systems and applicability in education and entertainment – puppetry, folk songs, folk theatre, fairs.
- Print media; books, newspapers, magazines leaflets and pamphlets.
- Electronic media-radio, television, video, computer based technologies.

3. Advertising

- Definition, concept and role of advertising in modern marketing system and national economy.
- Inter-relation of advertising and mass media systems.
- Types of advertisements – commercial, non-commercial, primary demand, selective demand, classified and display advertising, comparative and co-operative advertising.
- Techniques of preparation of effective advertisements for various media.
- Ethics in advertising.

4. Computer Graphic Designing

- Introduction to Basics of Computers.
- Advantages of Digital Multimedia.
- Introduction to Graphics.
- Drawing objects, shaping, transforming, stretching, mirror and scaling, making curves, lines rectangles, circles and ellipses. Creating special effects, editing it, extruding an object and using blends.

Course Code: 16080202040100P

Course Category: Core

Course Title: COMMUNICATION TECHNOLOGIES IN EXTENSION Practical

Credit: 02

Contact hour/week=04

1. Designing a visual composition-book cover and Folder with the help of computers.
2. Evaluation of advertising, a newspaper story, a radio programme and a television broadcast(Any two).
3. Planning, development and evaluation of communication strategies and techniques for selected traditional, print electronic and outdoor media systems.
4. Preparing effective advertisements keeping in consideration headlines, illustration, slogan, logo, seal of approval and colour effectiveness with the help of computer.

Reference

1. Corner, J. Communication Studies – In Introductory Reader.
2. Defiuers and Dennis (1994): Understanding Mass Communication.
3. Gupta S.S.: Cases in Advertising and Communication Management in India.
4. Harper and Row (1989): main Currents in Mass Communication, Agee, Adut and Emery.
5. Joseph, D. (1993): The Dynamics of Mass Communication.
6. McQuail, D. (1994): Introduction to Mass Communication, 3rd Edition, Sage Publication.
7. Ravindran, R.K. (1999): media ad Society.
8. Ravindran, R.K. (2000): Media in Development Area.
9. Schramm, W. (1988): The Story of Human Communication, from cave painting to the Microchip.
10. Vivian, J. (1991): Media of Mass Communication.
11. Wright, winters and Zeiger: McGraw Hill, Advertising Management.
14. Zachariah, A. (1999): Media power, People, Politics and Public Interest
15. Rajpura.,M.R. (2012) Communication Technologies in Extension. Jaipur: Arravali Prakashan.

Course Code: 16080202040200

Course Category: Core

COURSE TITLE: INSTITUTIONAL MANAGEMENT

Credit: 04

Contact hour/week=04

Objectives:

- To develop a knowledge base in key areas of Institutional Food Administration
- To provide practical field level experience in Institutional Food Administration.
- To impart necessary expertise to functional as a food service manager
- To equip individual to start their own food service unit leading to entrepreneurship
- To develop critical abilities and provide basic grounding in research techniques.

Content:

Unit 1 : History and Development of Food Service System

Unit 2 : Planning a Food Service Unit

Unit 3 : Setting up a Food Service Unit

Unit 4 : Entrepreneurship and Food Service Management

Unit 5 : Menu Planning: Focal Point of al Activities in Food Service Establishment

Unit 6 : Food Purchasing and Storage

Unit 7 : Quantity Food Production -Planning and Control

Unit 8 : Quantity Food Production -Kitchen Production

Unit 9 : Food Management: Records and Controls

Unit 10 : Delivery and Service- Goals and Issues

Unit 1 : Delivery and Service: Styles

Unit 12 : Delivery and Service in Different Systems

Unit 13 : Administrative Leadership

Unit 14 : Staff Planning and Management

Unit 15 : Personnel Functions: Work Productivity

Unit 16 : Plant and Equipment Maintenance

Unit 17 : Plant - Sanitation and Safety

Unit 18 : Issues in Food and Worker Safety and Security

References: Management

1. West, B. Bessie & Wood, Levelle (1998). Food Service in Institutions 6th Edition. Revised by Harger FV, Shuggart SG & Paigne-Palacio June MacMillan Publication Company, new York.
2. Sethi Mohini (1993) Catering management An Integrated Approach 2nd Edition Wiley Publication.
3. Kotas Richard & Jayawardardene, C. (1994): Profitable Food and Beverage management, hodder & Stoughton Publication.
4. Brodner, J. Maschal, H.T., Carlon, H.M. (1982): Profitable Food and Beverage Operation 4th Edition, hayden Book Company, New Jersey.
5. Green, E.E. Drake, G.G. Sweeny, J.F. (1978). Profitable Food and Beverage Management. Planing , operations. Hayden Book Company, new Jersey.
1. Knootz, H, O. Donnel C. (1968): Principles aof Management McGraw Hill Book Company.

Personal management

2. Desseler, Garry (1987): Personnel management Modern Concepts and Techniques, Prentice Hall, new Jersey.
3. Kumar, H.L. (1986): Personal management in Hotel Catering Industries, metropolitan Book Company, New Delhi.
4. Hich Cock M. J. (1980): Food Service System Administration, McMillan Publishing Company.

Cost Control

5. Keiser, J. & Caillo, E. (1974): Controlling and Analysis of Cost in Food Service Operations Wiley and Sons New York.
6. Khari, W. L. (I) (1977): Introduction to Modern Food and Beverage Service (1979). Advanced Modern Food and Beverage Service Prentice Hall Series.

7. Coltman, M.M. (1977): Food and Beverage Cost Control. Prentice Hall Series.
8. Levison (1976): Food and Beverage Operation Cost Control and System management. Prentice Hall Series.

Layout and Design

9. Kazarian, E.A. (1989) Food Service Facilities Planning 3rd Edition Von. Nostrand Reinhold.
10. Avery A.C. (1980): Modern Guide to Food Service Equipment, Boston CBI Publishing Company.
11. Brichfield, J. (1988): Design ad layout of Food Service Facilities, new York, Van Norland Reinhold.
12. Tolve, A.P. (1984): Standardising Food Service for Quality ad Efficiency, AVI Publishing Company INC.

Course Code: 16080202040300

Course Category: Core

Course Title: ADVANCE APPAREL AND FASHION DESIGN

Credit: 04

Contact hour/week=04

Objectives

- The course aims at providing in depth working knowledge of line development and enables a student to use and practice skills and knowledge already acquired, use it to market situation.
- To help develop skills in pattern making and construction.

Contents:

Theory

1. **Fitting** – factors affecting good fit, common problems encountered and remedies for fitting defects. [Upper and lower garments]
2. **Clothing for people with special needs**
 - Maternity and lactation period
 - Old age
 - Physically challenged
3. **Elements used in creating design.**
 - Concept and scope of fashion, design, classification of fashion.
4. **Composition**
 - With one element
 - With more than one element.
5. **Colour** – its sensitivity and composition in dress.
6. **Harmony** – in form of space coverage to design of dress.
7. **Components of fashion :-**
 - Silhoutte
 - Details
 - Colour
 - Fabric
 - Texture
 - Seams
 - Trims
8. **Fashion Forecasting**
9. **Study of Markets and Segments**

- 10. Design professionals.**
- 11. Knowledge of Fashion Trends, Brands and Designers,**
 - Introduction to designers
 - National designer
 - International designers,
- 12 Business opportunities and avenues, Interdepartmental relationship for Merchandiser, Boutique handling**

Course Code: 16080202040300P

Course Category: Core

Course Title: ADVANCE APPAREL AND FASHION DESIGN Practical

Credit: 02

Contact hour/week=04

1. Sketching

- Sketching of different action croquic (front, back and the side view) (computer Application)
- Garment and garment details
- Accessories

2. Developing a line of garments on a theme (any one of the following)

- Casual wear
- Sports wear
- Cocktail wear
- Executive wear

3. Understanding and sketching theme based on fashion forecast.

- Sourcing of raw materials
- Developing line, based on fabric and theme selected
- Spec sheet study
- Sampling
- Garment analysis
- Costing – construction of garments
- Line presentation
- Use of sale promotion material
- Designing of 1 garment for selected theme drafting and making patterns for the same, construction of any one garment.

Reference:

1. Sharon Lee Tate, Inside Fashion Design Harper and Row, Publishers N. York.
2. Kathryn Samuel, Life styles, Fashion styles Orbis London.
3. Milbank C.R. (1985) Couture, The great Fashion Designers, Themes and Hudson publication.
4. Carter E. (1977); The charging world of fashion G.P. Putnam's Sons, New York.
5. Rubin L.G. (1976). The world of Fashion, canfield press, San Fransisco.
6. Castelino M. (1994) Fashion Kaleidoscope, Rup & Co.

7. Walz B. and Morris B. (1978). The fashion makers Random house.
8. Samuel, K. (1986). Lifestyles – Fashion styles orbis Book Publishing Corporation Ltd., London.
9. Carr, H. ad Pomery J (1992) Fashion Design and product Development. Blackwell Scientific Publications London, Edinburgh, Boston.
10. Slampler, Sharp and Donnel,: Evaluating Apparel Quality, Fair Child Publications Newyork.
11. Natalie Bray, Dress Fitting , Published by Blackwell Science Ltd.
12. Margolis, Design your own dress pattern, Published by Double Day and Co. Newyork.

Course Code: 16080202040401

Course Category: Elective

Course Title: Public Nutrition

Credit: 02

Contact hour/week=02

Unit-I

Concept of public nutrition - Relationship between health and nutrition, role of public nutritionists in the health care delivery system. Population dynamics – Demographic transition, population structure, population policy, fertility behaviour, , nutrition and quality of life inter-relationship. Nutritional status -methods for assessing nutritional status Indirect methods demography, population dynamics and vital events and their health implications, indicators of health an nutrition (IMR, TMR, MMR) – Direct anthropometry, biochemical, clinical, dietary and functional methods of assessments.

UNIT -II

Nutrition during life span pregnancy, lactation , infancy ,preschool age, school going and dolescents, adults and old age.

UNIT -III

Approaches and strategies for improving nutritional status and health - Programmatic options their advantages and demerits. Intervention Programmes Health based interventions, Food based interventions including fortification and genetic improvement of foods, supplementary feeding. Malnutrition and Health economics - Its impact on productivity and national development. Cost management.

UNIT -V

Information Education Communication approaches to improve health and nutrition: Concepts Scope- Elements- Models of communication - Communication Process - Approaches and Barriers to communication, Communication for Extension Education and Development - Introduction to IEC Aims and Objectives, Importance of IEC, relevance to programmes - Nutrition education for behaviour change Rationale, Planning Execution and evaluation - Intervention Programmes Health based interventions, Food based interventions including fortification and genetic improvement of foods, supplementary feeding- Different Media, their characteristics and use- IEC for different target groups.

Nutritional Status

- Determinants of nutritional status of individual and populations: Nutrition and Non-nutritional indicators: socio-cultural, biologic, environmental and economic.

Major Nutritional Problems – etiology, prevalence, clinical manifestations, preventive and therapeutic measures of:

- Macro and micro nutrient deficiencies
- Other nutritional problems like lathyrism, dropsy, aflatoxicosis, alcoholism and fluorosis.
- Overweight, obesity and chronic degenerative diseases

National Food and Nutrition Policy, Plan of Action and Programmes.

Approaches and Strategies for improving nutritional status and health:

Programmatic options- their advantages and demerits. Feasibility, political support, available resources (human, financial, infrastructural) Case studies of selected strategies and programmes: their rationale and context, how to select interventions from a range of possible options:

- Health-based interventions, Food-based interventions including fortification and genetic improvement of foods, supplementary feeding, Nutrition education for behaviour change
10. Policy Analysis and Operational Research
 11. Programme Design Planning, Implementation, Operations Monitoring, Surveillance and Evaluation
 12. Health Economics and Economics of Malnutrition – Its impact on productivity and national development. Cost-Benefit, Cost effectiveness and Cost efficiency

References

1. Owen, A.Y. and Frankle, R.T. (1986): Nutrition in the Community, The Art of Delivering Services, 2nd Edition- Times Mirror/Mosby.
2. Park, K. (2000): Park's Textbook of Preventive and Social Medicine, 18th Edition, M/s. Banarasidas Bhanot, Jabalpur.
3. SCN News, UN ACC/SCN Subcommittee on Nutrition.
4. State of the World's Children, UNICEF.
5. Census Reports.
6. Berg, A. (1973): The Nutrition Factor, the Brookings Institution, Washington.
7. Beaton, G.H. and Bengoa, J.M. (Eds) (1996): Nutrition in Preventive Medicine, WHO.
8. Bamji, M.S., Rao, P.N., Reddy, V. (Eds) (1996): Textbook of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
9. Gopalan, C. and Kaur, S. (Eds) (1989): Women and Nutrition in India, Nutrition Foundation of India.
10. Gopalan, C. and Kaur, S. (Eds) (1993): Towards Better Nutrition, Problems and Policies, Nutrition Foundation of India.
11. Gopalan, C. (Ed) (1987): Combating Undernutrition – Basic Issues and Practical Approaches, Nutrition Foundation of India.
12. Achaya, K.T. (Ed) (1984): Interfaces between Agriculture Nutrition and Food Science, The United Nations University.
13. National Family Health Survey I & II (1993, 2000): International Institute for Population Studies, Mumbai.
14. National Plan of Action on Nutrition (1995): Food & Nutrition Board, Dept. Of WCD, Govt. of India.
15. National Nutrition Policy (1993): Dept. of WCD, Govt. of India.
16. Nutrition Education for the Public (1997): FAO Food and Nutrition Paper, 62, FAO.
17. Allen, L. and Ahluwalia, N. (1997) Improving Iron Status Through Diet: The Application of Knowledge Correcting Dietary Iron Bioavailability in Human Populations. OMNI/USAID, Arlington, VA, USA
18. Nestel, P. (ed) (1995). Proceedings: Interventions for Child Survival. OMNI/USAID Arlington, VA, USA
19. Documents and Reports published by the International Vitamin A Consultative Group
20. Documents and Reports of the International Nutritional Anemia Consultative Group
21. Howson, C.; Kennedy, E. and Horwitz, A. (eds) (1998). Prevention of Micronutrient Deficiencies: Tools for Policymakers and Public Health Workers. Committee on Micronutrient Deficiencies, Board on International Health, Food and Nutrition Board, National Academy Press, Washington D.C. USA.
22. Micronutrient Initiative (1998) Food Fortification: To End Micronutrient Malnutrition. The Micronutrient Initiative, Ottawa, Canada.

Course Code: 16080202040402

Course Category: Elective

Course Title: Human Resource Management

Credit: 02

Contact hour/week=02

Objectives

- To understand the various methods and techniques of human resource planning and human resource audit.
- To analyse factors for optimum manpower development.

Contents

Manpower planning

Setting manpower standard

Skilled labour

Integrated budget for man power planning

System and analysis approach to manpower management

Controlling manpower costs

Quantitative and qualitative approaches to manpower economy

References

1. Drucker P.F. (1969): *The Effective Executive*, William Herrmann Ltd., London.
2. Drucker P.F. (1985): *Innovation and Entrepreneurship Practice and Principles*, William Herrmann Ltd., London.
3. Drucker P.F. (1976): *Management Tasks, Responsibilities and Practices*, Allied Publishers, Bombay.
4. Garg, P.K. and Parikh, I.J. (1993): *Young Managers at the Cross Roads*, The Trishanku Complex, Sage Publishers, New Delhi
5. Ivancevich, J.M. et al (1980): *Managing for Performance*, Business Publications, New York.
6. Kanungo, R.N. (1994): *Work, Motivations, Models for Developing Countries*, Sage Publishers, New Delhi.

Course Code: 16080202040403

Course Category: Elective

Course Title: Family and Child Welfare

Credit: 02

Contact hour/week=02

OBJECTIVE :-

To enable students to become aware and sensitized to issues related to welfare of child, women & elderly.

Content:

Unit-I

Welfare Services Community introduction

- a) Concept of Welfare of Women, child & elderly.
- b) History of Women & child welfare in India.

Unit-II

Agencies working for welfare of Women

- a) Central and state social welfare board.
- b) Bhartiya Grameen Mahila Sangh
- c) Kasturba Gandhi National Memorial Trust.
- d) All India Women's Conference
- e) SEWA (Self – Employed Women's Association)
- f) Women' study centre, Chetna
- g) Women's Universities.
- h) Role of NGOs
- i) Legislations for Women's Welfare.

Unit-III

Agencies working for the welfare of children

- a) Indian Council of child welfare.
- b) National institute for public cooperation and child development.
- c) Integrated child development services.
- d) Central Social Welfare Board.
- e) Nutrition programmes in the Country.
- f) Legislation related to child welfare
- g) World bank.
- h) Role of NGOs in welfare of Children.

Unit-IV**The Aged in India.**

- a) Policies and programmes.
- b) Role of Voluntary organizations
- . c) Old Age home, day centres

REFERENCES:

- Coxh, "Later Life Realities of Aging, Prentice Hall, New Jercoy.
- Rice P, " Adult Development & Aging" Allyn & Vacan Inc, N.Y.
- Sharma M.L. & T.M. Dak eds, " Aging in India".
- Mala D. Shubham, " Women, Tradition & Culture

Course Code: 16080202040404

Course Category: Elective

Course Title: Textile Testing & Quality Control

Credit: 02

Contact hour/week=02

Objectives

- To develop an understanding of methods and technique used to analyse textile fibre, yarns and fabrics for end-use performance.
 - To acquire knowledge and understanding of various structural properties of textiles and relate them to end use fabric performance and product.
 - To familiarise students with the different testing equipments, their underlying principles and the international accepted standards, test methods and the language of measurement.
 - To be able to analyse and interpret the results and predict the general textile testing.
- I. Introduction to Textile Testing
- Concept and scope
 - Application areas
 - Use of statistics in data management
 - Sampling procedures
- II Total quality management (TQM) approach in the field of Textiles & Clothing.
- III Standardisation
- Standards for fabric performance.
 - Organisations for Standardisation (National and International).
 - Quality control of Textile products.
 - Quality standards as applicable to various types of textiles (Garments, yardage, knits, woven, carpets, processing, dyeing).
- IV Properties of textiles at different stages of processing and their principle of measurement.
- Fibres – length, fineness, evenness
 - Yarn –strength, evenness, openness, load, elongation, crimp.
- V Concept of Statistical QC
- Sampling
 - Test methods used
 - Tolerance limits, CV%

References

1. Booth, J.E.: Principles of Textile Testing – Newness Butter Worth, London..
1. Billie, J. Collier and Helen H. Epps – Textile Testing and Analysis – Prentice Hall, New Jersey.
2. John, H. Skinkle – Textile Testing – Brooklyn, New York.
3. Grover and Hamby – Hand Book of Textile Testing and Quality Control, Wiles.
4. ISI Specifications, BIS Specification.
5. ASTM Standards.

Course Code: 16080202040405

Course Category: Elective

Course Title: ENVIRONMENT MANAGEMENT (Elective)

Credit: 02

Contact hour/week=02

Objectives

- To be aware of the holistic ecological approaches to environment.
- To be aware of the environmental problems, hazards and risks
- To understand the aspects of environmental pollution and waste management.
- To be aware of the environmental policies, movements and ethics.

Contents

1. Eco-system – Earth, man and Environment

- Ecosystems of the world
- Pathways in ecosystem
- Problems of sustainability of ecosystems

2. Land and Water Resources of the Earth

- Land resources of the earth
- Land use
- Water resource of the earth

3. Pollution and Environment with reference to Air, Water, Soil, Noise

- Sources of pollution
- Effects of pollution, Air and water bourn diseases, Chemical insecticides and its impact on health, Toxic actions of metals and biological substances
- Remedies to control pollution

4. Waste management

- Types of waste
- Method of waste management
- Water pollution and treatment of waste
- Solid waste management
- Air pollution control technology

References

1. Amit Khanna De et al. (1998): Sustainable Development and Environment: Vol. 1. Cosmo Publishers, New Delhi.
2. Basu, R.N. (2000): Environment, University of Calcutta.

3. Bhatia, H.S. (1998): A Textbook of Environment Pollution & Control, New Delhi.
 4. Chauhan, I.S. and Chauhan A. (1998): Environmental Degradation : Socio-economic Consequences, Rawat Publishers, Jaipur.
 5. Chitkara, M.G. (1998): Encyclopaedia of Ecology, Environment and Pollution, Vol. I to XIV : APH, New Delhi.
 6. Goel, P.K. and Sharma, K.P. (1996): Environmental Guidelines and Standards in India, Jaipur ; Techno-Science.
 7. Gupta, Sunit and Gupta, Mukta (1997): Water and Basic Environmental Technology: Resource management and Pollution Control, Anmol, new Delhi.
 8. Joshi, Y.G. and Verma, D.K. (1998): Social Environment for Sustainable Development: Rawat Publishers, Jaipur.
 9. Karapagam, M. (1993) : Environmental Economics : A Textbook, Streling Publishers, new Delhi.
 10. Katiyar, V./S. (1997): Environmental Concerns, Depleting Resources and Sustainable Development, pointer Publishers Jaipur.
 11. Pal, C. (1999): Environmental Pollution and Development: Environmental Law, Policy and Role of Judiciary, Mittal Publishers, New Delhi.
 12. Diwan Paras and Diwan Parag (1998): Environment management, Law and Administration: Reading and Cases; Vanity Books International, New Delhi.
 13. Pawar, S.N. and Patil, R.B. (1998): Sociology of Environment, Rawat Publishers, Jaipur.
- Ramanan, P. (1998): Society Environment and Engineering, New Delhi; New Age International

Course Code: 16081202040500

Course Category: Skill Oriented

Course Title: Assessment of Nutritional Status

Credit: 04

Contact hour/week=04

Objectives:

The course is designed to:

- Orient the students with all the important state-of-the-art methodologies applied in nutritional assessment and surveillance of human groups.
- Develop specific skills to apply the most widely used methods.

Contents

Theory

1. Nutritional assessment as a tool for improving the quality of life of various segments of the population including hospitalized patients.
2. Current methodologies of assessment of nutritional status, their interpretation and comparative applications of the following :
 - Food consumption
 - Anthropometry
 - Clinical and Laboratory
 - Rapid Assessment & PRA
 - Functional indicators such as grip strength, respiratory fitness, Harvard Step test, squatting test.
3. Nutritional Surveillance – Basic concepts, uses and setting up of surveillance systems.
4. Monitoring and Evaluation

Course Code: 16081202040500P

Course Category: Skill Oriented

Course Title: Assessment of Nutritional Status Practical

Credit: 02

Contact hour/week=04

1. Training in all assessment techniques applicable for individuals and community, including ones used for hospital – based patients
 - Validity and reliability of these techniques.
2. Community based project for assessment of nutritional status of any vulnerable group.
3. A small evaluation study of a nutrition project.

References

1. Jelliffe, D. B. and Jelliffe, E.F.P. (1989): Community Nutritional Assessment, Oxford University Press.
1. Beghin, I., Cap, M. and Dujardan, B. (1988): A Guide to Nutritional Status Assessment, WHO, Geneva.
2. Gopaldas, T. and Seshadri, S. (1987): nutrition Monitoring and Assessment, Oxford University Press.
3. Mason, J.B., Habich, J.P., Tabatabai, H. and Valverde, V. (1984): Nutritional Surveillance, WHO.
4. Lee, R.D. and Nieman, D.C. (1993): Nutritional Assessment, Brown and Benchmark Publishers.
5. Sauberlich, H.E. (Ed.) (1999): Laboratory Tests for the Assessment of Nutrition Status, CRC Press.
6. Cameron, N. (1984): Measures of Human Growth, Sheridan house Inc. New York.
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9. Bingham, S.A. (1987): The Dietary Assessment of Individuals, Methods, Accuracy, new Techniques and Recommendations. *Nutrition Abstracts and Reviews*, 57: 705-743.
10. Collins, K.J. (Ed.)(1990) handbook of Methods for the Measurement of work performance, Physical Fitness and Energy Expenditure in Tropical Populations. International Union of Biological Sciences.
11. Ullijaszek, S.J. & Mascie-Taylor, C.G.N. (Ed.) Anthropometry: the individual and the Population. Cambridge University Press, Cambridge.
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15. Lohman, T.G.; Roche, A.F.; and Martorell, R. (Ed.) Anthropometric Standardization Reference manual, Human kinetics Books, Illinois.