

**Home Science**  
**DEPARTMENT OF RESOURCE MANAGEMENT AND CONSUMER**  
**SCIENCES**

**M.Sc and Ph.D programmes**

**List of courses**

<b>S. No</b>	<b>Course No.</b>	<b>Title of the Courses</b>	<b>Credits</b>
<b>MAJOR COURSES</b>			
1.	FRM 501	Approaches to Resource Management	3(3+0)
2.	FRM 502	Consumer Ergonomics	3(2+1)
3.	FRM 503	Advanced Interior Space Management	3(2+1)
4.	FRM 504	Advanced Housing	3(2+1)
5.	FRM 505	Consumer Issues and Challenges	3(2+1)
6.	FRM 506	Consumer Guidance and Counseling	3(1+2)
7.	FRM 507	Consumer Communication Media	3(1+2)
8.	FRM 508	Product Design, Testing and Evaluation	3(1+2)
9.	FRM 509	Retail Management	3(2+1)
10.	FRM 510	Work and Work Station Design	3(1+2)
11.	FRM 511	Advanced Cad For Product Design	4(0+4)
12.	FRM 512	Energy Conservation in Building Design	3(2+1)
13.	FRM 513	Consumer Economics	3(2+1)
14.	FRM 514	Interior Design Business Management	3(2+1)
15.	FRM 515	Furniture Design and Fabrication	3(2+1)
16.	FRM 516	Colour and Lighting In Interiors	3(2+1)
17.	FRM 517	Special Project	1(0+1)
18.	FRM 601	Advances in Resource Management	3(3+0)
19.	FRM 602	Occupational Biomechanics	3(2+1)
20.	FRM 603	Globalization and Consumer Economics	3(2+1)
21.	FRM 604	Family Dynamics and Women Power	3(2+1)
22.	FRM 605	Consumer Product Design	3(1+2)
23.	FRM 606	Environmental issues and Challenges	3(3+0)
24.	FRM 607	Managerial Dimensions for Special Groups	3(1+2)
25.	FRM 608	Special Project	2(0+2)
26.	FRM 591	Master's Seminar	1(1+0)
27.	FRM 599	Master's Research	20
28.	FRM 691	Doctoral Seminar I	1(1+0)
29.	FRM 692	Doctoral Seminar II	1(1+0)
30.	FRM 699	Doctoral Research	45

**MINOR COURSES**

- Department of Human Development and Family Studies
- Department of Home Science Extension and Communication Management
- Department of Foods and Nutrition
- Department of Apparel & Textiles

S.No	Course no.	Title of the courses	Credits
<b>SUPPORTING COURSES</b>			
1	HSC 500	Research Methods In Home Science	3(2+1)
2	STAT 500	Statistical Methods	3(2+1)
3	HSC 600	Research Project Management	3(2+1)
4	STAT 600	Data Processing	2(1+1)
<b>NON- CREDIT COMPULSORY COURSES</b>			
1	PGS 501	Library and Information services	1(0+1)
2	PGS 502	Technical writing and communication skills	1(0+1)
3	PGS 503 (e-Course)	Intellectual Property and its Management in Agriculture	1(1+0)
4	PGS 504	Basic Concepts in Laboratory Technique	1(0+1)
5	PGS 505 (e-Course)	Agricultural Research , Research Ethics and Rural Development Programmes	1(1+0)
6	PGS 506 (e-Course)	Disaster Management	1(1+0)

**M.Sc: \*Minor courses (Any discipline from the list)**

**Ph.D: \*Minor Courses & Seminar (Any discipline from the list)**

#### **M.SC- HOME SCIENCE COMPULSORY COURSES**

S.No	Course No	Course title	Credit hours
<b>M.Sc. –HOME SCIENCE COMPULSORY COURSES</b>			
1	FRM 501	Approaches to Resource Management	3(3+0)
2	FRM 502	Consumer Ergonomics	3(2+1)
3	FRM 503	Advanced Interior Space Management	3(2+1)
4	FRM 504	Advanced Housing	3(2+1)
5	FRM 508	Product Design Testing and Evaluation	3(1+2)
6	HSC 500	Research Methods in Home Science	3(2+1)
7	FRM 591	Masters Seminar	1(1+0)
<b>Total</b>			<b>19(13+6)</b>

**FRM 501                      APPROACHES TO RESOURCE MANAGEMENT                      3+0**

#### **Objective**

To acquaint the students with meaning and concepts, processes and significance of management applicable to families.

#### **Theory**

##### UNIT I

Significance and Scope of Resource Management: The evolving discipline of management: Classical Approach; Behavioural Approach; Systems Approach and Scientific Management.

##### UNIT II

Managerial Decision Making-Techniques; Creativity; rationality and Risk and Certainty. Theories and Concepts in Resource Management.

#### UNIT III

Management process: Planning- Types and Dimensions; Planning in a systems perspective, Factors affecting planning; Implementation-Controlling, Checking and Adjusting; Evaluation-Evaluation of Resource- Use and Feedback.

#### UNIT IV

Leadership: Importance and Characteristics Motivation- Importance, theories, approaches, elements of sound motivation; - Organisation, supervision and communication.

### **Suggested Readings**

Deacon R & Firebaugh F. 1981. *Family Resource Management - Principles and Applications*. Allyn & Bacon.

Gross IH, Crandall EW & Knoll MM. 1980. *Management for Modern Families*. Prentice Hall.

Kotler P. 2004. *Principles of Management*. TEE Publ.

Murugan MS. 2005. *Management Principles and Practices*. New Age International.

Seetharaman P, Batra S & Mehram P. 2005. *An Introduction to Family Resource Management*. CBS.

Singh N. 2000. *Principles of Management: Theories, Practices and Techniques*. Deep & Deep.

**FRM 502**

**CONSUMER ERGONOMICS**

**2+1**

### **Objective**

To acquaint students with anthropometry study related to Man, Machine and Environment system interactions and its application in reducing human cost of work.

### **Theory**

#### UNIT I

Significance and scope of ergonomics – Man, Machine and Environment system interactions – Anthropometry; principles, measurements: Application of Anthropometry in Ergonomics and Design – Human body in relation to Ergonomic study.

#### UNIT II

Fundamentals of Work Physiology; Muscular efforts, Energy consumption, Body size and movements; Physical fitness: measurement using different techniques.

#### UNIT III

Mechanical parameters; Work postures Postural variations and discomfort; Measurement - Physical work capacity and factors

affecting energy requirements and costs for various activities; fatigue.

#### UNIT IV

Environmental parameters; measurement, evaluation and effect on worker and work performance – Visual Ergonomics – illusions and accidents - Ergonomic investigations: Techniques and problems – Ergonomic requirements for people with special needs.

#### **Practical**

Anthropometry and its statistical treatment for design applications. Methodologies for assessment of ergonomic cost of work in terms of physiological indices. Measurement of physical workload. Determination of physical fitness using various techniques - Measurement of posture and postural discomfort using Ergo Software - Measurement of various environmental parameters, evaluation and effect on worker and work performance.

#### **Suggested Readings**

Bridger RS. 1994. *Introduction to Ergonomics*. McGraw Hill.

Dalela S & Saurabh. 1999. *Textbook of Work Study and Ergonomics*, Standard Publ.

Grandjean E. 1978. *Ergonomics of the Home*. Taylor & Francis.

Ian Galer. 1982 *Applied Ergonomics Handbook*. Butterworths & Co.

Panero J & Zelnik M. 1979. *Human Dimension and Interior Space*. Whitney Library of Design.

Singh S. 2007. *Ergonomics Interventions for Health and Productivity*. Himanshu Publ.

### **FRM 503                      ADVANCED INTERIOR SPACE MANAGEMENT                      2+1**

#### **Objective**

To make students understand the new dimensions and future challenges of interior designing and to acquaint them with latest trends in functional designing of space, interiors and surroundings.

#### **Theory**

##### UNIT I

Effect of interior design and decoration on family well being with particular reference to special needs - Functional and aesthetic considerations in use of elements and principles of design.

##### UNIT II

Advances in design process of residential and commercial interiors. UNIT III

Trends in decoration treatments for interiors and interior backgrounds from past to present: furniture, furnishings, lighting, fittings and fixtures, surface materials, finishes.

##### UNIT IV

Changing trends in thermal, acoustics and safety mechanisms. Solutions for problem areas in residential and commercial building interiors.

## Practical

Critical analysis of interiors of a selected residential and non-residential buildings and suggested improvements – Visits to building design institutes, hotels, furniture and furnishing show rooms and residential buildings to identify new trends – Market survey of surface materials, finishes, fittings and fixtures – Detailed cost estimation of interior design and decoration elements.

## Suggested Readings

Allen PS, Stimpson MF & Jones LM. 2000. *Beginnings of Interior Environments*. Prentice Hall.

Choudhari SN. 2006. *Interior Design*. Avishkar Publ. Gilliatt M. 1981. *The Decorating Book*. Pantheon Books.

Panero J & Zelnik M. 1979. *Human Dimension and Interior Space*. Whitney Library of Design.

Parikh A, Robertson D, Lane T, Hilliard E & Paine M. 2000. *The Ultimate Home Design Source Book*. Conran Octopus.

Pears A, Lawrence M, Hymers P & Howell J. 2000. *Working with the Professionals*. Marshall Publ.

Seetharaman P & Pannu P. 2005. *Interior Design and Decoration*. CBS.

Zimmerman N. 2003. *Home Workspace Idea Book*. The Taunton Press.

FRM 504

ADVANCED HOUSING

2+1

## Objective

To acquaint the students with various building features, materials, latest building techniques, vastu sharstra, acoustics, rain water harvesting and landscape planning.

## Theory

### UNIT I

Historical perspective of the architectural features of buildings - Structural features of residential buildings in different geo-climatic conditions - Social-cultural and economic issues in housing.

### UNIT II

Housing stock quality, demand and supply in urban and rural areas of India - Role of Government and non-government organizations in providing and regulating housing needs.

### UNIT III

Ancient Science of house design - Emerging techniques in the house construction - Low-cost building materials and fabrication techniques - Eco and Ergo-friendly house design - House wiring, sanitary fittings, acoustics - Rain water harvesting structures for

houses.

UNIT IV

Estimation of cost and housing finance - Recent developments in building Bye-Laws - Housing research- Landscaping planning.

**Practical**

Analysis of building forms in different geo-climatic region – Visit to housing development organization and building design centers – Evolving Eco, Ergo and Space saving house plan for selected geo-climatic region for different socio-economic categories through CAD Estimation of Cost of construction - Assessment of existing house plans and suggesting cost effective renovations - Landscape planning.

**Suggested Readings**

Ambadker SN. 2000. *Rural Housing: Agro-socio-economic Impact*. Special Indian Ed. Agrobios.

Lal AK. 1999. *Handbook of Low Cost Housing*, New Age International.

Mahadeva M. 2002. *Housing in India: The Situation, Development and Challenges*. Orient Longman Publ.

Morris EW. 1979. *Housing Family and Society*. John Wiley & Sons.

Raja Rao YN & Subrahmanyam Y. 2002. *Planning and Designing of Residential Buildings*. Standard Publ.

**FRM 505**

**CONSUMER ISSUES AND CHALLENGES**

**2+1**

**Objective**

To acquaint the students about various consumer issues related to products and services in rural and urban context.

**Theory**

UNIT I

Consumer in changing trends. Consumer movement. Profile of consumers in India and Abroad. Public and private sector goods and service providers. UNIT II

Consumer markets: types and features. Market distribution channels. UNIT III

Consumer behaviour. Consumer problems and challenges. Gender issues in consumerism.

UNIT IV

Multinational trade and consumer welfare in India. Consumer empowerment; Citizens' Charter and Right to information Act.

**Practical**

Identification of problems of rural /urban consumers. Project work: in- depth study of any one identified problem-finding measures to overcome the problem-developing consumer education material on

selected issue.

### **Suggested Readings**

Blackwell RD, Miniard PW & Engel JF. 2001. *Consumer Behaviour*.  
Vikas Publ.

Clarke J, Janet N, Smith EV & Westmarland L. 2007. *Creating  
Citizen Consumers*. Sage Publ.

Seetharaman P & Sethi M. 2001. *Consumerism: Strategies and Tactics*.  
CBS.

Schiffman LG & Kanuck LL. 2007. *Consumer Behaviour*, Prentice Hall of  
India,

Srivastava KK & Khandi S. 2002. *Consumer Behaviour in Indian context*.  
Galgotia Publishing company.

**FRM 506**

**CONSUMER GUIDANCE AND COUNSELING**

**1+2**

### **Objective**

To provide knowledge and skill to the students related to consumer  
protection for rational consumer behavior.

### **Theory**

#### UNIT I

Consumer Education. Rights and Responsibilities of consumer. Consumer  
Cooperatives. Consumer Organisations.

#### UNIT II

Significance of consumer guidance and counseling. Consumer  
protection measures; legal and non-legal.

#### UNIT III

Consumer Protection Act, 1986. Consumer  
Legislations. UNIT IV

Consumer Redressal mechanism. Consumer Protection Councils.

### **Practical**

Visit to local consumer redressal fora. Study the structure and  
functioning of consumer redressal fora. Understanding the  
procedures for filing a consumer complaint. Study of the proceedings  
of consumer court. Visit to local consumer organizations. Study of  
the procedures in consumer counseling and guidance centre. Mock  
sessions in handling consumer complaints.

### **Suggested Readings**

Chadha R. 1995. *The Emerging Concepts and Strategies*. New  
Age International & Wiley Eastern.

Jones RN. 2007. *Basic Counselling Skills*. Sage Publ.

Marguerite B. 2000. *Consumer Economics: A Multidisciplinary Approach*.

John Wiley & Sons.

Schiffman LG & Kaunuk LL. 2004. *Consumer Behaviour*. Prentice  
Hall of India.

Seetharaman P & Sethi M. 2001. *Consumerism: Strategies and Tactics*.

CBS.

**FRM 507                      CONSUMER COMMUNICATION MEDIA                      1+2**  
**Objective**

To aware students about the trends and impact of communication media on consumers.

**Theory**

UNIT I

Significance of consumer communication. Media and social change. Media and consumer demand.

UNIT II

Trends in communication media. Credibility in communication. UNIT III

Media and gender. Types of media. UNIT IV

Advertising as a mode of communication: advertising management and legislation, trends and impact of advertising on consumers.

**Practical**

Exploring the different consumer communication media. Study the impact of print media and electronic media on consumer behaviour. Report writing and presentation. Identifying and developing a communication package on a specific consumer issue. Study the Role of advertising as a mode of communication: Report writing and presentation. Developing a consumer friendly advertisement for a specific product.

**Suggested Readings**

Potter WJ. 2008. *Media Literacy*. Sage Publ.

Schmidt WV, Conaway RN, Easton SS & Wardrope WJ. 2007. *Communiacting Globally*. Sage Publ.

Sharma S & Kumar D. 2001. *Advertising, Planning, Implementation and Control*. Mangal Deep Publ.

Sparks C. 2008. *Globalization, Development and Mass Media*. Sage Publ.

Tellis GJ. 2007. *The Sage Handbook of Advertising*. Sage Publ.

**FRM 508                      PRODUCT DESIGN, TESTING AND EVALUATION                      1+2**  
**Objective**

To expose students to intricacies in product design and quality control measures for varied consumer products.



## Theory

### UNIT I

Significance and essentials of product design and consumer demand. Anthropometry in design.

### UNIT II

Product services available to consumers. Product safety: hazards and liabilities.

### UNIT III

Quality Control and Standardization for food, textiles, consumer durables and materials. Product Certification.

### UNIT IV

Need for product testing. Product testing techniques and devices. Product evaluation. Product recall.

## Practical

Analyzing the user's option on the design of a specific consumer product. Understanding the selected consumer products through guidelines given by manufacturers. Collecting the standardization norms as per health and safety of workers - Conceptualization and development of consumer products with functional alternatives. Designing the prototype of the developed product by using CAD software. Appraisal on the product testing procedures, Processed foods, textiles, electrical & non- electrical Detecting adulterants in food items electrical equipment - Estimating the device efficiency in electrical and non- electrical Equipment.– Visit to quality control laboratories - Detecting adulterants in food items - computerizing testing data – establishing a consumer product testing cell.

## Suggested Readings

Boothroyd G, Dewhurst P & Knight W. 2002. *Product Design for Manufacture and Assembly*. CRC Press.

Cross N. 2000. *Engineering Design Methods: Strategies for Product Design*. Reiters Publ.

Dumas JF & Redish JC. 1993. *A Practical Guide to Usability Testing*. Greenwood Publ.

Meilgaard M, Civille GV & Carr BT. 2006. *Sensory Evaluation Techniques*. CRC Press.

Otto KN & Wood KL. 2001. *Product Design: Techniques in Reverse Engineering*, New Age International.

Parker G & Alstyne MV. 2005. *Management Science: The Theory of Information Product Design*. INFORMS Publ.

Roozenburg NFM & Eekels J. 1995. *Product Design: Fundamentals and Methods*, Wiley.

Sharma DD. 2000. *Total Quality Management*. Sultan Chand and Sons.

Stone H & Sidel JL. 2004. *Sensory Evaluation Practices*. Academic Press.

Ulrich KT & Eppinger SD. 1995. *Product Design and Development*. Irwin McGraw Hill.

**FRM 509**

**RETAIL MANAGEMENT**

**2+1**

**Objective**

To acquaint students with different retailing techniques in view of globalization.

**Theory**

UNIT I

The retail field: development of retailing; retailers; methods of retailing; geographic distribution of retail sales; expenses of retail establishments; price decisions; retail failures.

UNIT II

Small scale retailing: nature and significance of the small scale retailers; Independent general store; Independent limited line store; miscellaneous types of small scale retailers; measures to overcome competition from big retailers.

UNIT III

Large scale retailing: the chain store- definition, characteristics, growth, factors limiting growth; super market; the department store; the discount house; the retail mail-order house.

UNIT IV

The small scale retailers' efforts to preserve and improve his position: major group activities of small scale retailers; advantages, limitations and future of small scale independent store; trends in retailing and e-tailing- mall concepts in metros.

**Practical**

Study the functioning of different types of retail stores: small scale retailers, Mobile retailers, Convenience store, General store, Specialty store, Consumer cooperatives; Large scale retailers- Super market, departmental stores, chain stores, Manufacturer's showrooms, Shopping malls, Multiplex. Direct marketing: Telemarketing; Mail order; vending machines; Personal selling- E-shopping.

**Suggested Readings**

Kotler P & Keller K. 2006. *Marketing Management*. Dorling, Kundersley (India).

Kotler P. 2006. *Marketing Management*. Dorling, Kundersley (India).

Shelekar SA. 2004. *Marketing Management*. Himalaya Publ.

Velayundhan SK. 2007. *Rural Marketing, Targeting the Non-Urban Consumer*. Sage Publ.

Lynda Gamais Polian.2003. *Retailing principles*. Fair child Publications, New York.

**FRM 510**

**WORK AND WORKSTATION DESIGN**

**1+2**

**Objective**

To acquaint students with the interrelatedness of work, worker and workstation environments and infuse an interdisciplinary approach to workstation engineering and techniques to reduce human cost of work.

**Theory**

UNIT I

Work, worker workplace interrelationship – Meaning and components of work: work analysis using different techniques - components of worker input – Body Mechanics.

UNIT II

Functional design: concept – design and arrangement of different work centers

UNIT III

Procedures for studying workplace design: formal and informal techniques – workplace design for different postures. UNIT IV

Ergonomic factors in design and selection of household goods– displays and controls–functional designing of workplace and equipment- hazards of ill- designed workstations.

**Practical**

Determining the space relationships as per workers' anthropometry, posture and movement at selected workstations - Measuring and recording the anthropometric measurements of worker and dimensions of equipment / furniture used in the unit workspace. Measurement of work costs in terms of physiological indices - Preparing floor and perspective plans of a unit work space - Selecting and analyzing a work station in relation to design features, space relationships, dimensions of equipment and furniture, environment control methods and developing 2D and 3D workplace design

– Evaluation of existing workstation in a residential and commercial setup and suggesting an ergonomic design layout

**Suggested Readings**

Barnes RM. 1980. *Motion and Time Study*. John Wiley & Sons. Bridger RS. 1994. *Introduction to Ergonomics*. McGraw Hill.

Dalela S & Saurabh. 1999. *Textbook of Work Study and Ergonomics*.

Standard Publ.

Grandgean E. 1978. *Ergonomics of the Home*. Taylor & Francis. Ian Galer. *Applied Ergonomics Handbook*. Butterworths.

Mundel M.1978. *Motion and Time Study*. Prentice Hall.

Panero J & Zelnik M. 1979. *Human Dimension and Interior Space*. Whitney Library of Design

Singh S. 2007. *Ergonomics Interventions for Health and Productivity*. Himanshu Publ.

**FRM 511                      ADVANCED CAD FOR PRODUCT DESIGN                      0+4**  
**Practical**

Introduction to modeling software - REVIT and 3DS Max – Understanding the utility of software to design interiors and exteriors of building and consumer products – Evolving conceptual designs and working out the details for residential and commercial buildings: Creation of surface elements and built-in decorative features - customized designs for special effects - Designing, assembling and modeling consumer products: furniture, lighting fixtures, artifacts - Massing - Rendering and camera animation – Interior and exterior walkthroughs and generating movie file.

**Suggested Readings**

Aubin Paul F. 2006. *Mastering Autodesk Revit Building*. Autodesk Press.

Brian L Smith & Padhia R. 2008. *3ds Max Architectural Visualization - Beginner to Intermediate*. Brian Zajac Publ.

Boris Kulagin.2006.3DS Max 7.5 projects, BPB, Publ.delhi.

Kaleem S, Zaidi A & Siddique S. 2004. *Designing and Design of Residential and Commercial Buildings*. Standard Publ.

Otie Kilmer W& Rosemary Kilmer.2003. *Construction Drawings and Details for Interiores*. John Wiley and sons.

**FRM 512                      ENERGY CONSERVATION IN BUILDING DESIGN                      2+1**  
**Objective**

To impart knowledge and skills regarding energy efficient architectural designing for residential and commercial needs.

**Theory**

UNIT I

Building as a system for residential and commercial needs - Energy use and crisis - Building design: need and scope for energy use and conservation – Environmental and architectural characteristics and

energy consumption.

UNIT II

Factors Influencing building design – Human behaviour in relation to interior and built in design.

UNIT III

Climate and thermal comfort -- Design parameters for climate and energy control – Design parameters for Visual comfort: Day lighting and artificial lighting.

UNIT IV

Energy flow audit and economy - Energy models: ENEHOPE Model, BREDEM Model, Econometric Models – Green strategies – Energy efficient housing options.

**Practical**

Visits to energy intensive and green buildings - Case studies on selected buildings and design assessment in terms of energy use and conservation – Energy Audit – Estimation of energy requirements in buildings using energy models – Developing conceptual designs for residential and commercial buildings using Green Strategies – Calculation of energy costs.

**Suggested Readings**

Boris Kulagin.2006.3DS Max 7.5 projects, BPB, Publ.delhi.

Hawkes D & Forster W. 2002. *Energy Efficient Buildings: Architecture, Engineering and Environment*. WW Norton & Co.

Jefferis A & Madsen DA. 2004. *Architectural Drafting and Design*, Thomas Delmar Co.

Steffy GR. 2002. *Architectural Lighting Design*. John Wiley & Sons.

Stitt FA. 1999. *Ecological Design handbook: Sustainable Strategies for Architecture*. Mc Graw Hill.

**FRM 513**

**CONSUMER ECONOMICS**

**2+1**

**Objective**

To impart knowledge about consumer behavior with reference to micro and macro economic system and its impact on consumption behaviour.

**Theory**

UNIT I

Concept of consumption economics: definition of basic concepts; micro- macro analysis- importance and limitation. Theories of consumer behaviour: utility analysis; indifference curve analysis; opportunity cost analysis. Elasticity of demand: concept and types.

UNIT II

National income (n.i.): basic terms in accounting National income and its relation to personal disposable income of consumers; the circular flow model; Marginal propensity to consume; concept of multiplier.

### UNIT III

Consumption and economic instability: introduction to business cycle; inflation and economic cycle; deflation and economic stability; full employment and inflation.

### UNIT IV

Consumer credit and stability; role of government counter cyclical policies and consumers. Measurement of cost of living: the index method. Changes in economy/ policies and its impact on family consumption.

#### **Practical**

Study of marketing system of a commodity or service- A project work. Analysis of National Budgets through panel discussion. Analyse the impact of changes in economic policies on family consumption. Learn to calculate the cost of living.

#### **Suggested Readings**

Chadha R. 1995. *The Emerging Concepts and Strategies*. New Age International & Wiley Eastern.

Marguerite B. 2000. *Consumer Economics: A Multidisciplinary Approach*.

John Wiley & Sons.

Schiffman LG & Kaunuk LL. 2004. *Consumer Behaviour*. Prentice Hall of India.

Seetharaman P & Sethi M. 2001. *Consumerism: Strategies and Tactics*.

CBS.

## **FRM 514                      INTERIOR DESIGN BUSINESS MANAGEMENT                      2+1**

### **Objective**

To impart knowledge about consumer behavior with reference to micro and macro economic system.

### **Theory**

#### UNIT I

Definition of a Profession -Principles of Interior Design business management – Establishing Interior Design Practice – ethics and professional conduct.

#### UNIT II

Business Law – Business management applications: Financial concepts - Strategic plans for design presentation- visual graphics, models, and electronic walkthroughs.

#### UNIT III

Marketing: Conditions and Strategies –Procedures for contract design. UNIT IV

Professional portfolios, resumes and business cards, Web page, e-service – Professional associations and support systems.

### **Practical**

Cost estimation for projects ensuing from project conceptualization to completion medium project - contracting and sub-contracting

procedure for the estimated projects - Strategic plan for presentation of project for a tender call - Portfolio for job in professional firm and resume design.

### **Suggested Readings**

Christine M Piotrowski 2001. *Interior Design Management: A Handbook for Owners and Managers*. ASID, IIDA.

Christine M Pitroeski. 2002. *Professional Practice for Interior Designer*. John Wiley & Sons.

Cindy Coleman. 2002. *Interior Design Handbook of Professional Practice*, McGraw Hill.

Terry L Patterson. 2002. *Architects Studio Handbook*, McGraw Hill.

**FRM 515**

**FURNITURE DESIGN AND FABRICATION**

**2+1**

### **Objective**

To provide hands-on experience to students in generating ergo-friendly furniture design and incorporating the same in prototypes, together with workshop exposure.

### **Theory**

#### UNIT I

Furniture Design in different styles – Furniture for different functions – Furniture decisions.

#### UNIT II

Human factors in furniture design.

#### UNIT III

Latest trends in material, furniture construction, assembling and joinery techniques-craftsmanship.

#### UNIT IV

Decorative finishes-marketing Strategies

### **Practical**

Exploring the different types of furniture, material used and fixation methods through literature search and market exposure- developing concept designs and schematic drawing of selected furniture-working out detailed drawings of components and joineries-building small scale model and sample board-estimating quantity of materials required and cost of construction-workshop experience in furniture designing and construction- exposure to furniture care and maintenance

### **Suggested Readings**

Natale C. 2009. *Furniture Design and Construction for the Interior designer, Fair child books and Visuals*.

Postell J. 2007. *Furniture Design*. John wiley & Sons.

Parikh A, Robertson D, Lane T, Hilliard E & Paine M. 2000. *The Ultimate Home Design Source Book*. Conran Octopus.

FRM 516

**COLOUR AND LIGHTING IN INTERIORS**

**2+1**

**Objective**

To impress upon students the dynamics of colour and lighting as individual and combined components in interiors and exteriors for special effects.

**Theory**

UNIT I

Fundamentals of colour and light in interior environments – Theory of colour and light as perceived by the human eye.

UNIT II

Colour: properties, systems, mixing, symbolism, cultural effects and psychology – Physical and perceptual aspects of colour and lighting – Need for colour and lighting to provide comfort and adequate safety – Need for quality in the selection of colours and lighting in the built environment.

UNIT III

Concepts of lighting - Safety and emergency lighting. UNIT IV

Effects of colour on people, use of colour and light in interior in relation to function, materials, surface finish and colour scheme integration, Visual tricks to play – space making, space shrinking, camouflage and disguise

**Practical**

Evolving Munsell and Ostwald colour wheels – Colour schemes for problem areas in residential and non-residential interiors – Studying the psychological and emotional effects of colours in interiors – Influence of light on colour in simulated conditions.

**Suggested Readings**

Catherine C. 2001. *Colour Healing Home*. Octopus Publ.

Judith M. 2000. *Perior and Regional Style from Around the World*. Clarkson Potter Publ.

Mark Karlen & James Benya. 2004. *Lighting design basics*. Jhon Wiley & sons, inc. U.S.A.

Michael W. 2002. *Advances in Colour Harmony & Contrast for the Home Decorator*. School of Colour Publ.

FRM 517

**Special Project**

**0+1**

FRM 601

**ADVANCES IN RESOURCE MANAGEMENT**

**3+0**

**Objective**

To expose students to classical and neo-classical approaches to management.

**Theory**

UNIT I

Advances in discipline of resource management: Classical Approach; Behavioural Approach; Systems Approach and Scientific Management.



## UNIT II

Managerial Decision Making – Techniques; Creativity; Rationality and Risk and Certainty. Theories and Concepts in Resource Management.

## UNIT III

Management process; Planning – Types and Dimensions; planning in a systems perspective, Factors affecting planning; Implementation- Controlling, Checking and Adjusting.

## UNIT IV

Evaluation- evaluation of resource–use and feed back; motivation–importance, theories approaches, elements of sound motivation; Leadership–Importance, theories, styles.

### **Suggested Readings**

Chakravorty P. 2007. *Home Management*. Pointer Publ.

Gandotra V & Jaiswal N. 2008. *Management of Work in Home*. Dominant Publ.

Kotler P. 2004. *Principles of Management*. TEE Publ.

Oberoi K & Sidhu M. 2006. *Resource Management for Better Homes*. Chetna Prakashan.

Prasad L & Gulshan SS. 2001. *Management: Principles and Practices*. S. Chand & Co.

Seetharaman P, Batra S & Mehram P. 2005. *An Introduction to Family Resource Management*. CBS.

Sharma V. 2005. *Modern Home Management*. Shreeniwas Publ.

**FRM 602**

**OCCUPATIONAL BIOMECHANICS**

**2+1**

### **Objective**

To acquaint students about occupational hazards and advances in ergonomics for enhancing job-fitness compatibility.

### **Theory**

#### UNIT I

Importance of human machine system in fitting the task to human. Biomechanics as an area of study. Application of biomechanics to movement: qualitative and quantitative approach.

#### UNIT II

Biomechanical oriented ergonomics in different occupation. Relationships of occupations. Occupational stress: causes, measurements and remedies.

#### UNIT III

Ergonomic task analysis and risk assessment at work places. Tools and techniques to assess and control ergonomic hazards at work places

#### UNIT IV

Application of biomechanics for occupational safety; accident

protection and release of stress. Use of SAMMIE (System for Aiding Man Machine Interaction Evaluation), CAD system in occupational designs.

### **Practical**

Study of Occupational environment and Occupational stress in selected occupations. Work task analysis using ergo software - EVTA (Empirically Validated Task Analysis)/Ergo Master methodology with video for selected activities. Analyse the biomechanics applied in work performance. Identification of accident prone and stressful occupations suggesting remedial performance techniques. Application of EQ (Ergonomic Quality) and IQ (Industrial Quality) in the performance of occupational tasks.

### **Suggested Readings**

Allen PS, Stimpson MF & Jones LN. 2000. *Beginnings of Interior Environment*. Prentice Hall.

Bridger RS. 1994. *Introduction to Ergonomics*. McGraw Hill.

Dalela S & Saurabh. 1999. *Textbook of Work Study and Ergonomics*. Standard Publ.

Grandjean E. 1978. *Ergonomics of the Home*. Taylor & Francis. Ian Galer. *Applied Ergonomics Handbook*. Butterworths.

Panero J Zelnik. 1979. *Human Dimensions and Interior Space*. The Architectural Press.

Singh S. 2007. *Ergonomics Interventions for Health and Productivity*. Himanshu Publ.

## **FRM 603                      GLOBALIZATION AND CONSUMER ECONOMICS                      2+1**

### **Objective**

To develop and insight into major economic problems of the country and relate one's role in solving the problems of the consumers.

### **Theory**

#### UNIT I

The ontology of consumer economics: perspectives and viewpoints. Marketing and customer behaviour: Human behaviour v/s Product behaviour; Model of consumer motivation and behaviour. Individual predisposition in marketing. Group influences in marketing. Consumer decision processes. Aggregate consumer behaviour overtime: Diffusion of innovations; Brand loyalty.

#### UNIT II

Globalization, Liberalization and Privatization- its impact on consumer behaviour. The W.T.O: The issues for consumers. Codex Alimentarius Commision: Its implications for consumers.

### UNIT III

The Services: consumer perspective and implications; The inspection into transparency through citizen's charter. Review Government programmes/ Schemes designed to: Increase family financial security; Increase family food security; Generate consumer awareness.

### UNIT IV

Consumer Protection: Problems and prospects; Laws and Regulations; Role of Media and Organizations. Managerial and Research implications of consumer issues.

#### **Practical**

Conducting case studies highlighting implications of citizen's charter in utilization of services. Designing modules for creating awareness in consumer protection. Planning and implementing consumer guidance and counseling centre. Readings in current consumer and marketing issues and holding panel discussion.

#### **Suggested Readings**

David L. 2002. *Consumer Behaviour*. Tata McGraw Hill.

Ghosh AK. 2003. *Jobs and Incomes in a Globalization World* ILO.

Nayar BR. 2007. *India's Globalization*. Vistaar Publ.

Schiffman LG. 2004. *Consumer Behaviour*. Prentice Hall.

Sharma AK. 2006. *Consumer Behaviour*. Global Vision Publ.

Siddique A. 2007. *India and South Asia-Economic Development in the Age of Globalization*. ME Sharpe.

Sivkumar GD. 2003. *Consumer Protection and Redressal Machinery in India*. Himalaya Publ.

**FRM 604**

**FAMILY DYNAMICS AND WOMEN POWER**

**2+1**

#### **Objective**

To create awareness among students about status of women and impact of change in role of women and propose strategies for development and protection at work.

#### **Theory**

##### UNIT I

Role analysis of Indian home makers from ancient time to modern time. Impact of change in the role of women on the family system.

##### UNIT II

Family dynamics: Theoretical and conceptual framework to study, Family dynamics, Human rights, Institutional norms of family, family structure, family ecology and family life development programmes. Economic and psychological cost of gainful employment of women in the family.

##### UNIT III

Stress in the family characteristics, category, consequences and need for stress management. Family and social support systems for

facilitating women's work participation in categories of labour- family labour, hired labour.

#### UNIT IV

Need for wage policy and relationship between wages and employment, gender discrimination in wages. Women and law of inheritance and ownership of land. Women in occupational sectors. Occupational hazards of women at work.

#### **Practical**

Critical review of research studies in India and in developing countries on the role analysis of women. Analysis of aspects of family dynamics in stages of family life. Case studies on management in families with special needs such as families with aged and handicapped people. Coping strategies followed by families in stress management: through case studies. Visit to stress management centers/ counseling centers: report writing. Field study on gender disparity for paid and unpaid activities.

#### **Suggested Readings**

Dasgupta S & Lal M. 2007. *The Indian Family in Transition*. Sage Publ.

Ghadially R. 2007. *Urban Women in Contemporary India*. Sage Publ.

Krishna S. 2007. *Women's Livelihood Rights*. Sage Publ.

Manji F. 2006. *Development and Rights*. Rawat Publ.

Paxton P & Hughes MM. 2007. *Women, Politics and Power*. Pine Forge Press.

**FRM 605**

**CONSUMER PRODUCT DESIGN**

**1+2**

#### **Objective**

To develop skills among students in Computer Aided Designing of products.

#### **Theory**

##### UNIT I

Significance of product design and need for creative approach. UNIT II

Socio-technical and ergonomic factors in Design of Products: anthropometric, ergonomic, psychological, physiological considerations in design decision making, legal factors, engineering ethics and society.

##### UNIT III

Design models - Principles in design for manufacturability.

##### UNIT IV

Design analysis and implementation - Design production systems: modular design, design economics, cost analysis, cost reduction and value analysis techniques

### **Practical**

An analyzing the user's option on the design of a specific a specific consumer product. Collection and reporting of standards for selected consumer product as per safety regulations. Conceptualizing and developing design concept – evolving prototype of the product - Evaluation of the product and documentation

### **Suggested Readings**

Bootheroyd G, Dewhurst P & Knight W. 2002. *Product Design for Manufacture and Assembly*. CRC Press.

Frey D. 2006. *AutoCAD 14*. BPB Publ.

Ron H. 2000. *Using Auto CAD 200*. Special Ed. Prentice Hall of India.

Sharma DD. 2000. *Total Quality Management*. Sultan Chand & Sons.

## **FRM 606 ENVIRONMENTAL ISSUES AND CHALLENGES 3+0**

### **Objective**

To expose students to global environmental issues and strategies to maintain ecological balance in micro and macro environment.

### **Theory**

#### UNIT I

Introduction to technology and environment. State of India's environment. UNIT II

Sustainable development- An International perspective.

Global environmental issues. Carbon credit and its impact on growth of industries. UNIT III

Environmental education. Environmental Management System. Population and Community Ecology. Natural Resource Conservation and Management.

#### UNIT IV

Environmental protection and law. Environmental impact assessment. Environmental audit. National and International efforts in improving environmental quality. Research methodology and system analysis applicable to environmental studies.

### **Suggested Readings**

Baland JM, Bardhan P & Bowles S. 2007. *Inequality, Cooperation and Environmental Sustainability*. Pauls Press.

Choudhary BL. 2007. *Environment Management Practices: An Indian outlook*. Himanshu Publ.

Deswal S & Deswal A. 2002. *Energy, Ecology, Environment and Society*.

Dhanpat Rai & Co.

Joseph K & Nagendran R. 2004. *Essentials of Environment Studies*.

Pearson Edu.

Kumar A & Preeti. 2008. *Environment: New Challenges*. Daya Publ.

Singh K & Sisodia A. 2007. *Environmental Economics: Theory and Applications*. Sage Publ.

Venugopal Rao P. 2002. *Text Book of Environmental Engineering*.  
Prentice Hall.

**FRM 607                      MANAGERIAL DIMENSIONS FOR SPECIAL GROUPS                      1+2**  
**Objective**

To develop skills in students to address needs of people with special needs.

**Theory**

UNIT I

Characteristics and status of people with special needs and mentally challenged children and elderly.

UNIT II

Theoretical perspectives on efficiency, comfort and safety: Physical environment: Architectural dimensions- flooring, stairs, storage, workstations, furniture, fixtures and fitments, equipment.

UNIT III

Indoor Environment- Light, noise, humidity and temperature. UNIT IV

Managerial Dimensions- Time, money, energy, food and health, psycho- social; External environment support.

**Practical**

Appraisal of needs and coping strategies adopted by people with special needs at various levels through case studies. Presentation of reports. Inventory of external facilitators and services available as management catalysts. Developing conceptual management models. Planning simulated environments for comfortable living. Analysis of service centers catering to people with special needs and presenting report.

**Suggested Readings**

Bridger RS. 1994. *Introduction to Ergonomics*. McGraw Hill.

Dalela S & Saurabh. 1999. *Textbook of Work Study and Ergonomics*.  
Standard Publ.

Grandjean E. 1978. *Ergonomics of the Home*. Taylor & Francis.

Ian G. 2006. *Applied Ergonomics Handbook*. Butterworths.

Panero J Zelnik. 1979. *Human Dimensions and Interior Space*. The  
Architectural Press.

Singh S. 2007. *Ergonomics Interventions for Health and Productivity*.  
Himanshu Publ.

## RESOURCE MANAGEMENT AND CONSUMER SCIENCES

### List of Journals

- **Family Ecology**, CCS HAU, Hisar, Haryana, India.
- **Journal of Family Studies and Consumer Economics**, U.K.
- **Indian Journal of Home Science**, Baroda, India.
- **Applied Ergonomics**, U.K.
- **Ergonomics**, Taylor & Francis Group, London.
- **Journal of Dairying, Food and Home Science**, Karnal, India
- **Human Ecology**, KRE publishers, New Delhi
- **Journal of Home Economics**, American Home Economics Association, USA.

### e-Resources

- <http://www.cgsindia.org>
- <http://www.ergowebergonomicsconcepts.com>
- <http://www.virginiatech.org>
- <http://www.ergo.human.cornel.edu.studentdownloads/DEA325pdfs/anthrodesign.pdf>
- <http://www.te/tips/for/improving/posture/and/ergonomics/html>
- <http://www.ergoweb.com/news/detail.cfm>
- <http://www.healthy.net/asp/templates/articles/asp>
- <http://www.hourthelps.html>
- <http://www.advancechiro.on.ca/posturenf/htm>
- <http://www.postureatuork.htm>
- <http://www.handbag.com/healthfit/keeping/posturalinbalances>
- <http://www.hse.gov.uk/humanfactors/-37k>
- <http://www.deskline.linak.com/applications/?id2=179-11K>
- <http://www.nceas.ucsb.edu/crmp-34K>
- <http://www.sciencemag.org/cgi/content/abstract/209/4452/183>
- <http://www.goes.ed.ac.uk/-20K>
- [http://www.emmanual.edu/GPP-Programs/Master\\_of\\_science\\_in\\_human\\_resource\\_management.html](http://www.emmanual.edu/GPP-Programs/Master_of_science_in_human_resource_management.html)
- <http://www.aofes.org>
- <http://www.neeri.res.in>
- <http://www.inst.org/1d>
- <http://www.bis.org.in>
- [http://www.design.guide.for\\_you.com](http://www.design.guide.for_you.com)
- <http://www.decoration.dekorasyonu.com>
- <http://www.interior-world.in>
- [http://www.interior\\_decorating\\_infosource.com](http://www.interior_decorating_infosource.com)
- <http://www.designingonline.com>
- <http://www.design.careeredu.com>
- <http://www.sereneinteriors.com>
- [http://www.homefurnish.com/hmdeco\\_m/htm](http://www.homefurnish.com/hmdeco_m/htm)
- <http://www.interiordesignschoolreview.com>
- <http://www.interiordec.about.com/od/careerinfo>
- <http://www.wn.wikipedia.org/wiki/consumerism>
- [http://www.cbc.ca/consumers/market/murmurs/archives/category\\_cars.html](http://www.cbc.ca/consumers/market/murmurs/archives/category_cars.html)

- <http://www.globalisoues.org/traderelated/consumption/rise.asp>
- <http://www.ethicalconsumer.org/philosophy/riserise.htm>
- [http://www.intertek-labtest.com/industry/toys\\_juvenile/toys\\_testing/?lang=en](http://www.intertek-labtest.com/industry/toys_juvenile/toys_testing/?lang=en)
- [http://www.cygnacom.com/sel\\_overview.pdf](http://www.cygnacom.com/sel_overview.pdf)
- <http://www.tse.com/services/prodtest.html>
- <http://www.catra.org/pages/services/testprodual.htm>
- <http://www.livkinghub.elsewer.com/retrieve/pii/0007850007614814>
- <http://www.stickymids.com/testndevalnation.asp>
- <http://www.ingentaconnect.com/content/mcb/110/2007/0000025/0000005/art0002>
- [http://www.wbdg.org/design/minimize\\_consumption.php](http://www.wbdg.org/design/minimize_consumption.php)
- [http://www.architectureweek.com/2000/0906/building\\_1-1.html](http://www.architectureweek.com/2000/0906/building_1-1.html)
- <http://www.iea.org/docs/index.htm>
- <http://www.archi.hkn.hk/research/BEER/sustain.htm>
- <http://www.arabschool.org.suj/ASSTbook/energy%20conservation%20in%20building.doc>
- <http://www.eric.ed.gov/icricwebportal/recora/retail?accno-ed140508>
- <http://www.scientific.net/0-87849-860-2/331/>
- [http://www.epa.gov/oms/speches/mto\\_9508.htm](http://www.epa.gov/oms/speches/mto_9508.htm)
- [http://www.indicare.org/tiki\\_read\\_article.php](http://www.indicare.org/tiki_read_article.php)
- <http://www.docuticker.com/?cat=60>
- <http://www.acue.org/energy/multiple.htm>
- [http://www.mbhilpahua.com/tag/consumer\\_issues/](http://www.mbhilpahua.com/tag/consumer_issues/)
- <http://www.northlan.gov.uk/livingthere/consumer+issues/index.html>
- <http://www.ces.nesu.edu/depts/tes/pub/forum.html>
- [http://www.euractiv.com/en/pa/consumer\\_communications\\_popular\\_eu/article\\_17246\\_1](http://www.euractiv.com/en/pa/consumer_communications_popular_eu/article_17246_1)
- <http://www.oliverwyman.com/ow/cmt.htm>
- <http://www.ieeeexplore.ieee.org/iel15/9640/3.469/01405144.pdf>
- <http://www.eds.com/industries/communications>
- [http://www.artmam.net/consumer\\_relations.htm](http://www.artmam.net/consumer_relations.htm)

### **Suggested Broad Topics for Master's and Doctoral Research**

- Development of drudgery reducing technologies in home, farm and dairy sectors
- Testing of drudgery reducing technologies
- Environment protection through resource management
- Management of family resources
- Energy conservation and renewable energy sources
- Entrepreneurial development among women
- Consumerism and consumer economics
- Occupational health hazards and safety
- Rural hygiene and sanitation
- Accessible buildings for residential and commercial uses
- Ergo-friendly product design, testing and evaluation
- Building design for special needs



## COMPULSORY NON-CREDIT COURSES

(Compulsory for Master's programme in all disciplines; Optional for Ph.D. scholars)

CODE	COURSE TITLE	CREDITS
PGS 501	LIBRARY AND INFORMATION SERVICES	0+1
PGS 502	TECHNICAL WRITING AND COMMUNICATIONS SKILLS	0+1
PGS 503 (e-Course)	INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE	1+0
PGS 504	BASIC CONCEPTS IN LABORATORY TECHNIQUES	0+1
PGS 505 (e-Course)	AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES	1+0
PGS 506 (e-Course)	DISASTER MANAGEMENT	1+0

### Course Contents

**PGS 501                      LIBRARY AND INFORMATION SERVICES                      0+1**  
**Objective**

To equip the library users with skills to trace information from libraries efficiently, to apprise them of information and knowledge resources, to carry out literature survey, to formulate information search strategies, and to use modern tools (Internet, OPAC, search engines etc.) of information search.

**Practical**

Introduction to library and its services; Role of libraries in education, research and technology transfer; Classification systems and organization of library; Sources of information- Primary Sources, Secondary Sources and Tertiary Sources; Intricacies of abstracting and indexing services (Science Citation Index, Biological Abstracts, Chemical Abstracts, CABI Abstracts, etc.); Tracing information from reference sources; Literature survey; Citation techniques/Preparation of bibliography; Use of CD-ROM Databases, Online Public Access Catalogue and other computerized library services; Use of Internet including search engines and its resources; e- resources access methods.

**PGS 502                      TECHNICAL WRITING AND COMMUNICATIONS SKILLS                      0+1**  
**Objective**

To equip the students/scholars with skills to write dissertations, research papers, etc.  
 To equip the students/scholars with skills to communicate and articulate in English (verbal as well as writing).

## Practical

**Technical Writing** - Various forms of scientific writings- theses, technical papers, reviews, manuals, etc; Various parts of thesis and research communications (title page, authorship contents page, preface, introduction, review of literature, material and methods, experimental results and discussion); Writing of abstracts, summaries, précis, citations etc.; commonly used abbreviations in the theses and research communications; illustrations, photographs and drawings with suitable captions; pagination, numbering of tables and illustrations; Writing of numbers and dates in scientific write-ups; Editing and proof-reading; Writing of a review article. **Communication Skills** - Grammar (Tenses, parts of speech, clauses, punctuation marks); Error analysis (Common errors); Concord; Collocation; Phonetic symbols and transcription; Accentual pattern: Weak forms in connected speech: Participation in group discussion: Facing an interview; presentation of scientific papers.

## Suggested Readings

*Chicago Manual of Style*. 14<sup>th</sup> Ed. 1996. Prentice Hall of India.

*Collins' Cobuild English Dictionary*. 1995. Harper Collins.

Gordon HM & Walter JA. 1970. *Technical Writing*. 3<sup>rd</sup> Ed. Holt, Rinehart & Winston.

Hornby AS. 2000. *Comp. Oxford Advanced Learner's Dictionary of Current English*. 6<sup>th</sup> Ed. Oxford University Press.

James HS. 1994. *Handbook for Technical Writing*. NTC Business Books. Joseph G. 2000. *MLA Handbook for Writers of Research Papers*. 5<sup>th</sup> Ed. Affiliated East-West Press.

Mohan K. 2005. *Speaking English Effectively*. MacMillan India.  
Richard WS. 1969. *Technical Writing*. Barnes & oble.

Robert C. (Ed.). 2005. *Spoken English: Flourish Your Language*.  
Abhishek. Sethi J & Dhamija PV. 2004. *Course in Phonetics and Spoken English*. 2<sup>nd</sup> Ed. Prentice Hall of India.

Wren PC & Martin H. 2006. *High School English Grammar and Composition*. S. Chand & Co.

**PGS 503  
(e-Course)**

**INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN 1+0  
AGRICULTURE**

### Objective

The main objective of this course is to equip students and stakeholders with knowledge of intellectual property rights (IPR) related protection systems, their significance and use of IPR as a tool for wealth and value creation in a knowledge-based economy.

## Theory

Historical perspectives and need for the introduction of Intellectual Property Right regime; TRIPs and various provisions in TRIPS Agreement; Intellectual Property and Intellectual Property Rights (IPR), benefits of securing IPRs; Indian Legislations for the protection of various types of Intellectual Properties; Fundamentals of patents, copyrights, geographical indications, designs and layout, trade secrets and traditional knowledge, trademarks, protection of plant varieties and farmers' rights and bio- diversity protection; Protectable subject matters, protection in biotechnology, protection of other biological materials, ownership and period of protection; National Biodiversity protection initiatives; Convention on Biological Diversity; International Treaty on Plant Genetic Resources for Food and Agriculture; Licensing of technologies, Material transfer agreements, Research collaboration Agreement, License Agreement.

## Suggested Readings

Erbisch FH & Maredia K.1998. *Intellectual Property Rights in Agricultural Biotechnology*. CABI.

Ganguli P. 2001. *Intellectual Property Rights: Unleashing Knowledge Economy*. McGraw-Hill.

*Intellectual Property Rights: Key to New Wealth Generation*. 2001. NRDC & Aesthetic Technologies.

Ministry of Agriculture, Government of India. 2004. *State of Indian Farmer*. Vol. V. *Technology Generation and IPR Issues*. Academic Foundation.

Rothschild M & Scott N. (Ed.). 2003. *Intellectual Property Rights in Animal Breeding and Genetics*. CABI.

Saha R. (Ed.). 2006. *Intellectual Property Rights in NAM and Other Developing Countries: A Compendium on Law and Policies*. Daya Publ. House.

*The Indian Acts - Patents Act, 1970 and amendments; Design Act, 2000; Trademarks Act, 1999; The Copyright Act, 1957 and amendments; Layout Design Act, 2000; PPV and FR Act 2001, and Rules 2003; National Biological Diversity Act, 2003.*

**PGS 504                      BASIC CONCEPTS IN LABORATORY TECHNIQUES                      0+1**

### Objective

To acquaint the students about the basics of commonly used techniques in laboratory.

### Practical

Safety measures while in Lab; Handling of chemical substances;

Use of burettes, pipettes, measuring cylinders, flasks, separatory funnel, condensers, micropipettes and vaccumets; washing, drying and sterilization of glassware; Drying of solvents/chemicals. Weighing and preparation of solutions of different strengths and their dilution; Handling techniques of solutions; Preparation of different agro-chemical doses in field and pot applications; Preparation of solutions of acids; Neutralisation of acid and bases; Preparation of buffers of different strengths and pH values. Use and handling of microscope, laminar flow, vacuum pumps, viscometer, thermometer, magnetic stirrer, micro-ovens, incubators, sandbath, waterbath, oilbath; Electric wiring and earthing. Preparation of media and methods of sterilization; Seed viability testing, testing of pollen viability; Tissue culture of crop plants; Description of flowering plants in botanical terms in relation to taxonomy

### **Suggested Readings**

Furr AK. 2000. *CRC Hand Book of Laboratory Safety*. CRC Press.

Gabb MH & Latchem WE. 1968. *A Handbook of Laboratory Solutions*.

Chemical Publ. Co.

**PGS 505                      AGRICULTURAL RESEARCH, RESEARCH ETHICS                      1+0**

**(e-Course)**

### **Objective**

To enlighten the students about the organization and functioning of agricultural research systems at national and international levels, research ethics, and rural development programmes and policies of Government.

### **Theory**

#### UNIT I

History of agriculture in brief; Global agricultural research system: need, scope, opportunities; Role in promoting food security, reducing poverty and protecting the environment; National Agricultural Research Systems (NARS) and Regional Agricultural Research Institutions; Consultative Group on International Agricultural Research (CGIAR): International Agricultural Research Centres (IARC), partnership with NARS, role as a partner in the global agricultural research system, strengthening capacities at national and regional levels; International fellowships for scientific mobility.

#### UNIT II

Research ethics: research integrity, research safety in laboratories, welfare of animals used in research, computer ethics, standards and problems in research ethics.

#### UNIT III

Concept and connotations of rural development, rural development policies and strategies. Rural development programmes: Community Development Programme, Intensive Agricultural District Programme, Special group – Area Specific Programme, Integrated Rural Development Programme (IRDP) Panchayati Raj Institutions, Co-

operatives, Voluntary Agencies/Non-Governmental Organisations.  
Critical evaluation of rural development policies and programmes.  
Constraints in implementation of rural policies and programmes.

### **Suggested Readings**

Bhalla GS & Singh G. 2001. *Indian Agriculture - Four Decades of Development*. Sage Publ.

Punia MS. *Manual on International Research and Research Ethics*.  
CCS, Haryana Agricultural University, Hisar.

Rao BSV. 2007. *Rural Development Strategies and Role of Institutions - Issues, Innovations and Initiatives*. Mittal Publ.

Singh K.1998. *Rural Development - Principles, Policies and Management*. Sage Publ.

**PGS 506**  
**(e-Course)**

**DISASTER MANAGEMENT**

**1+0**

### **Objectives**

To introduce learners to the key concepts and practices of natural disaster management; to equip them to conduct thorough assessment of hazards, and risks vulnerability; and capacity building.

### **Theory**

#### UNIT I

Natural Disasters- Meaning and nature of natural disasters, their types and effects. Floods, Drought, Cyclone, Earthquakes, Landslides, Avalanches,

Volcanic eruptions, Heat and cold Waves, Climatic Change: Global warming, Sea Level rise, Ozone Depletion

#### UNIT II

Man Made Disasters- Nuclear disasters, chemical disasters, biological disasters, building fire, coal fire, forest fire. Oil fire, air pollution, water pollution, deforestation, Industrial wastewater pollution, road accidents, rail accidents, air accidents, sea accidents.

#### UNIT III

Disaster Management- Efforts to mitigate natural disasters at national and global levels. International Strategy for Disaster reduction. Concept of disaster management, national disaster management framework; financial arrangements; role of NGOs, Community-based organizations, and media. Central, State, District and local Administration; Armed forces in Disaster response; Disaster response: Police and other organizations.

**Suggested Readings**

Gupta HK. 2003. *Disaster Management*. Indian National Science Academy. Orient Blackswan.

Hodgkinson PE & Stewart M. 1991. *Coping with Catastrophe: A Handbook of Disaster Management*. Routledge.

Sharma VK. 2001. *Disaster Management*. National Centre for Disaster Management, India.