

**MAHATMA GANDHI CHITRAKOOT GRAMODAYAVISHWAVIDYALAYA,
CHITRAKOOT SATNA MP**

MBA-AGRI BUSINESS MANAGEMENT (ABM)

**COURSE STURUCTURE
(w.e.f. 2015-16)**

Sr.No.	Assignments/Items	* Credits	Remark
1.	Core Courses / Major Courses + Master's Seminars	(43 + 1) = 44	
2.	Supporting Courses	06	
3.	Major Elective Courses	06	
4.	Open Elective Courses	03	
5.	Summer Assignment / Training	05	
6.	Internship / Project Work / Industrial Attachment + Report writing and presentation	10	
7.	Extension + Enterprise Practices	04	
8.	Values and Social Responsibilities (V.S.R.)	02	
Total Credits		80	
Minimum Credit Limit		80	
Maximum Credit Limit		84	

M.B.A. – Agri Business Management

SEMESTER WISE COURSE CURRICULA

I Semester

Session 2015-16

Code No.	Course Title	*Credits	Remark
MBA - 101	Management Concept	$3 + 0 = 3$	
MBA - 102	Managerial Economics	$3 + 0 = 3$	
MBA - 103	Financial and Management Accounting	$3 + 0 = 3$	
MBA - 104	Business Communication Skills	$2 + 0 = 2$	
MBA - 105	Computer for Managers	$1 + 2 = 3$	(Supporting Course)
MBA-ABM-106	Agri Business Environment and Policy	$3 + 0 = 3$	
MBA - 107	Seminar	$0 + 1 = 1$	
MBA - 108	Internet & Digital Marketing	$0 + 2 = 2$	
Total Credits		$15 + 5 = 20$	

II Semester

Code No.	Course Title	Credits	Remark
MBA - 201	Marketing Management	$3 + 0 = 3$	
MBA - 202	Research Methodology in Business Management	$3 + 0 = 3$	
MBA - 203	Financial Management	$3 + 0 = 3$	
MBA - 204	Project Management	$2 + 1 = 3$	
MBA - 205	Human Resource Management	$3 + 0 = 3$	
MBA-ABM-206	Farm Business Management	$3 + 0 = 3$	
ABM-ABM-207	One Major Elective (From any one selected streams)	$3 + 0 = 3$	
Total Credits		$20 + 1 = 21$	

III Semester

Code No.	Course Title	Credits	Remark
MBA-ABM-301	Production and Operations Management	3 + 0 = 3	
MBA-ABM-302	Management of Agricultural Input Marketing	3 + 0 = 3	
MBA-ABM-303	Agri-Supply Chain Management	3 + 0 = 3	
MBA-ABM-304	Business Law and Ethics	2 + 0 = 2	
MBA-ABM-305	Management of Information System	3 + 0 = 3	Supporting Course
MBA-ABM-306	One Open Elective	3 + 0 = 3	
MBM-ABM-307	One Major Elective (From any one selected streams)	3 + 0 = 3	
Total Credits		20 + 0 = 20	

IV Semester

Code No.	Course Title	Credits	Remark
MBA-ABM-401	** Summer Training / Assignment (During First Summer)	0 + 5 = 5	
MBA-ABM-402	Extension + Enterprise Practices	0 + 4 = 4	
MBA-ABM-403	*** Internship/Project Work/Industrial Attachment (Project Report, Writing and Presentation)	0 + 10 = 10	
Total Credits		0 + 19 = 19	

Total Credits (20 + 21 + 20 + 19) = 80

Note:

- * The bifurcation of credit hours in theory, practical, tutorials etc. will be as per the need of the course and university. In the courses where practical are not provided, tutorials will be required (1 to 2 contact hours) depending on the course need to take care of case discussion / presentation / role plays / business games.
- ** For giving exposure of an “Agri Business Organization” to future managers / professionals industrial attachment during **Summer Break** will be an essential academic requirement for the first year students. Each student will have to spend **four to six week** working-in and learning from an Agri Business organization during summer. The summer assignments provide the students first hand exposure to the functioning of the organization.
- *** To be completed in companies / organizations after the **completion of 1st year** (4 - 8 weeks) duration.
- **** The Fourth Dean’s Committee recommendation given by ICAR 2009 is also consider to construct above curriculum.

MBA (Agri Business Management)

MAJOR ELECTIVES (06 Credits)

Streams / Direction

(A) High Tech. Agriculture

- (i) Seed Production Technology and Processing Management.
- (ii) Food Production and Post Harvest Management.
- (iii) Management of Floriculture and Land Scaping.
- (iv) Fertilizers Technology and Management.
- (v) Management of Agro-chemical Industry
- (vi) Operations research

(B) Food Industry

- (i) Quality Management in Food Industry.
- (ii) Food Technology and Processing Management.
- (iii) Food Retail Management
- (iv) Management of Bio-Tech. Industry

(C) Animal Husbandry Industry

- (i) Technology Management for Live Stock Products.
- (ii) Feed Business Management.
- (iii) Poultry and Hatchery Management.
- (iv) Dairy Cattle Production and Management.
- (v) Management of Veterinary Hospitals

(D) Farm Engineering Management

- (i) Farm Power and Machinery Management
- (ii) Management of Irrigation System
- (iii) Management of Watershed Development

Note:

- (i) Each course of major electives will weight of 03 credits (Maximum limit of 06 credits from any one stream).
- (ii) Maximum limit of selection of streams for a session is two only.
- (iii) Elective course will be offered to the students in 2nd and 3rd semester of the programme.

LIST OF OPEN ELECTIVES (03 credits)

1. Rural Marketing
2. Management of Agri Business Co-operatives
3. International Trade and Sustainability Governance
4. Agricultural Marketing Management
5. Project Management and Appraisal
6. Environmental Management

Note:

- (i) Open elective course will be offered to the students in 3rd semester of the programme.
- (ii) Each open elective course will weight of 03 credits.

MANAGEMENT CONCEPT

Objective

Credit - 3 (3+0)

The main objective of this course is to provide the students with an understanding of the tasks and functions of management which will serve as a foundation for the study of most of the functional areas as in the MBA programme.

Contents

UNIT I

The Foundation of Management : Nature and significance of management, the evolution of management thoughts, approaches to management, functions of a manager social responsibilities of management professionalisation of Management in India.

UNIT II

Planning : The nature, significance and scope of planning, business objectives, management by objectives, planning premises, steps in planning, structure of plans, the process and techniques of decision making.

UNIT III

Organizing : Nature and significance of organizing : Span of management : Delegation and decentralization, formal and informal organization, determinants of effective organization, different patterns of organization structure, departmentation.

UNIT IV

Concept, nature, scope, principles and techniques of direction, communication process and barriers, building effective communication system.

UNIT V

Controlling : nature and scope of the control processes, control techniques, major control systems, control by exception, nature, scope and techniques of co-ordination.

Suggested Readings

- R.D. Agrawal : Organization and Management.
- Peter Drucker : Practice of Management.
- IM Prasad – Principles of Management.

I Semester

MANAGERIAL ECONOMICS

Objective

Credit - 3 (3+0)

To familiarize the students with the fundamental economic concepts and principles in the context of managerial decision making.

Contents

UNIT I

Scope of managerial economics, objective of the firm and basic economic principles; mathematical concepts used in managerial economics.

UNIT II

Demand analysis - meaning, types and determinants of demand; demand function; demand elasticity; demand forecasting-need and techniques.

UNIT III

Production, cost and supply analysis- production function, least-cost input combination, factor productivities and returns to scale, cost concepts, cost-output relationship, short and long-run supply functions.

UNIT IV

Pricing-determinants of price - pricing under different market structures, pricing of joint products, pricing methods in practice, government policies and pricing.

UNIT V

The national income; circular flow of income: consumption, investment and saving; money-functions, demand & supply; inflation; economic growth; business cycles and business policies; business decisions under uncertainty.

Suggested Readings

- Baumol WJ. 1980. *Economic Theory and Operations Analysis*. Prentice Hall of India.
- Craig PH & Chris LW. 1996. *Managerial Economics*. Prentice Hall of India.
- Dernberg TF. *et. al.* 1986. *Macro Economics: Concepts, Theories and Policies*. McGraw Hill.
- Dwivedi DN. 2002. *Managerial Economics*. Vikash Publ.
- Gupta GS. 1997. *Managerial Economics*. Tata McGraw Hill.
- Koutsoyiannis A. 1989. *Modern Micro Economics*. Mac Millan Press.

I Semester

FINANCIAL AND MANAGEEMNT ACCOUNTING

Objective

Credit - 3 (3+0)

The main objective of this course is to provide the students an understanding of the basic concepts of accounting as it may serve as an information and interpretation tool.

Contents

UNIT I

Accounting Cycles : Accounting records and system. Journal, Ledger and Cash Books : Preparation of trial Balance, Concept of Capital and Revenue, Final Accounts with adjustments.

UNIT II

Management Accounting : Nature, Scope and Functions of Management Accounting Difference between Management Accounting Cost Accounting and Financial Accounting, Role and Responsibilities of a Management Accounting Concept and Application of Responsibility accounting.

UNIT III

Analysis of Financial Statements: Nature, functions and limitations of various financial statements to be prepared by corporate entitles analysis and interpretations of financial statements, objectives of analysis, salient features of the major tools of analysis ratio analysis, capital structure, ratios profitability ratios, turnover ratios, solvency ratios accounting.

UNIT IV

Major Cost Concepts: Classification of costs, cost-volume-profit analysis, marginal costing and its applications, standard costing and variance analysis, computation of material and labour variances analysis.

UNIT V

Budgetary Control: Concepts of budgetary control, types of budget, control, preparation of sales budget cash budget and flexible budget, zero base budgeting and performance budgeting, concept of management audit.

Practical:

1. Preparation of final accounts.
2. Study of financial statements prepared by various forms of organizations.
3. Applying ratios to assess financial strength.
4. Application of standard costing.
5. Application of marginal costing.
6. Preparation of various budgets.
7. Application of software packages in preparation of final accounts and management accounting.

Suggested Readings

- Dr. S.M. Shukla – Financial Accounting.
- Dr. S.K. Agrawal – Management Account
- Dr. ML Agrawal – Cost Account

I Semester

BUSINESS COMMUNICATION SKILL

Objective

Credit : 2 (2 + 0)

The course aims to make students proficient in written as well oral communication. The focus will be on business related communication.

Contents

UNIT I

Introduction to communication, Communication process, Barriers to Communication, Effective Communication, types of communication in organisations viz. Downward, Upward, Horizontal, Static Vs dynamic.

UNIT II

Non-Verbal Communication, Communication through clothes/ colours / space/ symbol, Body language and etiquettes, Interpersonal Communication, Self-concept and communication, Assertive Communication.

UNIT III

Types of business writing viz, News letters, Reports, Folders, Fact Sheets, Press release; Readership and writing style - human aspects of writing.

UNIT IV

Meetings - Planning for meeting, tips for chairing, opening, progress & ending, Behavior of ordinary members, the character of business meeting, Energies for meetings, Group discussions, brain storming sessions and presentations.

UNIT V

Handling personal communication - Letters, dictation, reading, problem solving, listening skills, self-talk, self - reflection, steps to personal creativity, public speaking.

Suggested Readings

- Bovee. 2008. *Business Communication Today*. 7th Ed. Pearson Edu.
- Brown L. 2006. *Communication Facts and Ideas in Business*. Prentice Hall.
- Lesikar. 2004. *Basic Business Communication*. McGraw Hill.
- Ramchandran KK, Lakshmi KK & Karthik KK. 2007. *Business Communication*. Macmillan.

I Semester

COMPUTERS FOR MANAGERS

Objective

Credit : 3 (1 + 2)

The course objective is to acquaint the students with the knowledge and use of computers and simple applications of computers in managerial decisions. Effort will also be made to provide them an orientation about the increasing role of computers in corporate/business world.

Contents

UNIT I

Concept of Computers- Brief History of Computers, Generation and Its Evolution, Characteristics of Computers, Hardware and Software, introduction to computer languages, Main Areas of Computers and their Applications; Types of Computers – Analog, Digital, Hybrid, General Purpose and Special Purpose Computers, Micro Computers, Mini-Computers, Main-frame Computers, and Super Computers.

UNIT II

Input-Output Devices, Storage Units (Disks, CD-ROM, DVD-ROM, Blue Ray Disk and tapes), Memory Types (Cache, RAM, ROM), Memory Units, Generation and types of Microprocessor.

UNIT III

Data and Information – Data Definition, Data Processing Systems, Data Type Numeric, Alphabetic, Audio, Graphic, and Video and Their Presentation; Data Processing- Introduction to Data Processing, Computer as a Tool For Data Processing, Data Processing Cycle, Data Processing Techniques, Data Analysis, Data Inputs and Outputs, Data Processing Management, , Data Security.

UNIT IV

Introduction to Operating Systems, MS Windows, and UNIX, MS Office (MS Word, MS Power Point, MS Excel, MS-Access and use of various management software's Like SPSS.

UNIT IV

Introduction to LAN, WAN, MAN, internet and search engines; Introduction to agri-portals like agriwatch.com, agmarknet.nic.in, echaupal.com

Suggested Readings

- Lucas. 2004. *Information Technology for Management*. McGraw Hill.
- Norton P. 1998. *Introduction to Computers*. 2nd Ed. Tata McGraw Hill.
- Rajaraman V. 2006. *Introduction to Information Technology*. Prentice Hall of India.

I Semester

AGRIBUSINESS ENVIRONMENT AND POLICY

Objective

Credit : 3 (3 + 0)

To expose learners to the environment in which the agri-business is conducted. Focus will be on understanding micro and macro environmental forces and their impact on agri-business.

Contents

UNIT I

Role of agriculture in Indian economy; problems and policy changes relating to farm supplies, farm production, agro processing, agricultural marketing, agricultural finance etc. in the country.

UNIT II

Structure of Agriculture - Linkages among sub-sectors of the Agribusiness sector; economic reforms and Indian agriculture; impact of liberalization, privatization and globalization on Agri business sector.

UNIT III

Emerging trends in production, processing, marketing and exports; policy controls and regulations relating to the industrial sector with specific reference to agro-industries.

UNIT IV

Agribusiness policies- concept and formulation; and new dimensions in Agri business environment and policy.

UNIT V

Agricultural price and marketing policies; public distribution system and other policies.

Suggested Readings

- Adhikary M. 1986. *Economic Environment of Business*. S. Chand & Sons.
- Aswathappa K. 1997. *Essentials of Business Environment*. Himalaya Publ.
- Francis Cherunilam 2003. *Business Environment*. Himalaya Publ.

MBA –107

I Semester

SEMINAR

Objective

Credit : 1 (0 + 1)

This course is content is designed to devlope presentation skills and enhance as well as inculcate business communication skills of students .

I Semester

INTERNET & DIGITAL MARKETING

credit 3(2+1)

UNIT-I -Introduction of Internet:

Needs of Internet, Advantage and Disadvantage of Internet, How Internet related involve in Human life, Fields of Internet used, World Wide Web,

UNIT-II - Terms to Be Familiar With:

Browser, download, upload, E-mail, Filter, Home Page, HTML (HyperText Markup Language), Search Engine, TCP/IP, URL, Web Browser, Exploring the Internet using Microsoft Internet Explorer, Internet Explorer 5.5 Standard Buttons Toolbar: Internet Explorer 5.5 Standard Buttons Toolbar, URL, Domains

UNIT-III -Communication

Basic elements of a communication system, Data transmission modes, Bandwidth, Baud Narrow band, Voice band, Broad Band, Data transmission Media, Hub, various Topologies of connectivity computers,

UNIT-IV -Internet Applications,

Static & Dynamic Components, E-Mail Work, various types of Network explain, Various types of Network explain, Communication Protocol, ISO/OSI Model,

UNIT-V -Web Marketing

Introduction to Web Marketing,

- The Significance of Web Marketing, Internal Measures for SEO, Link Building,

Introduction to AdWords,

- Online Advertising and Search Engines, **Display Network**, Advertising on Display Networks, Image Advertising, Mobile Advertising, Video Advertising, YouTube Advertising.

Social Media Advertising

- Creating Effective Content, Do and Don'ts for Social Media, Analysing Target Audience.

E-mail. Marketing:

- Creating E-mail Campaigns, Effective strategies for E-mail Marketing.

MBA-201

II Semester

MARKETING MANAGEMENT

Objective

Credit : 3 (3 + 0)

The objective of this course is to develop an understanding of the field of marketing. The focus will be on imparting knowledge of the basic concepts, tools, and functions of marketing.

Contents

UNIT I

The Concept of Marketing Management; Marketing Environment; Marketing Mix, Strategic Marketing, Market Segmentation, Targeting, and Positioning; Buyer Behavior, Marketing Information System, Marketing Organization and Control

UNIT II

Marketing potential and forecasting, Classification of Products; Product Life Cycle; New Product Development; Product Line and Product Mix; Branding, Packaging and labeling.

UNIT III

Factors affecting prices; Pricing Policies and Strategies; Pricing Methods.

UNIT IV

Types of Distribution Channels; Functions of Channel Members; Channel Management Decisions.

UNIT V

Promotion Mix; Introduction to Advertising, Personal Selling, Sales Promotion, Publicity and Public Relations. and Direct marketing, managing integrated marketing promotion, Customer Relationship Management.

Suggested Readings

- Brassington 1997. *Marketing Management*. Pitman Publ. House.
- Kotler P. 2002. *Marketing Management – Analysis, Planning, Implementation and Control*. Pearson Edu.
- McCarthy 2003. *Marketing Management*. Tata McGraw-Hill.
- Saxena R. 2002. *Marketing Management*. Mc Graw Hill.
- Stanton WJ, Etzel MJ & Walker BJ. 1996. *Fundamentals of Marketing*. McGraw-Hill.

II Semester

RESEARCH METHODOLOGY IN BUSINESS MANAGEMENT

Objective

Credit : 3 (3 + 0)

The objective of this course is to develop an understanding of research methodology. The focus will be on process and techniques of research.

Contents

UNIT I

Meaning, Course Objective, types, and process of research; research methodology in management-exploratory, descriptive, experimental, diagnostic, Problem formulation, setting of Course Objective, formulation of hypotheses.

UNIT II

Scales of measurement - nominal, ordinal, interval, ratio, Likert scale and other scales; Primary and secondary data, sources of data, instruments of data collection, data editing, classification, coding, validation, tabulation, presentation, analysis.

UNIT III

Concept of Sampling, Probability and non-probability sampling techniques including Simple Random Sampling, Stratified Sampling, Multi-stage Sampling, Systematic Sampling, Purposive Sampling, Quota sampling, judgment sampling, and convenience sampling, sample size determination, sampling and non-sampling errors.

UNIT IV

Role and uses of quantitative techniques in business decision making, Use of Equations, Use of Determinants and Matrices in business decisions, Frequency Distribution, Measures of Central Tendency, Measures of Variation, Skewness and Kurtosis, Simple, partial, and multiple correlation, rank correlation, simple and multiple regression, Discriminant and dummy variable analysis.

UNIT V

Index Numbers, Hypothesis testing, ANOVA, Factor analysis, cluster analysis, conjoint analysis, multi-dimensional analysis etc, Report writing: Types of report, essentials and contents of good report writing.

Suggested Readings

- Cooper DR & Schindler PS. 2006. *Marketing Research Concepts and Cases*. Tata McGraw Hill.
- Green PE, Tull DS & Albaum G. 1998. *Research for Marketing Decisions*. Prentice Hall of India.
- Kothari CR. 1989. *Research Methodology*. Wiley Eastern.
- Wilkinson & Bhandarker 1989. *Research Methods in Social Sciences*. Himalaya Publ. House.

II Semester FINANCIAL MANAGEMENT

Credits3(3+0)

OBJECTIVES:

The main objective of this course is to provide the students understanding of the basic concepts of financial management as it may serve as an information and interpretation tool. The students shall also be acquainted to various software packages, which help in financial management.

Unit-1

Introduction:

Concept of finance and finance function objective of financial management organization of finance function, Finance planning, Objective and consideration, Capitalization over and under capitalization.

Unit-II

Capital Structure Planning:

Optimum capital structure, Capital structure theories, Features of sound capital mix, Leverage- Financial and Operational Leverage, Source of finance.

Unit-III

Management of Current Assets:

Cash management motive for holding of cash, Control of cash collection and disbursement, Receivable management, Objectives of inventory management, Objectives of inventory control techniques.

Unit-IV

Management of Fixed Capital:

Capital budgeting, Features, Methods of capital budgeting.

Unit-V

Management of Earning:

Dividend and dividend policy, Objective and determinants of dividend policy, Stable dividend policy, Forms of dividend concept of lease financing, Hire purchase financing venture capital, Factoring, Economic Value added.

Suggested Reading:-

- | | |
|---------------------|----------------------|
| 1. S. N. Maheshvari | Financial Management |
| 2. Khan & Jain | Financial Management |
| 3. C. M. Shukla | Financial Management |
| 4. I. M. Pandey | Financial Management |

II Semester

PROJECT MANAGEMENT

Credit : 3 (3 + 0)

Objective

The objective of this course is to expose the learner to the fields of project management. Focus will be to train the students to develop their project.

Contents

UNIT I

- Project : definition, Meaning, Principles and Type.
- Project Management: Meaning, Scope and coverage.
- Participation: Meaning, Message, Definition. Nature and Scope.
- Planning: Meaning, Definition, Types and Goal.

UNIT II

- Tools for Data Collection:
- Survey, Case Study, Observation, experimental Method, schedule and questionnaire.
- PRA as a tools for understanding peoples perception, innovation, problems, priorities and project.
- PRA tools and application.

UNIT III

- Data processing and analysis
- Master table and standard table desining
- Project identification.
- FeasibilityAnalysis
- Project appraisal and budgeting. Network Methods: Meaning,
- Network Analysis, Requirements for Network Analysis, Critical Path Method (CPM), Programme Evaluation and Review Technique (PERT), Project scheduling and resource allocation.

UNIT IV

- Information Related to Funding Agencies.
- Financial appraisal Evaluation, discounted/non-discounted cash flows; Net present values, profitability index, Internal rate of returns; Cost benefits ratio; Accounting rate of return, Pay back period.
- Project Implementation: Meaning, Concept and Strategies.

UNIT V

- Project Monitoring : Steps, Job Description, Master and Status report.
- Project Evaluation : Concept, Purpose, Participants and preparation
- Project Planning and Management Practices.

Suggested Readings

- Chandra P. 2005. *Project Management*. Tata McGraw Hill.
- Gopal Krishan P & Nagarajan K. 2005. *Project Management*. New Age.
- Hisrich RD & Peters MP. 2002. *Entrepreneurship*. Tata McGraw Hill.
- Kaplan JM. 2003. *Patterns of Entrepreneurship*. John Wiley & Sons.
- Nandan H. 2007. *Fundamentals of Entrepreneurship Management*. Prentice Hall.
- Ramamoorthy VE. 2005. *Textbook of Project Management*. MacMillan.
- AGRO – Industrial Project Analysis – J.E. Austin.
- PRA by Robert Chambers.

II Semester
HUMAN RESOURCE MANAGEMENT

MBA-HRM-305

Credit3(3+0)

Unit-1

Introduction: Concept and evolution of personnel management and HRM, Difference between PM and HRM
Functions of HRM. Concept of HRD

Unit-II

HR Planning: Concept, Objective, Importance and Process. Recruitment: Meaning, process and sources :
selection process , test and types of test, interview and types of interview

Unit-III

Job Design: Meaning, concept, Job Analysis, Job description, Job specification, Job rotation, Job
enlargement, Job enrichment , Job evaluation. Promotion: objectives, types, promotion by seniority v/s
merit. Transfer: meaning purpose: Demotion, dismissal, suspension, discharge

Unit-IV

Training and Development: Difference between Training Education and Development. Need for training,
objectives of training, identifying training needs, training programme, advantages of training, characteristics
and objectives of management development(MD), Process of MD, MD Contents, Methods of MD

Unit-V

Performance Appraisal: Meaning Purpose, merit rating vs. performance evaluation, methods of performance
appraisal, MBO, potential appraisal

References:

Human Resource Management	N.K.Singh	Excel Books
Human Resource Management	T.N. Chabbra	Dhanpat Rai publication
Human Resource Management	Pattanayak	

II Semester

FARM BUSINESS MANAGEMENT

Objective

Credit : 3 (3+0)

To acquaint the students with the basic principles of farm management dealing with the analysis of farm resources having alternatives within the framework of resource restrictions.

Contents

UNIT I

Nature, scope, characteristics and role of farm business management; farm management decisions; farm management problems.

UNIT II

Principles of farm management decisions – principle of variable proportion, cost principle, principle of factor substitution, law of equi-marginal returns, opportunity cost principle, etc.

UNIT III

Tools of farm management and farm business analysis - farm planning and budgeting; Farm records and accounts, types and problems in farm records and accounts, net worth statement, farm efficiency measures.

UNIT IV

Management of farm resources – Land, Labour, Farm machinery, Farm building, etc.

UNIT V

Risk and uncertainty in farming -sources of uncertainty in farming, management strategy to counteract uncertainty and decision making process in farm business management under risks and uncertainty.

Suggested Readings

- Heady EO & Jensen H. 1960. *Farm Management Economics*. Prentice Hall.
- Johl SS & Kapoor TR. 1973. *Fundamentals of Farm Business Management*. Kalyani Publ.
- Kahlon AS & Singh K. 1992. *Economics of Farm Management in India*. Allied Publ.
- Panda SC. 2007. *Farm Management & Agricultural Marketing*. Kalyani Publ.

III Semester

PRODUCTION AND OPERATIONS MANAGEMENT

Objective

Credit : 3 (3+0)

The objective of this course is to expose the learner to the field of production and operations management. The focus will be on imparting knowledge of the basic concepts, tools, and functions of production management.

Contents

UNIT I

Nature and Scope of Production and Operations Management; Its relationship with Other Systems in the Organization; Factors Affecting System and Concept of Production and Operation Management; Facility location, Types of Manufacturing Systems and Layouts, Layout Planning and Analysis.

UNIT II

Productivity Variables and Productivity Measurement, Production Planning and Control, Mass Production, Batch Production, Job Order Manufacturing, Product Selection, Product Design and Development, Process Selection, Capacity planning.

UNIT III

Scheduling, Maintenance Management Concepts, Work Study, Method Study, Work Measurement, Work Sampling, Work Environment, Industrial Safety.

UNIT IV

An Overview of Material Management, Determination of Material Requirement, Purchase Management, Store Management, Logistics management, Material Planning and Inventory management, JIT, Safety Management.

UNIT V

Quality Assurance, Accepting Sampling, Statistical Process Control, Total Quality Management, ISO standards and their Importance, Introduction to re-engineering, value engineering. Kaizeh, Quality Circle Six-Sigma.

Suggested Readings

- Adam & Ebert. 2006. *Production and Operations Management: Concepts, Models and Behaviour*. 5th Ed. Prentice Hall of India.
- Buffa ES. 2008. *Modern Production/Operations Management*. Wiley India.
- Stevenson WJ. 2005. *Operations Management*. Tata McGraw Hill.

III Semester
MANAGEMENT OF AGRICULTURAL INPUT MARKETING

Objective

Credit : 3 (3 + 0)

The objective of this course is to give the students an understanding of different marketing concept and marketing system in context of agricultural inputs.

Contents

UNIT I

Agricultural input marketing – meaning and importance; Management of distribution channels for agricultural input marketing; Agricultural Inputs and their types – farm and non-farm, role of cooperative, public and private sectors in agri- input marketing.

UNIT II

Seed- Importance of seed input; Types of seeds- hybrid, high yielding and quality seeds; Demand and supply of seeds; Seed marketing channels, pricing, export-import of seeds; Role of NSC and State Seed Corporation.

UNIT III

Chemical Fertilizers- Production, export-import, supply of chemical fertilizers, Demand/consumption, Prices and pricing policy; subsidy on fertilizers; marketing system – marketing channels, problems in distribution; Role of IFFCO and KRIBCO in fertilizer marketing.

UNIT IV

Plant Protection Chemicals- Production, export/import, consumption, marketing system – marketing channels; Electricity/Diesel Oil- marketing and distribution system; pricing of electricity for agriculture use; subsidy on electricity.

UNIT V

Farm Machinery- Production, supply, demand, Marketing and distribution channels of farm machines; Agro-industries Corporation and marketing of farm machines / implements/Equipments.

Suggested Readings

- Acharya SS & Agarwal NL. 2004. *Agricultural Marketing in India*. 4th Ed. Oxford & IBH.
- Broadway AC & Broadway Arif A. 2003. *A Text Book of Agri-Business Management*. Kalyani.
- Singh AK & Pandey S. 2005. *Rural Marketing*. New Age.
- Singh Sukhpal 2004. *Rural Marketing- Focus on Agricultural Inputs*. Vikas Publ. House.

III Semester
AGRI-SUPPLY CHAIN MANAGEMENT

Objective

Credit : 3 (3 + 0)

The course introduces students to the concepts and processes of agricultural supply chain management, framework for structuring supply chain drivers; network designs, demand forecasting, inventory planning, sourcing decisions and IT enablement of supply chain.

Contents

UNIT I

Supply Chain: Changing Business Environment; SCM: Present Need; Conceptual Model of Supply Chain Management; Evolution of SCM; SCM Approach; Traditional Agri. Supply Chain Management Approach; Modern Supply Chain Management Approach; Elements in SCM.

UNIT II

Demand Management in Supply Chain: Types of Demand, Demand Planning and Forecasting; Operations Management in Supply Chain, Basic Principles of Manufacturing Management.

UNIT III

Procurement Management in Agri. Supply chain: Purchasing Cycle, Types of Purchases, Contract/Corporate Farming, Classification of Purchases Goods or Services, Traditional Inventory Management, Material Requirements Planning, Just in Time (JIT), Vendor Managed Inventory (VMI).

UNIT IV

Logistics Management: History and Evolution of Logistics; Elements of Logistics; Management; Distribution Management, Distribution Strategies; Pool Distribution; Transportation Management; Fleet Management; Service Innovation; Warehousing; Packaging for Logistics, Third-Party Logistics (TPL/3PL); GPS Technology.

UNIT V

Concept of Information Technology: IT Application in SCM; Advanced Planning and Scheduling; SCM in Electronic Business; Role of Knowledge in SCM; Performance Measurement and Controls in Agri. Supply Chain Management- Benchmarking: introduction, concept and forms of Benchmarking.

Suggested Readings

- Altekar RV. 2006. *Supply Chain Management: Concepts and Cases*. Prentice Hall of India.
- Monczka R, Trent R & Handfield R. 2002. *Purchasing and Supply Chain Management*.
- Thomson Asia. van Weele AJ. 2000. *Purchasing and Supply Chain Management Analysis, Planning and Practice*. Vikas Publ. House.

III Semester

BUSINESS LAWS AND ETHICS

Objective

Credit : 2 (2 + 0)

The objective of this course is to expose the learner to various ethical issues and laws affecting business. Focus will be on understanding provisions of various business laws and also ethical practices to conduct the business properly.

Contents

UNIT I

Introduction to Indian legal system, The Indian Contract Act-1872: Contract- meaning, nature, significance, types of contract, essentials of a valid contract, offer and acceptance, capacity to contract, free consent, performance of contract.

UNIT II

Companies Act-1956: incorporation, commencement of business, types of companies, management, winding of companies, Negotiable Instruments Act.

UNIT III

Essential Commodities Act, APMC Act, Consumer Protection Act, RTI Act, MRTP Act- major provisions and implications.

UNIT IV

Factory Act, Labour laws, Industrial dispute Act.

UNIT V

Nature and importance of ethics and moral standards; corporations and social responsibilities, scope and purpose of business ethics; Ethics in business functional areas; industrial espionage; solving ethical problems; governance mechanism.

Suggested Readings

- Gulshan SS & Kapoor GK. 2003. *Business Law including Company Law*. 10th Ed. New Age Publ.
- Kapoor ND. 2005. *Business Law*. S. Chand & Sons.
- Tulsain PC. 2006 *Business Law*. Tata McGraw Hill.
- Tuteja SK. 2005. *Business Law for Managers*. S. Chand & Sons.

III Semester

MANAGEMENT INFORMATION SYSTEMS

Objective

Credit : 3 (3 + 0)

The objective of this course is to develop an understanding and utility of MIS. The focus will be on imparting knowledge of the basic concepts, development, functions and usage of MIS.

Contents

UNIT I

The concept of MIS – Definition, importance, Course Objective, prerequisites, advantages and challenges; Information Needs of organization, MIS and Decision – Making.

UNIT II

Types/Classification of Information System for organizations – Office Automation Systems, Transaction Processing Systems, Decision Support System, Executive Support System, Knowledge Based Expert System.

UNIT III

Applications of MIS in the areas of Human Resource Management, Financial Management, Production/Operations Management, Materials Management, Marketing Management.

UNIT IV

Development of MIS for an organization – The concept and stages of System Development Life Cycle.

UNIT V

Information Technology– concept, applications, advantages and prerequisites, Choice of Information Technology, Social and Legal Dimension of IT.

Suggested Readings

- James O'Brien 1999. *Management Information System*. Tata McGraw-Hill.
- Laudon & Laudon. 2003. *Management Information System*. Pearson Edu.

(A) STREAM – HIGH TECH. AGRICULTURE (MAJOR ELECTIVE)

SEED PRODUCTION TECHNOLOGY AND MANAGEMENT

Objective

Credit : 3 (3+0)

To apprise students regarding principles and efficient management of seed production technology.

Contents

UNIT I

Seed Technology – Role of Seed Technology, its Course Objective and goal, Seed Industry in India, National Seed Corporation – Tarai Seed Development Corporation, State Seed Corporations, National Seed Project and State Farms and their role.

UNIT II

Development and Management of Seed Programmes – Seed Village Concept, Basic Strategy of Seed Production and Planning and Organization of Seed Programme; Types of Seed Programme – Nucleus seed, Breeders seed, Foundation seed and Certified seed etc.

UNIT III

Maintenance of genetic purity – Minimum seed certification standard and Management of breeders & Nucleus seed; Management of seed testing laboratory and research and development.

UNIT IV

Management of seed processing plant, seed storage management; seed packaging and handling.

UNIT V

Seed Marketing; GM Crop seed, IPR, PBR, Patents and related issues and their impact on developing countries; Statutory intervention in the seed industry; Seed legislation and seed law enforcement, Seed act; Orientation and visit to seed production farms, seed processing Units, NSC, RSSC, RSSCA and seed testing laboratories.

Suggested Readings

- Agrawal RL. 1997. *Seed Technology*. Oxford & IBH.
- Desai BB, Katecha PM & Salunkhe DK. 1997. *Seed Handbook: Biology, Production, Processing and Storage*. Marcel Dekker.
- Kelly A. 1988. *Seed Production of Agricultural Crops*. Longman.
- McDonald MB Jr. & Copeland LO. 1997. *Seed Production: Principles and Practices*. Chapman & Hall.
- Thompson JR. 1979. *An Introduction to Seed Technology*. Leonard Hill.

(A) STREAM – HIGH TECH. AGRICULTURE (MAJOR ELECTIVE)

FOOD TECHNOLOGY AND PROCESSING MANAGEMENT

Objective

Credit : 3 (3+0)

The objective of this course is to acquaint the students with different food processing techniques and their management.

Contents

UNIT I

Present status of food industry in India; Organization in food industry; Introduction to operations of food industry; Deteriorative factors and hazards during processing, storage, handling and distribution.

UNIT II

Basic principles of food processing and food preservation by manipulation of parameters and factors and application of energy, radiations, chemicals and biotechnological agents; Packaging of foods.

UNIT III

Analysis of costs in food organization; Risk management; Laws and regulations related to food industry and food production and marketing; Quality management – quality standards, PFA, ISO, etc.

UNIT IV

Case studies on project formulation in various types of food industries – milk and dairy products, cereal milling, oil-seed and pulse milling, sugarcane milling, honey production, baking, confectionery, oil and fat processing, fruits and vegetable storage and handling, processing of fruits and vegetables, egg, poultry, fish and meat handling and processing, etc.

Suggested Readings

- Acharya SS & Aggarwal NL. 2004. *Agricultural Marketing in India*. Oxford & IBH.
- Early R. 1995. *Guide to Quality Management Systems for Food Industries*. Blackie.
- Jelen P. 1985. *Introduction to Food Processing*. Reston Publishing.
- Potly VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH.

(A) STREAM – HIGH TECH. AGRICULTURE (MAJOR ELECTIVE)

MANAGEMENT OF FLORICULTURE AND LANDSCAPING

Objective

Credit : 3 (3 + 0)

To objective of this course is to expose the students with floriculture technology and its Agri business implications including international trade.

Contents

UNIT I

Introduction, importance and scope of floriculture industry; Recent advances in floriculture industry.

UNIT II

Evolution of new cultivars; and production technology of ornamental plants; special techniques for forcing of flowers for export.

UNIT III

Drying and dehydration of flowers; response of flowers to environmental conditions; importance and scope of landscape gardening.

UNIT IV

Style of gardening, Anesthetic and Socio-aesthetic planning of old and newly developed towns and cities; commercial cultivation of flower crops (rose, jasmine gladiolus, tuberose, marigold, aster, carnation, gerbera, cilium chrysanthemum; use of plant regulators in flower production.

UNIT V

Extraction, purification and storage of essential oils and perfumes; post harvest changes in cut flowers, storage and packing of cut flowers; determining optimum time of harvesting of flowers for export and home use.

Suggested Readings

- Chadha KL & Choudhary B. *Ornamental Horticulture in India*. ICAR.
- Grindal EW. *Every Day Gardening in India*. D.B. Tarporevala Sons.
- Randhawa GS & Mukhopadhyay A. *Floriculture in India*. Allied Publ.
- Randhawa MS. *Beautifying India*. Raj Kamal Publ.

(A) STREAM – HIGH TECH. AGRICULTURE (MAJOR ELECTIVE)

FERTILIZER TECHNOLOGY AND MANAGEMENT

Objective

Credit : 3 (3 + 0)

The objective of this course is to acquaint the students in latest advances in fertilizer technology management.

Contents

UNIT I

Fertilizer development – concept, scope, need, resource availability; import and export avenues for fertilizer; types of fertilizers, grading and chemical constituents, role of fertilizers in agricultural production, production and consumption of fertilizer in India.

UNIT II

Raw material needed and principles of manufacturing of nitrogenous, phosphatic and potassic fertilizers, secondary nutrient sources and micronutrient formulations.

UNIT III

Production efficiency and capacity utilization; quality control and legal aspects- fertilizer control order.

UNIT IV

Testing facilities; constraints in fertilizer use and emerging scenario of fertilizer use; assessment of demand and supply of different fertilizers, fertilizer distribution, fertilizer storage.

UNIT V

Field trials and demonstration, fertilizer pricing policy; scope of biofertilizer; environmental pollution due to fertilizer use.

Suggested Readings

- Brady NC & Weil RR. 2002. *The Nature and Properties of Soils*. 13th Ed. Pearson Edu.
- *Fertilizer Control Order* (different years). Fertilizer Association of India, New Delhi.
- *Fertilizer Statistics* (different years). Fertilizer Association of India, New Delhi
- *Indian Journal of Fertilizers* (different years). Fertilizer Association of India, New Delhi.
- San Chilli V. 1960. *Chemistry and Technology of Fertilizers*. American Chemical Soc. Monograph Series. Reinhold Publ. Corp.
- Tisdale SL, Nelson WL, Beaton JD & Havlin JL. 2002. *Soil Fertility and Fertilizers*. 5th Ed. Prentice Hall.

(A) STREAM – HIGH TECH. AGRICULTURE (MAJOR ELECTIVE)

MANAGEMENT OF AGRO CHEMICAL INDUSTRY

Objective

Credit : 3 (3 + 0)

To familiarize the students with the agrochemicals, their structure, classification and development and also how to manage the agro-chemical industries.

Contents

UNIT I

Agro-chemicals: Definition and classification; Basic knowledge of agrochemicals; role and status of agro-chemical industry in India; Pesticides – Classification and Introduction, knowledge of different pesticides.

UNIT II

Insecticides – Definition and classification based on (a) Mode of Entry (b) Mode of Action and (c) Chemical Structure with example; Insecticidal formulation; preliminary knowledge of mode of action of insecticides; knowledge of plant protection equipments.

UNIT III

Fungicides – Classification and preliminary knowledge of commonly used fungicides; Biomagnifications of pesticides and pesticidal pollution.

UNIT IV

Introductory knowledge about development of agro-chemicals; Insecticidal poisoning, symptoms and treatment; Main features of Insecticide Act.

UNIT V

Directorate of Plant Protection, Quarantine and Storage – A brief account of its organizational set up and functions; IPM Concept – Bio-pesticides – Plant products.

Suggested Readings

- Dhaliwal GS, Singh R & Chhillar BS. 2006. *Essentials of Agricultural Entomology*. Kalyani.
- Hayes WT & Laws ET. 1991. *Hand Book of Pesticides*. Academic Press.
- Matsumura F. 1985. *Toxicology of Insecticides*. 2nd Ed. Plenum Publ.
- Rajeev K & Mukherjee RC. 1996. *Role of Plant Quarantine in IPM*. Aditya Books.

(A) STREAM – HIGH TECH. AGRICULTURE (MAJOR ELECTIVE)

OPERATIONS RESEARCH

Objective

Credit : 3 (3+0)

The objective of this course is to acquaint the learner with the applications of some important Operations Research techniques. Focus will be on understanding the use of these techniques in solving business problems.

Contents

UNIT I

Linear Programming: Objective, Assumptions, Formulation of Linear Programming Problem, Graphic Method, Simplex method, Transportation and Assignment Problems.

UNIT II

Inventory control Models: Costs Involved in Inventory Management, Types of Inventory, Economic Order Quantity (EOQ) Model, Continuous Review (Q) System, Periodic Review (P) System, Hybrid System, Simulation.

UNIT III

Waiting Line Models: Waiting Line Problem, Characteristics of a Waiting-Line System, Single- Channel Model, Multiple-Channel Model, Constant-Service Time Model, Finite Population Model, Sequencing and Replacement models.

UNIT IV

Decision making under Risk and uncertainties, Decision problem, Maximax Criterion, Maximin Criterion, Minimax Regret Criterion, Laplace Criterion, Pay off Tables, Decision Trees, Expected Value of perfect Information.

UNIT V

Game Theory - Two -Person Zero-Sum Game, Simulation, Network analysis – PERT & CPM.

Suggested Readings

- Cook TM & Russell RA. 1989. *Introduction to Management Science*. Prentice Hall.
- Taha HA. 2005. *Operations Research - An Introduction*. Prentice Hall.
- Vohra ND. 2006. *Quantitative Techniques in Management*. McGraw Hill.
- Wagner HM. 2005. *Principles of Operation Research*. Prentice Hall.

(B) STREAM – FOOD INDUSTRY (MAJOR ELECTIVE)

QUALITY MANAGEMENT IN FOOD INDUSTRY

Objective

Credit : 3 (3+0)

The objective of this course is to acquaint the students with different techniques in quality management.

Contents

UNIT I

Meaning and Importance of Quality, Important Definitions, Quality Control Vs. Quality Management, Food quality attributes, Panel test and Hedonic test for food quality.

UNIT II

Requirement of quality system and standards, Components of Total Quality Management (TQM), Customer centered environment, maximizing value adding efforts.

UNIT III

Tools and Techniques of TQM, TQM implementation, Installation of Quality systems, Documentation of Quality systems.

UNIT IV

Internal Quality system audit, Continuous improvement through elimination of wastes. Planning for continuous improvement, Process Management for Quality, HACCP in Food Industry.

UNIT V

Quality function development, Quality systems economics, Quality systems certifications, Food Quality vis-à-vis PFA, FPO, BIS, AGMARK, ISO.

Suggested Readings

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(B) STREAM – FOOD INDUSTRY (MAJOR ELECTIVE)

FOOD TECHNOLOGY AND PROCESSING MANAGEMENT

Objective

Credit : 3 (3+0)

The objective of this course is to acquaint the students with different food processing techniques and their management.

Contents

UNIT I

Present status of food industry in India; Organization in food industry; Introduction to operations of food industry; Deteriorative factors and hazards during processing, storage, handling and distribution.

UNIT II

Basic principles of food processing and food preservation by manipulation of parameters and factors and application of energy, radiations, chemicals and biotechnological agents; Packaging of foods.

UNIT III

Analysis of costs in food organization; Risk management; Laws and regulations related to food industry and food production and marketing; Quality management – quality standards, PFA, ISO, etc.

UNIT IV

Case studies on project formulation in various types of food industries – milk and dairy products, cereal milling, oil-seed and pulse milling, sugarcane milling, honey production, baking, confectionery, oil and fat processing, fruits and vegetable storage and handling, processing of fruits and vegetables, egg, poultry, fish and meat handling and processing, etc.

UNIT V

Farm level application of farm techniques and PHT, Possibilities using value addition, concept at producers level.

Suggested Readings

- Acharya SS & Aggarwal NL. 2004. *Agricultural Marketing in India*. Oxford & IBH.
- Early R. 1995. *Guide to Quality Management Systems for Food Industries*. Blackie.
- Jelen P. 1985. *Introduction to Food Processing*. Reston Publishing.
- Potly VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH.

(B) STREAM – FOOD INDUSTRY (MAJOR ELECTIVE)

FOOD RETAIL MANAGEMENT

Objective

Credit : 3 (3 + 0)

The objective of this course is to assist students in understanding the structure and working of food marketing system in India, to examine how the system affects farmers, consumers and middlemen and to illustrate the response of this dynamic marketing system to technological, socio-cultural, political and economic forces over time.

Contents

UNIT I

Introduction to International Food market, India's Competitive Position in World Food Trade, Foreign Investment in Global Food Industry, Retail management and Food Retailing, The Nature of Change in Retailing, Organized Retailing in India, E-tailing and Understanding food preference of Indian Consumer. Food consumption and Expenditure pattern, Demographic and Psychographic factors affecting Food Pattern of Indian Consumer.

UNIT II

Value Chain in Food Retailing, Principal trends in food wholesaling and retailing, food wholesaling, food retailing, the changing nature of food stores, various retailing formats, competition and pricing in food retailing, market implications of new retail developments, value chain and value additions across the chain in food retail, food service marketing.

UNIT III

4 P's in Food Retail Management, Brand Management in Retailing, Merchandise pricing, Pricing Strategies used in conventional and nonconventional food retailing, Public distribution system, Promotion mix for food retailing, Management of sales promotion and Publicity, Advertisement Strategies for food retailers.

UNIT IV

Managing Retail Operations, Managing Retailers' Finances, Merchandise buying and handling, Merchandise Pricing, Logistics, procurement of Food products and Handling Transportation of Food Products.

UNIT V

Retail Sales Management Types of Retail Selling, Salesperson selection, Salesperson training, Evaluation and Monitoring, Customer Relationship Management, Managing Human Resources in retailing, Legal and Ethical issues in Retailing.

Suggested Readings

- Berman & Evans. 2008. *Retail Management: A Strategic Approach*. 10th Ed. Prentice Hall of India.
- Cox. 2006. *Retailing: An Introduction*. 5th Ed. Pearson Edu.
- Levy M & Weitz BW. 2004. *Retailing Management*. 5th Ed. McGraw Hill.

(B) STREAM – FOOD INDUSTRY (MAJOR ELECTIVE)

MANAGEMENT OF BIO-TECH. INDUSTRY

Credit : 3 (3 + 0)

Contents

UNIT I

Agricultural need and application of bio-technology for agricultural uses and benefits, tissue culture.

UNIT II

Disease surveillance and diagnostics industries, Concept of Bio-tech industries, scope of bio-tech industries in food industries.

UNIT III

Bio process engineering and quality products.

UNIT IV

Productivity based industries, their structure, quality parameters, marketing property rights.

UNIT V

Biodiversity concepts and social and legal implications

(C) STREAM – ANIMAL HUSBANDRY INDUSTRY (MAJOR ELECTIVE)

TECHNOLOGY MANAGEMENT FOR LIVESTOCK

PRODUCTS

Credit : 3 (3 + 0)

Objective

To impart knowledge about management of livestock products, product development, quality control, preservation and marketing strategies for livestock products.

Contents

UNIT I

Present status of livestock products industry in India – dairy, meat poultry, skin, hides, wool, etc; Dairy Products- Manufacturing technologies of various dairy products and by-product utilization.

UNIT II

Meat and Poultry Products- Manufacturing technologies of meat and meat products, egg and poultry products; production processing and utilization of wool and animal by-products.

UNIT III

Plant Management- Production planning and control needs and techniques of production control, packaging, preservation and storage system for livestock products; transportation system for domestic markets and international markets.

UNIT IV

Quality control measures during storage and transit; extent of losses during storage and transport, management measures to minimize the loss.

UNIT V

Marketing and distribution of animal products; quality standard for various products; environmental and legal issues involved.

Suggested Readings

- Forrest JC. 1975. *Principles of Meat Science*. Freeman Publ.
- Gracey 1999. *Thorntons Meat Hygiene*. WB Saunders. Mountney GJ. *Poultry Products Technology*. 2nd Ed. AVI Publ.
- Ockerman & Hansen. 2002. *Animal Byproducts Processing and Utilization*. CRC Publ.
- Pearson AM & Gillett TA. 1996. *Processed Meat*. 3rd Ed. Chapman & Hall.
- Robertson GL. 1993. *Food Packaging Principles and Practices*. Marcel Dekker.
- Stadelman W & Cotterill OJ. 2002. *Eggs Science and Technology*. 4th Ed. CBS.
- Sukumar De 1980. *Outlines of Dairy Technology*. Oxford Univ. Press.
- Walstra et al. 2006. *Dairy Science and Technology*. 2nd Ed. Taylor & Francis.
- Yadav 1993. *Comprehensive Dairy Microbiology*. Metropolitan Publ.

(C) STREAM – ANIMAL HUSBANDRY INDUSTRY (MAJOR ELECTIVE)

FEED BUSINESS MANAGEMENT

Objective

Credit : 3 (3 + 0)

To acquaint the students with the role and importance of feed industry and the production of feed for livestock and poultry.

Contents

UNIT I

Present status of feed resources; gap between demand and availability of nutrients; status of feed industry in India and world, constraints in the development of Indian feed industry.

UNIT II

Nutrients requirements of livestock and poultry; feed stuff and their origin; scientific storage of feeds and feed ingredients; protection of protein and fat.

UNIT III

Processing of feeds, layout and design of feed plants, feed plant management; feed preparation for fish and pet animals, specialty feeds.

UNIT IV

Importance and preparation of mineral mixture; feed additives and supplements, feed mixing, principles of mixing and compounding of feeds; improving the feeding value of poor quality roughages.

UNIT V

Distribution channels, regulations relating to manufacture and sale of feed stuffs.

Suggested Readings

- Gohl BO. 1981. *Tropical Feeds*. FAO.
- McElhenny Robert R. 1994. *Feed Manufacturing Technology*. American Feed Industry Assoc.
- Pfost Harry B. 1976. *Feed Manufacturing Technology*. American Feed Industry Assoc.
- Rajgopalan K. *Feed Industry Red Book*. ZMAG Publication.
- Rajgopalan K. 1989. *Storage Structures*. Oxford & IBH.

(C) STREAM – ANIMAL HUSBANDRY INDUSTRY (MAJOR ELECTIVE)

POULTRY AND HATCHERY MANAGEMENT

Objective

Credit : 3(3 + 0)

The course provides an insight into the importance of management in poultry industry, managing a poultry and hatchery enterprise, planning production of poultry products, financial, personnel and marketing management.

Contents

UNIT I

Poultry and hatchery industry; role of management in poultry industry.

UNIT II

Planning and establishing a poultry and hatchery unit- location, size and construction; farm and hatchery equipments and physical facilities; organizing and managing a poultry farm and hatchery.

UNIT III

Incubation and hatching; production of quality chicks and eggs; factors affecting hatchability; bio-security and hatchery sanitation; handling of hatching eggs; maintaining chick quality-chick grading, sexing, packing, dispatch , transportation and chick delivery.

UNIT IV

Franchise hatcheries; custom hatching; brooding; growing and laying management; crisis management; industrial breeding, feeding, housing and disease management; waste management; Record management; cost accounting and budgetary control.

UNIT V

Risks and insurance; personal management- labour relations including wages and salaries, job evaluation and employee appraisal; marketing management-direct sale and sale through franchisees/ agents, advertisement, sale and after sale services, other innovative sales strategies.

(C) STREAM – ANIMAL HUSBANDRY INDUSTRY (MAJOR ELECTIVE)

DAIRY CATTLE PRODUCTION AND MANAGEMENT

Credit : 3 (3 + 0)

Contents

UNIT I

Dairy animals: their significance and importance in Indian economy, Their current status and problems. Breeds of cattle, their classification, distribution and performance with regards to economic traits.

UNIT II

Systems of breeding; Artificial breeding (semen collection, AI method) and their utility for improvement of dairy cattle. Judging of different classes and categories of dairy animals.

UNIT III

Basis of selection, selection methods and selection criteria involved in selecting dairy cattle. Feeding practices for different classes and categories of dairy cattle, their balanced and ideal feeding, computation of ration.

UNIT IV

Management of dairy animals: their housing for different classes and categories, system of housing, their location, space requirement, layout and construction. Management of breeding herd, care of down calves and newly born calves. Management of milking animals and milking for clean milk production, management of pregnant cow.

UNIT V

Factors affecting milk production, its handling on the farm and disposal. Dairy records, their importance and up keep. Economics of milk production. Herd health management: Vaccination programme and control of important diseases like – Anthrax, B.Q., H.S., FMD, R.P. and Mastitis.

Suggested Readings

- Text Book of Animal Husbandry – G.C. Banarjee.
- Hand Book of Animal Husbandry – ICAR.
- Bovine Production – Thomas and Shastri.

(C) STREAM – ANIMAL HUSBANDRY INDUSTRY (MAJOR ELECTIVE)

MANAGEMENT OF VETERINARY HOSPITALS

Objective

Credit : 3 (3 + 0)

The objective of this course is to acquaint the students about the designing, planning, organizing, and controlling the veterinary hospitals for optimizing the use of space, capital, skill and other resources.

Contents

UNIT I

Needs, aims and objectives of Veterinary hospitals; the existing and simulated situations under which veterinary hospitals work or are to work.

UNIT II

Designing and planning an ideal hospital; optimizing the use of resources - human, space, equipment, drugs, time, capital, etc.; Materials management and problems Normal purchase procedure. Receipt; storage and distribution of materials Cost reduction & scientific inventory control. Information system and materials management performance. Equipment maintenance, condemnation & disposal.

UNIT III

Defining authority, responsibility and accountability of management for optimizing the use of skill, developing and upgrading skills and technology; efficient system of record keeping and accounting; Concept of quality & Total quality management (T.Q.M) Introduction to Veterinary audit, Statistical quality control (S.Q.C.), Quality control Circle (Q.C.C.).

UNIT IV

Hospital information system as an aid to efficient controlling and monitoring; need for financial resources - investment and working capital; Records: Types & Methodology, Reports and Reporting system. Contemporary and need-based methods of accounting; General consideration. Need based information system. Applicability in surveillance & monitoring; planning & policy making; cost control.

UNIT V

Economic functions and quality control system; Animal health Economics: An introduction Need for financial resources (type and need). Investment planning and working capital; Budgeting and cost cutting (cost control).legal aspects in the functioning of the hospital.

(D) STREAM – FARM ENGINEERING MANAGEMENT (MAJOR ELECTIVE)

FARM POWER & MACHINERY MANAGEMENT

Objective

Credit : 3 (3 + 0)

To acquaint the students with the farm mechanization status in the country and various techniques for farm machinery management and marketing.

Contents

UNIT I

Various sources of farm power, their availability and utilization; Course Objective, importance and present status, level and the scope of farm mechanization.

UNIT II

Tractor and power tillage industry – model, make, capacity, production, present status and future prospects; concept of zero tillage.

UNIT III

Farm machinery selection for different size of farm size and for different agro-climatic conditions; scheduling of farm operations for higher efficiencies, indices of machine performance.

UNIT IV

Cost analysis of operations using different implements, economic performance of machines, optimization of tractor implements system and transport of farm produce.

UNIT V

Agricultural equipments industry – their production, marketing and constraints; establishment of agricultural engineering enterprises (agro service centers, etc.).

Suggested Readings

- Carville LA. 1980. *Selecting Farm Machinery*. Louisiana Coop. Extn. Service Publ.
- FAO 1984. *Agricultural Engineering in Development: Selection of Mechanization*. Agric. Service Bull.
- Hunt D. 1977. *Farm Power and Machinery Management*. Iowa State Univ. Press.
- Waters WK. 1980. *Farm Machinery Management Guide*. Pennsylvania Agric. Extn. Service Spl. Circular No. 1992.

(D) STREAM – FARM ENGINEERING MANAGEMENT (MAJOR ELECTIVE)

MANAGEMENT OF IRRIGATION SYSTEM

Credit : 3 (3 + 0)

UNIT I

Introduction: Irrigation Principles, Importance and Scope, Water Recharging System, Water Resources and their Types.

UNIT II

Water requirement of crop and irrigation efficiencies and measurement of water.

UNIT III

Land development and field layout for irrigation. Sources of irrigation.

UNIT IV

Method of Irrigation: Flood, check basin, ring, furrow, border, sprinkler and trickle irrigation, drip, Border strip.

UNIT V

Cost involve in different irrigation system, suggestions for improvement of efficiency of water, water holding capacity of soil.

Suggested Readings

- Irrigation Theory & Practice by A.M. Miches.
- Irrigation & Hydraulic stractive by S.K. Garg.
- Irrigation & dranage by Sharma & Sharma.
- Hkwfe lq/kkj ds izk;ksfxd fl)kar-

(D) STREAM – FARM ENGINEERING MANAGEMENT (MAJOR ELECTIVE)

MANAGEMENT OF WATERSHED DEVELOPMENT

Credit : 3 (3 + 0)

UNIT I

Introduction: Definition of watershed, objectives, scope and components of watershed management.

UNIT II

Surveys for Watershed Planning: General description of watershed, engineering and topographic survey, soil and land use capability survey, present land use and agriculture, human resources and socio-economics survey live-stock resources, infrastructure, industries etc.

UNIT III

Soil and Water Conservation Measures: Agronomic and engineering practices for soil and water conservation, water harvesting and recycling.

UNIT IV

Crop Management System: Crop management for dryland farming.

UNIT V

Alternate land use systems: Integration of horticulture, forestry and grassland management. Evaluation of watershed programme.

Suggested Readings

- Watershed management – ICAR publication.
- Soil & Water Conservation Engineering Authors Shwebct.
- Principles of Agricultural Engg. Vol. II by H.M. Michel, T.R. Ojha.

OPEN ELECTIVE
RURAL MARKETING

Objective

Credit : 3 (3+0)

To objective of this course is to develop understanding regarding issues in rural markets like marketing environment, consumer behaviour, distribution channels, marketing strategies, etc.

Contents

UNIT I

Concept and scope of rural marketing, nature and characteristics of rural markets, potential of rural markets in India, rural communication and distribution.

UNIT II

Environmental factors - socio-cultural, economic, demographic, technological and other environmental factors affecting rural marketing.

UNIT III

Rural consumer's behaviour - behavior of rural consumers and farmers; buyer characteristics and buying behaviour; Rural v/s urban markets, customer relationship management, rural market research.

UNIT IV

Rural marketing strategy - Marketing of consumer durable and non-durable goods and services in the rural markets with special reference to product planning; product mix, pricing Course Objective, pricing policy and pricing strategy, distribution strategy.

UNIT V

Promotion and communication strategy - Media planning, planning of distribution channels, and organizing personal selling in rural market in India, innovation in rural marketing.

Suggested Readings

- Krishnamacharyulu C & Ramakrishan L. 2002. *Rural Marketing*. Pearson Edu.
- Ramaswamy VS & Nanakumari S. 2006. *Marketing Management*. 3rd Ed. MacMillan Publ.
- Singh AK & Pandey S. 2005. *Rural Marketing*. New Age.
- Singh Sukhpal. 2004. *Rural Marketing*. Vikas Publ. House.

OPEN ELECTIVE

MANAGEMENT OF AGRIBUSINESS COOPERATIVES

Objective

Credit : 3 (3 + 0)

To provide the students an understanding about the agribusiness cooperative organizations and their management.

Contents

UNIT I

Cooperative administration- a global perspective, ecology of cooperative administration, cooperative sector and economic development.

UNIT II

Cooperative management- nature, functions and purpose of cooperatives – procurement, storage, processing, marketing, process of cooperative formation, role of leadership in cooperative management.

UNIT III

The state and cooperative movement, effects of cooperative law in management, long range planning for cooperative expansion, policy making.

UNIT IV

Human resource management, placement and role of board of directors in cooperative management.

UNIT V

Overview of agribusiness cooperative – credit cooperatives, cooperative marketing, dairy cooperative; financing agribusiness cooperative.

Suggested Readings

Akmat JS. 1978. *New Dimensions of Cooperative Management*. Himalaya Publ. House.

Ansari AA. 1990. *Cooperative Management Patterns*. Anmol Publ.

Sah AK. 1984. *Professional Management for the Cooperatives*. Vikas Publ. House.

OPEN ELECTIVE

INTERNATIONAL TRADE AND SUSTAINABILITY GOVERNANCE

Objective

Credit : 3 (3 + 0)

To impart knowledge to the students of international trade in agriculture and various provisions under WTO in the new trade regime.

Contents

UNIT I

International trade – basic concepts, WTO and its implications for Indian economy in general and agriculture sector in particular.

UNIT II

TRIPS, TRIMS quotas, anti dumping duties, quantitative and qualitative restrictions, tariff and non-tariff measures, trade liberalization, subsidies, green and red boxes, issues for negotiations in future in WTO; CDMs and carbon trade.

UNIT III

Importance of foreign trade for developing economy; absolute and comparative advantage, foreign trade of India.

UNIT IV

Composition of India's foreign trade policy; India's balance of payments; inter regional Vs international trade; tariffs and trade control; exchange rate; the foreign trade multiplier.

UNIT V

Foreign demand, supply side analysis, opportunity cost, trade and factor prices, implications for developing countries, market entry methods, export procedures & documentations.

Suggestive Readings

- Chadha GK. 2003. *WTO and Indian Economy*. Deep & Deep. *Economic Survey of India*. Ministry of Finance, Govt. of India. (various issues)
- HAU 2003. *Refresher Course on Technological Interventions to Face WTO Challenges*. AAREM & HRD CCS HAU Hisar. *Indian Journal of Agricultural Economics*
- Vasisht AK & Singh Alka. 2003. *WTO and New International Trade Regime- Implication for Indian Agriculture*. Advance Publ. Concept.

OPEN ELECTIVE
AGRICULTURAL MARKETING MANAGEMENT

Objective

Credit : 3 (3 + 0)

The objective of this course is to give the students an understanding of concept, various policies, strategies and decisions relating to marketing that can be developed by agribusiness firms.

Contents

UNIT I

Meaning and scope, agricultural marketing and economic development; Agricultural market structure – meaning, components and dynamics of market structure; marketing strategy – meaning & significance, formulation of marketing strategy; agribusiness marketing environment, design of marketing mix, market segmentation and targeting, determinants of consumer's behaviour.

UNIT II

Product management - product management process and decisions, new product development – significance and classification of new product, stages and estimation of demand of new product; product life cycle.

UNIT III

Pricing policies and practice for agribusiness - determinants of price, objectives of pricing policies and pricing methods.

UNIT IV

Promotional management - advertising planning and execution; sales promotion; grading and standardization.

UNIT V

Distribution management - storage and warehousing and transportation management for agricultural products; marketing agencies/intermediaries – roles and functions; distribution channels involved in agribusiness.

Suggested Readings

- Acharya SS & Agarwal NL. 2004. *Agricultural Marketing in India*. 4th Ed. Oxford & IBH.
- Kohls RL & Uhj JN. 2005. *Marketing of Agricultural Products*. 9th Ed. Prentice Hall.
- Kotler P. 2002. *Marketing Management – Analysis, Planning, Implementation and Control*. Pearson Edu.
- Krishnamacharyulu C & Ramakrishan L. 2002. *Rural Marketing*. Pearson Edu.
- Ramaswamy VS & Nanakumari S. 2002. *Marketing Management*. 2nd Ed. Mac Millan India.

OPEN ELECTIVE

PROJECT MANAGEMENT AND APPRAISAL

Credit : 3 (3 + 0)

UNIT I

Definition project identification, characteristics of project, steps of project formulation, planning needed for project, managerial functions Vs. project management, modern approach of project management.

UNIT II

Planning and preparation of macro level project-irrigation, cropping systems, animal husbandry, plantations, forestry, fisheries and agro-processing units.

UNIT III

Procedures for preparation of project proposal on crops, dairy, poultry, horticultural crops, forest enterprise, and fisheries, data requirements and their format, evaluation of projects.

UNIT IV

Cash flow analysis and discounting procedure, use of decision criteria – NPV, BC ratio, pay back period and IRR in decision making, sensitivity analysis. Methods of project monitoring and control, net work analysis PERT and CMP quantitative techniques of evaluation projects.

UNIT V

SWOT technique, source of projects, external evaluation and internal evaluation, project appraisal meaning and scope, types of project appraisal technical, commercial, financial, economic and management appraisal.

Suggestive Readings

- Project Evaluation – Robert L. Kimmons and James II, Lowevee.
- Project Evaluation – Madan Mohan.
- Project Management – N.C. Goel

OPEN ELECTIVE
ENVIRONMENTAL MANAGEMENT

Credit : 3 (3 + 0)

Contents

UNIT I

Environmental management : Some problems and prospects; Environmental management : Some Issues; Environmental Management : A Framework. Ecosystem pollution and Environmental management.

UNIT II

Conceptualization, classification and management of resources, Plant Resources and Utilization. Environment and Development : A Study on the Impact of Natural Resources.

UNIT III

Human Response to Environment, Environmental crisis, Hill slope farming and environmental degradation; Wastelands; A case for environmental management; Land uses and problems.

UNIT IV

Flood hazards and environmental degradation; Thermal power projects, Influence of meteorological factors of Air on Pollutant, Slow poisoning and Urban Environment.

UNIT V

Basic issues in management of environment; Environmental management and role of law; Environmental problems and planning and conservation.

Suggestive Readings

- Singh, Savindra; Environmental Manageemnt 1983.
- Singh; L.R., R.C. Tiwari and R.P. Srivastava; Environmental management.
- Agrawal S.K.; Industrial Pollution.