

**Integral University, Lucknow**  
**Integral Institute of Agricultural Science and Technology**  
**Evaluation Scheme of Postgraduate program**  
**MBA Agribusiness Management**  
**w.e.f. Session 2018-19**

**Semester – III**

Course Code	Subject	Periods per week			Evaluation Scheme Theory Mid sem			Evaluation Scheme Practical Mid sem			End Sem Practical Exam	Sub Total (Sessional + Practical Exam)	End Sem Theory Exam	Subject total		Total Points
		L	T	P	CT	TA	Total	CT	TA	Total						
BM561	Research Methodology in Business Management	2	0	2	20	10	30	-	-	-	20	20	50	100	2:0:1	3
BM562	Project Management and Entrepreneurship Development	2	0	0	20	10	30	-	-	-	-	-	70	100	2:0:0	2
BE561	Food Technology & Processing Management	2	0	0	20	10	30	-	-	-	-	-	70	100	2:0:0	2
AG561	Management of Agro-chemical Industry	2	0	0	20	10	30	-	-	-	-	-	70	100	2:0:0	2
AG562	Seed Production Technology and Management	2	0	0	20	10	30	-	-	-	-	-	70	100	2:0:0	2
BM563	Management of Agricultural Input Marketing	2	0	0	20	10	30	-	-	-	-	-	70	100	2:0:0	2
BM564	Agri-supply Chain Management	2	0	0	20	10	30	-	-	-	-	-	70	100	2:0:0	2
PGS501	Library and Information Services	0	0	2	-	-	-	-	20	5	25	75	-	100	0:0:1	1*
	<b>Total</b>	<b>14</b>		<b>02</b>												<b>15+1*</b>

\* Non- Courses

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Research Methodology in Business Management**  
**Paper Code: BM561**  
**w.e.f. Session 2018-19**

3(2+1)

**Objective**

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.  
Wilkinson & Bhandarker 1989. *Research Methods in Social Sciences*. Himalaya Publ. House.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Project Management and Entrepreneurship Development**  
**Paper Code: BM562**  
**w.e.f. Session 2018-19**

2(2+0)

**Objective**

The objective of this course is to expose the learner to the fields of project management and entrepreneurship development. Focus will be to train the students to develop new projects and encouraging them to start their own ventures.

**Contents**

**UNIT I**

Concept, characteristics of projects, types of projects, project identification, and Project's life cycle.

**UNIT II**

Project feasibility- market feasibility, technical feasibility, financial feasibility, and economic feasibility, social cost-benefit analysis, project risk analysis.

**UNIT III**

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**

Financial appraisal/evaluation techniques- 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; Cost over run, Project control and information system.

**UNIT V**

Entrepreneurship, Significance of entrepreneurship in economic development qualities of entrepreneur, entrepreneurship development programs and role of various institutions in developing entrepreneurship, life cycles of new business, environmental factors affecting success of a new business, reasons for the failure and visible problems for business, Developing effective business plans, Procedural steps in setting up of an industry.

**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.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Food Technology & Processing Management**  
**Paper Code: BE561**  
**w.e.f. Session 2018-19**

2(2+0)

**Objective**

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.  
Potly VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Management of Agro-chemical Industry**  
**Paper Code: AG561**  
**w.e.f. Session 2018-19**

**2(2+0)**

**Objective**

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 Publishers.

Rajeev K & Mukherjee RC. 1996. *Role of Plant Quarantine in IPM*. Aditya Books.

Hayes WT & Laws ET. 1991. *Hand Book of Pesticides*. Academic Press.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Seed Production Technology and Management**  
**Paper Code: AG562**  
**w.e.f. Session 2018-19**

2(2+0)

**Objective**

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.

McDonald MB Jr. & Copeland LO. 1997. *Seed Production: Principles and Practices*. Chapman & Hall.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Management of Agricultural Input Marketing**  
**Paper Code: BM563**  
**w.e.f. Session 2018-19**

2(2+0)

**Objective**

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:**

Singh AK & Pandey S. 2005. *Rural Marketing*. New Age.

Singh Sukhpal 2004. *Rural Marketing- Focus on Agricultural Inputs*. Vikas Publ. House.

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.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Agri-supply Chain Management**  
**Paper Code: BM564**  
**w.e.f. Session 2018-19**

**2(2+0)**

**Objective**

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.



**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Library and Information Services**  
**Paper Code: PGS501**  
**w.e.f. Session 2018-19**

**1 (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.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Intellectual Property and Its Management in Agriculture**  
**Paper Code: PGS503**  
**w.e.f. Session 2018-19**

**1 (1+0)**

**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.

**UNIT I**

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

**UNIT II**

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,

**UNIT III**

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;

**UNIT IV**

Licensing of technologies, Material transfer agreements, Research collaboration Agreement, License Agreement.

**Suggested Readings:**

1. Erbisch FH & Maredia K.1998. Intellectual Property Rights in Agricultural Biotechnology. CABI.
2. Download e-course free from: <http://hau.ac.in/HRM/pdf/ecourse503.pdf>
3. Chandan Roi (2018). The Role of Intellectual Property Rights in Agriculture and Allied Sciences CRC Press.
4. Neeraj Pandey and Kushdeep Dharni. Intellectual Property Rights PHI Learning Pvt. Limited.

**MBA Agribusiness Management**  
**SEMESTER-III**  
**Syllabus: Basic Concepts in Laboratory Techniques**  
**Paper Code: PGS504**  
**w.e.f. Session 2018-19**

**1(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; Neutralization 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.

**MBA Agribusiness Management**  
**SEMESTER-III**

**Syllabus: Agricultural Research, Research Ethics and Rural Development Programmes**

**Paper Code: PGS505**

**w.e.f. Session 2018-19**

**1 (1+0)**

**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.

**Content**

**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 Organizations. 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.