



Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 501	Title of the Course	Principles of Management and Organizational Behaviour	L	T	P	C
Year	I	Semester	I	3	0	0	
Course Objectives	<ul style="list-style-type: none"> To acquaint the learner with meaning and concepts of management To understand the organizational behavior. To understand the concepts, processes, significance and role of management. To study about the motivation and its factors at workplace. To Understand the techniques for conflict management and negotiation 						

Course Outcomes	
CO1	Students learned about the basic concepts of management
CO2	Able to understand the organizational behavior
CO3	Students learned about the significance and role of management
CO4	Students know how to manage factors of motivation at workplaces
CO5	Learned about the techniques for conflict management and negotiation

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction to Management: Nature, Scope and Significance of Management, Evolution of Management Thought, Approaches to Management, functions and skills of a manager.	8	CO1
2	Unit-II	Management functions: Planning – Types, Steps, Objective, Process, Strategies, Policies, MBO, Organizing – Structure & Process, Line, Staff, Authority & Responsibility, Staffing – Recruitment and Selection, Directing – Training, Communication & Motivation, Controlling- Significance, Process, Techniques, Standards & Benchmarks, Management Audit.	10	CO2
3	Unit-III	Nature, Scope and Significance of Organizational Behavior; Foundations of Individual behaviour – Emotions, Personality, Values, Attitudes, Perception, Learning and individual decision making, Motivation- Types of motivation, theories of motivation, motivational practices at workplace, managing stress and work life balance.	10	CO3
4	Unit-IV	Group dynamics- types of groups, group formation, Group decision making, team building and developing collaboration, leadership styles and influence process; leadership theories, leadership styles and effective leader.	9	CO4
5	Unit-V	Understanding and managing organizational culture, power and political behavior in organizations, conflict Management, negotiation, managing organizational change, concept of organizational development.	7	CO5

Reference Books:	
	<ul style="list-style-type: none"> Robbins SP, Coulter M and Vohra N. 2010. Management. Pearson Edu. Wehrich H, Cannice MV and Koontz H. 2015, Management, A Global, Innovative and Entrepreneurial Perspective, 14th Edition, McGraw Hill Education Pvt Ltd. Beierlein JG, Schneeberger KC, Osburn DD. 2014. Principles of Agribusiness Management. Fifth edition. Waveland Press Neck CP, Houghton JD and Murray EL. 2017, Organizational behavior, Sage Publication India Private Limited. Greenberg J. 2013, Behavior in Organisations, PHI Learning Private Limited, New Delhi. John A, Wagner III JA and Hollenbeck JR. 2015. Organizational Behaviour, Routledge Taylor & Francis Group, New York. Koontz H and Weighhrich K. 2010. Essentials of Management. Tata McGraw Hill
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	1	1	2	3	3	2	2		3			3	3	3	3	3	3
CO2	3	3	2	3	2	2	3	2		2			3	2	2	3	2	3	2
CO3	2	2	1	3	2	2	3	1		3			3	3	2	3	3	3	2
CO4	3	2	2	2	3	1	3	2		3			3	2	3	3	2	2	3
CO5	3	1	2	3	3	3	2	2		3			3	3	2	3	2	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 503	Title of the Course	Applied Agribusiness Economics	L	T	P	C
Year	I	Semester	I	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To familiarize students with fundamental concepts of Applied Agribusiness Economics. To understand the principles in the context of managerial decision making. To understand the concepts, processes, significance and role of different economic consideration in production decisions. To provide understanding of production; levels, cost and supply analysis. 						

Course Outcomes	
CO1	Understand the scope of applied agribusiness economics
CO2	Understand the demand analysis, meaning types and determinants of demand
CO3	Understand the production, cost supply analysis
CO4	Learn pricing determinants of price -pricing under different market structures
CO5	Understand the pricing of joint products

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Scope of managerial economics, objective of the firm and basic economic principles; mathematical concepts used in managerial economics. Introduction to behavioral economics.	4	CO1
2	Unit-II	Indifference curves and budget sets - Demand analysis - meaning, types and determinants of demand; demand function; demand elasticity; demand forecasting-need and techniques.	5	CO2
3	Unit-III	Production, cost and supply analysis- production function, Multi period production and cost least-cost input combination, factor productivities and returns to scale, cost concepts, cost-output relationship, short and long-run supply functions.	6	CO3
4	Unit-IV	Pricing-determinants of price - pricing under different market structures, pricing of joint products, pricing methods in practice, government policies and pricing. Price discrimination (First, Second and Third level).	6	CO4
5	Unit-V	The national income; circular flow of income: consumption, investment and saving; money-functions, factors influencing demand for money & supply of money; inflation; economic growth; business cycles and business policies; business decisions under certain and uncertain situations.	6	CO5

Reference Books:	
•	Dwivedi DN. 2015. Managerial Economics. 8th Edition, Vikash Publishing.
•	Gupta GS. 2015. Managerial Economics. Tata McGraw Hill.
•	Savatore D. Srivastav R. 2012. Managerial Economics. 7th Edition, Oxford University Press.
•	Suma Damodaran. 2010. Managerial Economics. Oxford
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
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CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 504	Title of the Course	Human Resource Management for Agricultural Organization	L	T	P	C
Year	I	Semester	1	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To expose the learner to the field of human resource management. To learn the human resource practices and their utility for managers. To understand the concepts, processes, significance and role of different human resource management tools. To provide understanding of performance appraisal, pay scale, training and development processes. 						

Course Outcomes	
CO1	Learn what are the human resources, their planning nature and significance
CO2	Learn what are the recruitment and selection process
CO3	Know the performance appraisal
CO4	Know the industrial relations, role and status of trade unions
CO5	Understand the quality of work life, employee welfare measure

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Strategic Human Resource Management, Human Resource Planning-Nature and Significance, Job Analysis and talent management process, Job Description, Job Specification, Job enlargement, Job enrichment, Job rotation.	4	CO1
2	Unit-II	Recruitment and Selection Process, Induction, Training and Human Resource Development-Nature, Significance, Process and Techniques, e- recruitment, use of Big Data for recruitment, use of Artificial Intelligence and machine learning tools in recruitment practices Career planning and Development Internal mobility including Transfers, Promotions, employee separation.	6	CO2
3	Unit-III	Performance Appraisal–Significance and methods, Compensation management, Strategic pay plans, Job Evaluation, Wage and Salary Administration; Wage Fixation; Fringe Benefits, Incentive Payment, bonus, and Profit Sharing.	5	CO3
4	Unit-IV	Role and Status of Trade Unions; Collective Bargaining; Worker’s Participation in Management, employee retention. Quality of work life, employee welfare measure, work life balance, Disputes and Grievance Handling Procedures; Arbitration and Adjudication; Health and Safety of Human Resources.	6	CO4
5	Unit-V	Ethical issues in HRM, Managing Global Human Resources, Managing Human Resources in Small and Entrepreneurial firms, Human Resources accounting, Human Resources outsourcing, HR Information System, Human Resource Metrics and Workforce Analytics, Future trends in workforce technologies.	6	CO5

Reference Books:	
	<ul style="list-style-type: none"> Gary Dessler & Biju Varkkey 2016, Human Resource Management, XIV Edition, Pearson India. VSP Rao. 2010, Human Resource Management, Text and Cases, 3rd Edition, Excel Books. Ashwathapa K. 2016. Human Resource Management, Text and Caes. Tata McGraw Hill Michael J. Kavanagh, Mohan Thite & Richard D. Johnson. 2016, Human Resource Information Systems, Sage Publications
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
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CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 506	Title of the Course	Agricultural and Food Marketing Management-I	L	T	P	C
Year	I	Semester	I	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To introduce the basic knowledge of market and marketing structures. To focus on segmentation, targeting and positioning. To make students familiar with marketing cost and marketing channels. To figure out different price policies To make students familiar with different marketing environment. 						

Course Outcomes	
CO1	Students have basic knowledge of Market, marketing structures.
CO2	Students can understand the concept of Segmentation, Targeting and Positioning.
CO3	Students are students familiar with marketing cost and marketing channels.
CO4	Students are able to figure out different price policies
CO5	Students have knowledge of different marketing environment.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction and Concept/philosophies of Marketing Management; Product Management: The product, The product mix, Product line extensions, Product line deletions, Branding products, The advantages and disadvantages of branding, Branding decisions Brand loyalty models, Homogenous first-order Markov Models, Higher-order Markov Models Packaging, The functions of packaging, Packaging technology, Recent developments in packaging.	4	CO1
2	Unit-II	Pricing objectives, The laws of supply and demand, Elasticity of demand Cross-price elasticity of demand, Practical problems of price theory, Cost–revenue-supply relationships, The meaning of price to consumers, Price as an indicator of quality, Pricing strategies, Cost-plus methods of price determination, Breakeven analysis, Market-oriented pricing, Psychological pricing, Geographical pricing, Administered pricing.	6	CO2
3	Unit-III	Channel decisions in relation to marketing strategy, The value of middlemen, Key decisions in channel management, Types of distribution system, Marketing to middlemen, Power and conflict in distribution channels, Physical distribution, Customer service levels, Developing a customer service policy, The total distribution concept, Warehouse management, Inventory management, Calculating the economic order quantity, Transport management, Technological advances in physical distribution, Vehicle scheduling and routing, Fixed and variable routing systems, Vehicle scheduling tools, Vehicle scheduling models, Computer-based vehicle scheduling.	5	CO3
4	Unit-IV	The nature of marketing communications, Setting marketing communication objectives, Factors influencing the communications mix, The marketing communications mix, Advertising, Sales promotion, Public relations, Personal selling, Digital Marketing, Mobile Marketing, Social Marketing and Social Media Marketing, Training the sales force, Change agents, Selecting the media, Establishing the promotional budget, Monitoring the effectiveness of marketing communications.	6	CO4
5	Unit-V	Marketing Costs and Margins: Assessing the performance of a marketing system, Marketing efficiency and effectiveness, Operational efficiency, Pricing efficiency, Identifying marketing costs and margins, The reference products concept, Handling costs, Packaging costs, Transport costs, Storage costs, Processing costs, Capital costs.	6	CO5

Reference Books:

- Kotler P, Keller K, Koshy A and Jha M. 2013. Marketing Management–Analysis, Planning, Implementation and Control. Pearson Education.
- Ramaswamy VS. 2017. Marketing Management: A Strategic Decision Making Approach McGraw Hill Education.
- Saxena R. 2009. Marketing Management. Mc Graw Hill.4th Edition.
- William Perreault Jr., Mccarthy E. Jerome., 2006, Basic Marketing: A Global Marketing Approach, Tata McGraw Hill.

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
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CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator

Sign & Seal of HoD



Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 511	Title of the Course	Rural Marketing	L	T	P	C
Year	I	Semester	I	3	0	0	
Course Objectives	<ul style="list-style-type: none"> To understand the different rural market concept & its scope. To learn about the different factors affecting rural marketing. To expose the students to the rural finance schemes. To explain the Rural Product strategy. To understand the role of extension services in Agribusiness. 						

Course Outcomes	
CO1	Students learned about the different rural market concept & its scope.
CO2	Able to understand about the different factors affecting rural marketing
CO3	Students learned about the significance of rural finance schemes
CO4	Students know about various strategies of rural products
CO5	Learned about the extension services in Agribusiness.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Rural Market Concept & Scope: Concept, Definition and Scope of rural marketing, nature and characteristics of rural markets, potential of rural markets in India, rural V/S urban market. Environmental factors: Socio-cultural, economic, demographic, technological and other environmental factors affecting rural marketing.	10	CO1, CO2
2	Unit-II	Rural finance: Concept, demand, banking model; Finance Schemes of NABARD, Other Schemes of State Govt, Central Govt. Rural consumer's behavior: Behavior of rural consumers and farmers; buyer characteristics and buying behavior; customer relationship management, rural market research.	9	CO3
3	Unit-III	Rural Product strategy: Marketing of consumer durable and non-durable goods and services in the rural markets with special reference to product planning; marketing mix, product mix. Pricing for rural markets: Pricing policy and pricing strategy, distribution strategy, Rural retailing and modern store formats in rural areas.	10	CO4
4	Unit-IV	Promotion and communication strategy: Media Planning, Distribution channels, personal selling strategies in rural markets, innovations in rural marketing.	9	CO5

Reference Books:	
	<ul style="list-style-type: none"> Krishnamacharyulu and Ramakrishnan. 2010. Rural Marketing: Text and Cases: Pearson Education. 2nd edition Singh S. 2004. Rural Marketing: Focus on Agricultural Inputs, Vikas Publishing Kashyap P. 2011. Rural Marketing. Pearson Education Kumar D and Gupta P. 2017. Rural Marketing: Challenges and Opportunities. Sage Publications.
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
CO1	3	3	2	1	1	3	2	3		3			3	2	1	1	2	3	3
CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 525	Title of the Course	Management of Agribusiness Cooperatives	L	T	P	C
Year	I	Semester	I	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To study about Agribusiness Cooperatives. To understand nature, function and management of Cooperatives and its challenges. To study about the various Cooperative movements. 						

Course Outcomes	
CO1	Students learned about the Agribusiness Cooperatives systems
CO2	Able to understand the different Cooperatives and its challenges
CO3	Students learned about the agrobased Cooperatives movements
CO4	Students know how Cooperative Operations carried out
CO5	Learned about the techniques for Human resource management in different Cooperatives.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Cooperative administration: Global perspective, ecology of cooperative administration, cooperative sector and economic development. Cooperative management: Nature, functions and purpose of cooperatives –procurement, storage, processing, marketing, process of cooperative formation, role of leadership in cooperative management.	10	CO1, CO2
2	Unit-II	Cooperative Movement: The state and cooperative movement, effects of cooperative law in management, long range planning for cooperative expansion, policy making. Human resource management: Placement and role of board of directors in cooperative management.	8	CO3, CO4
3	Unit-III	Overview of agribusiness cooperative: Credit cooperatives, cooperative marketing, dairy cooperative; financing agribusiness cooperative.	9	CO4, CO5

Reference Books:	
	<ul style="list-style-type: none"> Kamat GS. 2011. New Dimensions of Cooperative Management. Himalaya Publ. House. Ansari AA. 1990. Cooperative Management Patterns. Anmol Publ. Ravichandran and Nakkiran. 2009. Cooperation (Theory & Practice) Neha Publishers & Distributors; Sah AK. 1984. Professional Management for the Cooperatives. Vikas Publ. House.
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	3	2	1	1	3	2	3		3			3	2	1	1	2	3
CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session:							
Course Code	ABM 536	Title of the Course	Strategic Management for Agri Business Enterprises	L	T	P	C
Year	I	Semester	I	2	0	0	
Course Objectives	<ul style="list-style-type: none"> Introduction to concepts of strategic environment in corporate. To study about strategic change and its impact on firms' behavior. To accumulate the knowledge of formulating and implementing the strategies at various levels in the firm. To get the insight towards leadership skills, ethical practices and values system of corporate sector. To develop the entrepreneurial culture and manage emerging technology. 						

Course Outcomes	
CO1	Students would be able to understand the basic concepts of strategic environment in corporate sector
CO2	Students would be able to deal with strategic change and its consequent effects on firms' behavior
CO3	Students will learn about strategy formulation and implementation at various level in the firm
CO4	Students would be able to develop the corporate leadership and understand the ethical practices & value system of the firm
CO5	Students will be able to develop entrepreneurial skills and manage innovative technology

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction - Concepts in Strategic Management, Strategic Management Process; Corporate Governance, Social Responsibility and Ethics in strategic management, Environment Scanning and Industry analysis.	5	CO1
2	Unit-II	Organization appraisal and strategy formulation: organizational dynamics and structuring organizational appraisal, business models and Value chain analysis, Strategy formulation-corporate level strategies and business strategies, Generic Strategies- Types of Strategies, tools and techniques for strategic analysis. Procurements.	7	CO2
3	Unit-III	Turnaround and Diversification Strategies: Turnaround strategy – Management of Strategic Change, Strategies for Mergers, Acquisitions, Takeovers and Joint Ventures - Diversification Strategy.	5	CO3
4	Unit-IV	Strategy implementation and control: aspects, structures, design and change: behavioural implementation-leadership, culture, value and ethics, strategic evaluation and control-an overview and techniques of strategic evaluation and control.	6	CO4
5	Unit-V	Strategic issues in managing technology & innovation, entrepreneurial ventures and small businesses, Cases in strategic management.	4	CO5

Reference Books:	
	<ul style="list-style-type: none"> Wheelen TL and Hunger JD. 2012. Strategic Management & Business Policy, towards Global Sustainability, Pearson India Edn. Thirteenth Edition David FR and David FR. 2016. Strategic Management, Concept and Cases, Pearson India Edn, Fifteenth Edition. Thompson Jr. AA, Peteraf M and Gamble JE. 2015. Crafting and Executing Strategy. McGraw Hill, Irwin. Stead JG and Stead EW. 2014, Sustainable Strategic Management. Routledge Taylor & Francis Group.
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
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CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

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Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2018-19							
Course Code	PGS 503 (e-Course)	Title of the Course	Intellectual Property and Its Management in Agriculture	L	T	P	C
Year	I	Semester	I	1	0	0	
Course Objectives	<ul style="list-style-type: none"> To understand the knowledge, concept and introduction of Intellectual Property Right regime; TRIPs and various provisions in TRIPS Agreement To understand the basics of Legislations for the protection of various types of Intellectual Properties To know the fundamentals of patents, copyrights, geographical indications, designs and layout To gain the basic concepts of Protection of plant varieties and farmers' rights and bio-diversity protection, Convention on Biological Diversity; International Treaty on Plant Genetic Resources for Food and Agriculture To study of Licensing of technologies, Material transfer agreements, Research collaboration Agreement, License Agreement 						

Course Outcomes	
CO1	Concept of Intellectual Property Right regime; TRIPs and various provisions in TRIPS Agreement
CO2	Knowledge of Legislations for the protection of various types of Intellectual Properties
CO3	Concepts of Protection of plant varieties and farmers' rights and bio-diversity protection, Convention on Biological Diversity; International Treaty on Plant Genetic Resources for Food and Agriculture
CO4	Knowledge of Convention on Biological Diversity; International Treaty on Plant Genetic Resources for Food and Agriculture
CO5	Knowledge of Socio-economic impact, Research collaboration Agreement, License Agreement

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	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	3	CO1
2	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.	3	CO2
3	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.	4	CO3, CO4
4	Unit-IV	Licensing of technologies, Material transfer agreements, Research collaboration Agreement, License Agreement	2	CO5

Reference Books:	
	• Erbisch FH and Maredia K.1998. Intellectual Property Rights in Agricultural Biotechnology. CABI.
	• Ganguli P. 2001. Intellectual Property Rights: Unleashing Knowledge Economy. McGraw-Hill.
	• Intellectual Property Rights: Key to New Wealth Generation. 2001. NRDC and Aesthetic Technologies.
	• Ministry of Agriculture, Government of India. 2004. State of Indian Farmer. Vol. V. Technology Generation and IPR Issues. Academic Foundation.
	• Rothschild M and Scott N. (Ed.). 2003. Intellectual Property Rights in Animal Breeding and Genetics. CABI.
	• Saha R. (Ed.). 2006. Intellectual Property Rights in NAM and Other Developing Countries: A Compendium on Law and Policies. Daya Publ. House.
e-Learning Source:	
	https://hau.ac.in/public/pages-pdf/1548828324.pdf

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
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CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator

Sign & Seal of HoD



Integral University, Lucknow

Effective from Session: 2018-19							
Course Code	PGS 506	Title of the Course	Disaster Management	L	T	P	C
Year	I	Semester	I	1	0	0	
Course Objectives	<ul style="list-style-type: none"> To give knowledge prompt assistance to victims, To give knowledge about the different techniques and to achieve rapid and effective recovery, To give knowledge about how to reduce, or avoid, the potential losses from hazards, To give knowledge about assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery. 						

Course Outcomes	
CO1	Able to know what are the basic criteria for disaster management
CO2	Can use the basic knowledge regarding prompt assistance to victims
CO3	Students are able to know about to reduce, or avoid, the potential losses from hazards
CO4	Study to assure prompt and appropriate assistance to victims of disaster and pollution
CO5	By the end of course students will be able to know the knowledge regarding different methods to control and to avoid disaster.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Meaning and nature of natural disasters, their types and effects. Floods, Drought, Cyclone, Earthquakes, Landslides, Avalanches, Volcanic eruptions, Heat and cold Waves, Climatic Change: Global warming, Sea Level rise, Ozone Depletion.	4	CO1, CO2
2	Unit-II	Nuclear disasters, chemical disasters, biological disasters, building fire, coal fire, forest fire. Oil fire, air pollution, water pollution, deforestation, Industrial wastewater pollution, road accidents, rail accidents, air accidents, sea accidents.	3	CO3
3	Unit-III	Efforts to mitigate natural disasters at national and global levels. International Strategy for Disaster reduction. Concept of disaster management, national disaster management framework; financial arrangements; role of NGOs, Community-based organizations, and media. Central, State, District and local Administration; Armed forces in Disaster response; Disaster response: Police and other organizations.	4	CO4, CO5

Reference Books:	
•	Gupta HK. 2003. Disaster Management. Indian National Science Academy. Orient Blackswan.
•	Hodgkinson PE & Stewart M. 1991. Coping with Catastrophe: A Handbook of Disaster Management. Routledge.
•	Sharma VK. 2001. Disaster Management. National Centre for Disaster Management, India.

e-Learning Source:	
	https://www.youtube.com/watch?v=KwAKjtkpdP4 (Efforts to mitigate natural disasters at national and global levels)
	https://www.youtube.com/watch?v=owaX0EeYEgk (Nuclear disasters, chemical disasters)

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	3	2	1	1	3	2	3		3			3	2	1	1	2	3
CO2	3	3	3	2	1	2	3	2		3			3	2	2	2	2	1	2
CO3	3	2	1	1	2	2	2	3		1			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 539	Title of the Course	Communication for Management and Agri Business	L	T	P	C
Year	I	Semester	I	3	0	0	
Course Objectives	<ul style="list-style-type: none"> To study about communication process in organizations. To understand issues for professional writing skills. To understand the technical writing skills in financial reports 						

Course Outcomes	
CO1	Students learned about communication process in organizations
CO2	Able to understand the issues related to professional writing skills
CO3	Students learned about the technical writing skills in financial reports

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Communication process, barriers to communication, methods of communication, effective communication, assertive communication, types of organizational communication. Listening skills, active listening, barriers to effective listening, Non Verbal Communication.	6	CO1
2	Unit-II	Reading comprehension and techniques, rules of good writing, business letter writing, e-mail writing, crafting messages for electronic media, social media, business blogs, podcasts, employment messages.	6	CO1, CO2
3	Unit-III	Visual presentation, oral presentation skills, conducting business meetings, brainstorming sessions and presentations, public speaking skills, Communicating across cultures, Various forms of scientific writings, theses, technical papers, reviews, manuals, research work, various parts of thesis and research communication Title page, authorship, contents, preface, introduction, review of literature, material and methods, experimental results and discussion, Technical Writing Style and Editing, Writing Introductions & Conclusions, Editing and Proof reading, Writing a review article and book summary.	14	CO1, CO3
4	Unit-IV	Developing interpersonal skills (transactional analysis), Business Etiquettes, essentials of business conversations. Business meeting agenda and minutes, circulars and sales letters, notices, overview of business proposals.	7	CO1, CO3
5	Unit-V	Developing self awareness (Johari Window), solving problems analytically and creatively, introduction to case method of learning, case reading, approaches and analysis.	6	CO2, CO3

Reference Books:
<ul style="list-style-type: none"> Cardon PW. 2015. Business Communication, Developing leaders for a networked world McGraw Hill Education Chaturvedi PD and Chaturvedi M. 2017. Business Communication, Skills, Concepts, Cases and Applications, Pearson India Education Bovee CL, Thill JV and Chaterjee A. 2013. Business Communication Today, Pearson Education, Tenth Edition

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	1	1	2	3	1	3	2		3			3	3	3	3	3	3
CO2	2	3	2	2	2	1	2	2		2			3	3	2	2	2	3	2
CO3	2	2	1	3	2	1	1	1		3			2	3	2	2	2	3	2
CO4	3	1	1	2	3	1	3	2		3			3	3	3	3	3	3	3
CO5	2	3	2	2	2	1	2	2		2			3	3	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 502	Title of the Course	Managerial Accounting and Control	L	T	P	C
Year	I	Semester	II	3	0	0	
Course Objectives	<ul style="list-style-type: none"> To acquaint the learner with concepts of accounting To understand the management accounting To understand the concepts, processes, significance and role of Cost Accounting. To study about the Budget and Budgetary Control. To Understand the techniques for Tax System- GST. 						

Course Outcomes	
CO1	Students learned about the basic concepts of accounting
CO2	Able to understand the management accounting
CO3	Students learned about the significance and role of cost accounting
CO4	Students know how to allocate Budget
CO5	Learned about the techniques for Tax System- GST.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Financial Accounting- Meaning, Need, Accounting principles: Accounting Concepts and Conventions; Branches of Accounting, Users of Accounting information, Advantages and Limitations of Financial Accounting, Accounting Standards.	8	CO1
2	Unit-II	The Double Entry System- Its Meaning and Scope, The Journal, Cash Book, Ledger, Trial Balance, Trading Account Profit and Loss Account, Balance Sheet, entries and adjustments of different heads in different Books and Accounts, Introduction of Company Accounts, Use of Accounting Software.	9	CO1, CO2
3	Unit-III	Management Accounting-Meaning, Functions, Scope, Utility, Limitations and Tools of Management Accounting, Analysis of Financial Statements- Ratio, time series, common size and Du pont Analysis, Comparative and Common Size Statements, Cash Flow and Fund Flow Analysis.	8	CO2
4	Unit-IV	Cost Accounting-Nature, Course, Significance of Cost Accounting; Classification of Cost, Costing for Material; Labour and overheads; Marginal Costing and cost volume profit Analysis- Its Significance, Uses and Limitations; Standard Costing – Its Meaning, Uses and Limitations, Determination of Standard Cost, Variance Analysis-Material, Labour and Overhead.	10	CO3, CO4
5	Unit-V	Budget and Budgetary Control- Meaning, Uses and Limitations, Budgeting and Profit planning, Different Types of Budgets and their Preparations: Sales Budget, Purchase Budget, Production Budget, Cash Budget, Flexible Budget, Master Budget, Zero Based Budgeting, Mergers and Acquisition, Tax System- GST.	7	CO4, CO5

Reference Books:	
•	Jain SP and Narang KL. 2014. Financial Accounting. 12th Edition. Kalyani Publisher.
•	Sharma and Gupta. 2018. Management Accounting 13th Edition, Kalyani Publisher
•	Maheshwari SN and Maheshwari SK. 2018. Financial Accounting. 6th Ed. Vikas Publ. House.
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	1	1	2	3	3	2	2		3			2	3	3	3	3	3
CO2	3	2	2	3	2	2	3	2		2			3	2	2	3	2	3	2
CO3	2	2	1	3	1	2	3	1		3			3	2	2	2	3	3	2
CO4	2	2	2	2	3	1	3	2		3			3	2	3	3	2	2	3
CO5	3	1	2	3	3	3	2	2		3			3	3	2	3	2	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 505	Title of the Course	Production and Operations Management	L	T	P	C
Year	I	Semester	II	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To familiarize students with concepts of Production and Operations Management. To understand the principles of the Operations Strategy To understand the Production Planning and Control To acquaint the learner with Inventory Management Fundamentals To understand the basics of Quality Assurance 						

Course Outcomes	
CO1	Understand the concepts of production and operations management
CO2	Understand the principles of the operations strategy
CO3	Understand the production planning and control concepts
CO4	Learn inventory management fundamentals
CO5	Understand the basics of quality assurance

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Nature Concept and Scope of Production and Operations Management; Factors Affecting System; Facility location, Types of Manufacturing Systems and Layouts, Process Selection and Facility Layout, Layout Planning and Analysis, Forecasting.	4	CO1
2	Unit-II	Operations Strategy: Operations Strategy, Competitive Capabilities and Core Competencies, Operations Strategy as a Competitive Weapon, Linkage Between Corporate, Business, and Operations Strategy, Developing Operations Strategy, Elements or Components of Operations Strategy, Competitive Priorities, Manufacturing Strategies, Service Strategies, Global Strategies and Role of Operations Strategy.	7	CO2
3	Unit-III	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.	4	CO3
4	Unit-IV	An Overview of Inventory Management Fundamentals, Determination of Material Requirement, Safety Management Scheduling, Maintenance Management Concepts, Work Study, Method Study, Work Measurement, Work Sampling, Work Environment, Production Planning and Control (PPC) Industrial Safety, human machine interface, types of interface designs. Cloud operations management.	6	CO4
5	Unit-V	Quality Assurance, Accepting Sampling, Statistical Process Control, Total Quality Management, ISO standards and their Importance, Introduction to reengineering, value engineering, check sheets, Pareto charts, Ishikawa charts, JIT Pre-requisites for implementation Six Sigma, Lean Management, Reliability Engineering, Safety Engineering, Fault Tree Analysis.	6	CO5

Reference Books:	
	<ul style="list-style-type: none"> William J. Stevenson. 2014. Operations Management, 12th Edition, McGraw-Hill Panneerselvam K. 2012. Production and Operations Management 3rd Edition, Prentice Hall India Learning Private Limited S. N Chary, 2017. Production and Operations Management, McGraw Hill Education; 5 edition
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	3	2	1	1	3	2	3		2			3	2	1	1	2	3
CO2	3	3	3	2	2	2	3	2		3			3	2	2	2	2	2	2
CO3	2	2	3	1	2	2	2	3		3			3	2	3	3	2	2	1
CO4	3	2	2	2	3	1	3	3		2			3	2	1	1	3	2	2
CO5	3	2	3	3	2	1	2	2		3			3	2	2	2	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation



Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 507	Title of the Course	Agricultural and Food Marketing Management-II	L	T	P	C
Year	I	Semester	II	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To introduce the basic knowledge of market and marketing structures. To focus on segmentation, targeting and positioning. To make students familiar with marketing cost and marketing channels. To figure out different price policies To make students familiar with different marketing environment. 						

Course Outcomes	
CO1	To understand the different marketing concepts.
CO2	To learn about the adjustment, economic stabilization and involvement of private and government agencies.
CO3	To expose the students with strategies, policies and planning.
CO4	To explain the behavioral study in food marketing.
CO5	To explain the food product marketing promotion activities.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	The importance of agricultural and food marketing to developing countries, the marketing concept and marketing systems, Marketing sub-systems Marketing functions, Links between agriculture and the food industry, Agricultural and food marketing enterprises, Marketing boards in developing countries, Cooperatives in the agriculture and food sectors, Control and management of secondary co-operatives, The weaknesses of co-operatives, Selling arrangements between cooperatives and their members.	6	CO1
2	Unit-II	Economic structural adjustment programmes, Macro-economic stabilization, The role of the state in liberalized markets, Strategies for reforming agricultural marketing, Obstacles to be overcome in commercialization and Privatization of agricultural marketing, Dealing with accumulated deficits, Encouraging private sector involvement in agricultural marketing, Impediments to private sector participation in agricultural markets, impact of the macro-economic environment on private traders, Government action to improve private sector performance.	7	CO2
3	Unit-III	Strategy, policy and planning, Strategic business units, The need for marketing planning, The process of marketing planning, Contents of the marketing plan, Monitoring, evaluating and controlling the marketing planning, Marketing controls, Marketing plan control, Efficiency control.	4	CO3
4	Unit-IV	The impetus to innovation, New product development process, The adoption process, The effect of products characteristics on the rate of adoption, Buyer behavior: The influences on buyer behaviour, Exogenous influences on buyer behaviour Endogenous influences on buyer behaviour, The consumer buying decision process, Buyer behaviour and market segmentation, Lifestyle segmentation, Organisational markets Industrial markets, Industrial buyer characteristics.	6	CO4
5	Unit-V	Stages in a commodity marketing system, Grain marketing, Challenges for grain marketing systems, fruits and vegetables, Livestock and meat marketing, Poultry and eggs marketing, marketing of fresh milk.	5	CO5

Reference Books:

- Acharya SS and Agarwal NL. 2011. Agricultural Marketing in India. 4th Ed. Oxford and IBH.
- Kohls RL and Uhj JN. 2005. Marketing of Agricultural Products. 9th Ed. Prentice Hall.
- Mohan J. Agri-Marketing Strategies in India, NIPA
- Sharma Premjit. 2010. Agri-Marketing Management, Daya Publishing House.

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	2	1	2	3	1		2		3			3	3	3	2	3	2
CO2	3	3	2	3	2	1		2		2			3	3	2	3	2	3	2
CO3	3	3	1	3	2	1		1		3			3	3	2	3	2	1	2
CO4	3	1	3	3	3	2		2		3			3	2	3	3	2	3	3
CO5	2	3	2	3	3	1		2		3			3	3	2	3	2	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation



Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 510	Title of the Course	Food Technology and Processing Management	L	T	P	C
Year	I	Semester	II	3	0	0	3
Course Objectives	<ul style="list-style-type: none"> To learn about food Industry in India To learn the Basics of Food Processing To understand the concepts of Food Safety and Costs Analysis To understand the case studies on project formulation in various types of food industries 						

Course Outcomes	
CO1	Learn present status of food industry in India
CO2	Learn what are the Basic principles of food processing and food preservation through technology intervention
CO3	Know the laws and regulations w.r.t to food industry including production, processing and marketing
CO4	Know the discussion sessions and analysis of Case studies related to dairy, cereal milling, sugarcane production
CO5	Understand cases related HACCP

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Food Industry in India: 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.	9	CO1
2	Unit-II	Basics of Food Processing: Basic principles of food processing and food preservation through technology interventions; Application of energy, radiations, chemicals and other agents for food preservation; aseptic modes of processing freezing, quick, cryogenic, high pressure, membrane technology; Packaging of foods, labelling techniques, advanced technologies for packaging.	9	CO2
3	Unit-III	Food Safety and Costs Analysis: Analysis of costs; risk management; Laws and regulations w.r.t to food industry including production, processing and marketing; Food Safety and Quality Standards-AGMARK, BIS/ISO, FPO, FSSAI, TQM, HACCP, etc.	10	CO3
4	Unit-IV	Case studies on project formulation in various types of food industries: Discussion sessions and analysis of Case studies related to dairy, cereal milling, sugarcane production; baking/confectionary, vegetable storage, handling, egg processing, fish and meat products; Cases related HACCP.	9	CO4

Reference Books:	
•	Fellows PJ. 2016. Food Processing Technology Principles and Practice, Woodhead Publishing, 4th Edition
•	Potter NN. 2018. Food science. McGraw-Hill Education, 6th Edition
•	Singh RP, Heldman DR. 2013. Introduction to Food Engineering. Elsevier Inc., 5th Edition
•	Smith JS, Hui YH. 2013. Food Processing: Principles and Applications, Wiley
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO 7
	CO1	3	3	3	2	3	1	3	3	2	3			1	3	3	1	2	2
CO2	3	3	3	2	1	2	1	3	1	3			2	3	2	2	2	3	2
CO3	3	3	2	3	2	1	1	3	3	1			1	3	2	3	3	1	3
CO4	3	3	3	1	3	3	2	3	2	2			1	3	3	1	2	2	2
CO5	2	2	1	2	3	1	1	3	2	2			3	2	2	2	2	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 513	Title of the Course	Management of Agro Chemical Industry	L	T	P	C
Year	I	Semester	II	3	0	0	3
Course Objectives	<ul style="list-style-type: none"> To understand the Agro-chemicals and its definition and classification To learn about definition and classification of insecticides To understand about classification of fungicides To understand Insecticide Act To learn various concepts of plant protection 						

Course Outcomes	
CO1	Students will have basic knowledge of agro- chemicals
CO2	Students will have knowledge about definition and classification of insecticides based on (a) Mode of Entry (b) Mode of Action and (c) Chemical Structure with example;
CO3	The students will be able to know classification and preliminary knowledge of commonly used fungicides
CO4	Students can have the knowledge about development of agrochemicals
CO5	Students should know about Plant Protection

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction: Agro-chemicals: Definition and classification; Basic knowledge of agro-chemicals; role and status of agro-chemical industry in India; Pesticides – Classification and Introduction, knowledge of different pesticides.	7	CO1
2	Unit-II	Insecticides: 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.	9	CO2
3	Unit-III	Fungicides: Fungicides – Classification and preliminary knowledge of commonly used fungicides; Bio magnifications of pesticides and pesticidal pollution.	6	CO3
4	Unit-IV	Insecticide Act: Introductory knowledge about development of agrochemicals; Insecticidal poisoning, symptoms and treatment; Main features of Insecticide Act.	8	CO4
5	Unit-V	Plant Protection: Directorate of Plant Protection, Quarantine and Storage– A brief account of its organizational set up and functions; IPM Concept – Biopesticides – Plant products.	6	CO5

Reference Books:

- Dhaliwal GS, Singh R and Chhillar BS. 2014. Essentials of Agricultural Entomology. Kalyani Publishers.
- Hayes WT and Laws ET. 1991. Hand Book of Pesticides. Academic Press.
- Matsumura F. 1985. Toxicology of Insecticides. 2nd Ed. Plenum Publ.
- Rajeev K and Mukherjee RC. 1996. Role of Plant Quarantine in IPM. Aditya Books.

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO 7
	CO1	3	2	1	2	2	3	2	1	2	2	2	3	2	2	2			
CO2	2	2	2	2	1	2	1	2	1	2	1	2	2	2	1				
CO3	3	2	3	2	1	3	1	3	2	2	2	3	2	2	2				
CO4	3	3	3	2	1	2	1	2	2	2	1	2	2	2	2				
CO5	3	2	3	2	2	2	1	2	2	2	1	3	2	2	1				

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 518	Title of the Course	Food Retail Management	L	T	P	C
Year	I	Semester	II	2	0	0	2
Course Objectives	<ul style="list-style-type: none"> To understand the International Food market To learn about Value Chain in Food Retailing To expose the students about marketing mix in Food Retail Management To understand about managing retail operations To understand about various concepts in Retail Sales Management 						

Course Outcomes	
CO1	Students learned about the India's Competitive Position in World Food Trade
CO2	Able to understand chain and value additions across the chain in food retail
CO3	Students learned about the pricing strategies used in conventional and non-conventional food retailing,
CO4	Students know how to procurement of Food products and Handling Transportation of Food Products.
CO5	Learned about the Types of Retail Selling

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction to Food market: 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.	6	CO1
2	Unit-II	Value Chain in Food Retailing: Value chain and value additions across the chain in food retail, Principal trends in food wholesaling and retailing, Competition and pricing in food retailing, various retailing formats, the changing nature of food stores, market implications of new retail developments, food service marketing.	5	CO2
3	Unit-III	Marketing Mix in Food Retail Management: Merchandise Management, Pricing Strategies used in conventional and non-conventional food retailing, Public distribution system, Promotion mix for food retailing, Management of sales promotion and Publicity, Advertisement Strategies for food retailers & Brand Management in Retailing.	5	CO3
4	Unit-IV	Managing Retail Operations: Managing Retailers' Finances, Merchandise buying and handling, Logistics, procurement of Food products and Handling Transportation of Food Products.	5	CO4
5	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.	5	CO5

Reference Books:

- Singh S. 2011. Fresh food retails in India: Organisation and impacts, Allied publishers Pvt. Ltd., New Delhi
- Mahapatra. S, Food Retail Management, Kalyani Publishers
- Zentes, Joachim, Morschett, Dirk, Schramm-Klein, Hanna 2017. Strategic Retail Management: Text and International Cases, Springer Gabler.
- Agrawal N and Smith SA. 2015. Retail Supply Chain Management: Quantitative Models and Empirical Studies, Springer; 2nd revised edition

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO 7
	CO1	2	3	1	2	3	1	1	2	2	3			1	3	3	2	3	2
CO2	3	2	2	3	2	1	2	2	2	2			3	3	2	3	2	3	2
CO3	2	2	1	3	2	1	1	1	3	2			1	2	2	3	1	2	3
CO4	3	2	2	3	3	2	1	2	2	3			3	2	3	3	2	3	2
CO5	1	3	2	3	3	1	1	2	1	2			3	3	2	3	2	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 519	Title of the Course	Management of Agricultural Input Marketing	L	T	P	C
Year	I	Semester	II	2	0	0	2
Course Objectives	<ul style="list-style-type: none"> To understand the different marketing concepts. To learn about the seed Marketing. To expose the students to the Fertilizer Marketing, Plant Protection Chemicals. To explain the Farm Machinery and Implement. To understand the role of extension services in Agriculture. 						

Course Outcomes	
CO1	Students learned about the different marketing concepts.
CO2	Able to understand the seed marketing
CO3	Students learned about the significance and role of Fertilizer Marketing
CO4	Students know how to manage Farm Machinery
CO5	Learned about the extension services in Agriculture.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Market for agricultural inputs: Nature of demand, promotional media, nature of competition, a framework for understanding the markets for inputs, agronomic potential, agro economic potential, effective demand, actual consumption.	5	CO1
2	Unit-II	Marketing of seeds: Government policy, product, trade practices in seed production, seed pricing, input costs, distribution system, management of seed distribution. Proper storage of seeds, promotion, problems faced by seed industry, strategy for a seed enterprise, source of seeds, terms of transaction for seed procurements.	6	CO2
3	Unit-III	Marketing of fertilizers: Nature of Indian fertilizer market, product, fertilizer distribution, marketing cost and margins, credit, dealer selection and management, fertilizer promotion and extension, promotional program, advertising in fertilizers, emerging marketing mix in fertilizer, extension strategy for the future, marketing of biofertilizers, strategies for fertilizer marketing.	5	CO3
4	Unit-IV	Marketing of pesticides: Market profile, structure of industry, farmer behaviour, problems of farmers in pesticide purchase and usage, marketing mix, bio pesticides market development and promotion activities, problems in marketing of bio pesticides. Integrated pest management.	5	CO4
5	Unit-V	Marketing of tractors: Segments in tractor market, market share, nature of demand, buyer behaviour, role of distribution, promotion, MNC's. Marketing of Credit-Nature of market, market segment, market players, marketing mix, marketing options. Strategies for input Marketing-Client and location specific promotion, joint promotion, interdependence of input markets, management of demands, developmental marketing, USP, extension services, ethics in business, sustainability	5	CO5

Reference Books:

- Mahapatra. S. Management of Agricultural Inputs, NIPA Publishers
- Seetharaman SP.: Agricultural Input Marketing, Oxford & IBH Pub. Co.
- Krishnamacharyulu CSG.: Rural Marketing: Text and Cases, Pearson Education India
- Venugopal P. 2014. Agri-input Marketing in India, SAGE Publication; 1st Edition.

e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO 7
	CO1	2	3	1	2	3	1		2		3			3	3	3	2	3	2
CO2	3	2	2	3	2	1		2		2			3	3	2	3	2	3	2
CO3	2	2	1	3	2	1		1		3			3	3	2	3	2	2	2
CO4	3	3	2	3	3	2		2		3			3	2	3	3	2	3	3
CO5	2	3	2	3	3	1		2		3			3	3	3	2	3	2	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 529	Title of the Course	Renewable Energy Sources Management	L	T	P	C
Year	I	Semester	II	1	0	0	1
Course Objectives	<ul style="list-style-type: none"> To understand the about the concept of renewable energy. To learn about the commercial application of the renewable energy. To learn about the institutional framework for renewable energy in India. To learn about the renewable energy devices. To learn about the renewable resource use in agriculture. 						

Course Outcomes	
CO1	Students will understand the about the concept of renewable energy
CO2	Students will learn about the commercial application of the renewable energy
CO3	Students will learn about the institutional framework for renewable energy in India
CO4	Students will learn about the renewable energy devices and its utilization in agriculture

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction: Concept on alternate and non-conventional energy sources. Biofuels, Geothermal, Ocean, Hydropower, Biogas, Solar and Wind energy.	4	CO1
2	Unit-II	Commercial application: Commercial application of renewable energy sources and its benefits. Government Policy towards promoting renewable energy.	3	CO2
3	Unit-III	Institutional Framework: MNRE, CREDA-Renewable Energy Development Authority, State level Renewable Energy Development Agency, Society of Renewable Energy.	4	CO3
4	Unit-IV	Devices for renewable energy development: Biogas plant, Wind Mills, Solar Cells – Solar Pumps, Solar Dryers, Solar water heating system, etc.	3	CO4

Reference Books:	
<ul style="list-style-type: none"> Sorensen B. 2010. Renewable Energy: Physics, Engineering, Environmental Impacts, Economics and Planning, Elsevier Publishing; 4th Edition Armaroli N, Balzani V and Serpone N. 2013. Powering Planet Earth–Energy Solutions for the Future, Wiley Boyle G. 2012. Renewable Energy: Power for a Sustainable Future, Oxford; 3rd Edition Twidell J, Weir T. 2013. Renewable Energy Resources, CRC Press; 3rd Edition 	
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇	PO ₈	PO ₉	PO ₁₀	PO ₁₁	PO ₁₂	PSO ₁	PSO ₂	PSO ₃	PSO ₄	PSO ₅	PSO ₆	PSO ₇
	CO1	2	1	1	1	1	2		2		3			2	1	1	1	1	1
CO2	1	1	1	2	2	2		2		1			1	1	2	1	1	3	3
CO3	3	2	1	3	3	1		1		3			2	1	1	2	1	2	2
CO4	3	3	2	3	1	2		2		3			3	2	2	3	2	3	3
CO5	3	1	1	3	3	1		2		3			3	3	2	1	2	2	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 531	Title of the Course	Advertising and Brand Management	L	T	P	C
Year	I	Semester	II	2	0	0	2
Course Objectives	<ul style="list-style-type: none"> Introduction to advertising management and integrated marketing communications To study about various message strategy To accumulate the knowledge of consumer promotion and trade promotions. To get the insight major brand concepts and branding decision To learn managing brand equity and loyalty 						

Course Outcomes	
CO1	Students would be able to understand the advertising management and Integrated Marketing Communications
CO2	Students would be able to know various message strategy
CO3	Students will learn about strategy of consumer promotion and trade promotion
CO4	Students would be able to develop the corporate leadership and understand the ethical practices & value system of the firm
CO5	Students will be able to develop entrepreneurial skills and manage innovative technology

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction to Advertising Management: Integrated Marketing Communications, Setting Goals and Objectives, How advertising works: Segmentation and Positioning Assess the strengths, weaknesses, opportunities and threats (SWOT) of different kinds of promotional campaigns.	5	CO1
2	Unit-II	Message Strategy: Attention and comprehension, Advertising appeals, Associating Feelings with the Brand, Brand Equity, Image and Personality and Group Influence and word of mouth advertising, Media Planning and Media Strategy, Media Strategy and Tactics, Legal, Ethical and Social concerns of Advertising.	6	CO2
3	Unit-III	Consumer Promotions and Trade Promotions: Their purpose and types How to plan and evaluate a successful promotion, The relationship between advertising and promotions, Introduction to Global Marketing, Advertising and sales promotion.	5	CO3
4	Unit-IV	Major Brand Concepts and branding Decision: Identifying and selecting brand name Building brand personality, image and identity; Brand positioning and re-launch; Brand extension; Brand portfolio; communication for branding Enhancing brand image through sponsorship and even management.	5	CO4
5	Unit-V	Managing Brand Equity and Loyalty: Brand Building in Different Sectors - Customers, industrial, retail and service brands. Building brands through Internet, social media. Building Indian brands for global markets.	5	CO5

Reference Books:	
	• Singh S. 2011. Fresh food retails in India: Organisation and impacts, Allied publishers Pvt. Ltd., New Delhi
	• Mahapatra. S, 2018. Food Retail Management, Kalyani Publishers
	• Zentes, Joachim, Morschett, Dirk, Schramm-Klein, Hanna 2017. Strategic Retail Management: Text and International Cases, Springer Gabler.
	• Agrawal N and Smith SA. 2015. Retail Supply Chain Management: Quantitative Models and Empirical Studies, Springer; 2nd revised edition
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇	PO ₈	PO ₉	PO ₁₀	PO ₁₁	PO ₁₂	PSO ₁	PSO ₂	PSO ₃	PSO ₄	PSO ₅	PSO ₆	PSO ₇
	CO1	2	3	2	3	1	1	2	3	3	3			2	3	2	2	2	2
CO2	2	3	2	2	2	3	3	3	3	2			3	3	3	2	3	3	3
CO3	1	2	3	3	3	2	2	2	2	2			2	1	3	2	3	2	1
CO4	2	3	3	2	2	1	2	2	3	3			3	1	2	3	2	3	1
CO5	3	2	3	3	3	2	3	1	2	3			3	2	3	2	3	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 533	Title of the Course	Contract Farming	L	T	P	C
Year	I	Semester	II	1	0	0	1
Course Objectives	<ul style="list-style-type: none"> To understand the about the concept of contract farming To learn about the different types contract farming To learn about the different type of contract farming policies and agreements To learn about the prospects of contract farming in India To learn about the global issues of contract farming 						

Course Outcomes	
CO1	Student will understand the about the concept of contract farming.
CO2	Student will learn about the different types contract farming.
CO3	Student will learn about the different type of contract farming policies and agreements.
CO4	Student will learn about the prospects of contract farming in India.
CO5	Student will learn about the global issues of contract farming.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Need for contract farming: objectives and its definition; contract farming framework, contract farming arrangement-centralized model, nucleus estate model, multipartite model, informal model, intermediary model.	3	CO1
2	Unit-II	Project formulation and management: Coordination, crop husbandry, human resource. Advantages of contract farming for farmers and sponsors and the problems faced by them.	3	CO2
3	Unit-III	Policies for promoting contract farming: Agreement for contract farming parties, duration, produce and quality specification, delivery arrangements pricing, insurance, support services, etc.	4	CO3
4	Unit-IV	Prospects of contract farming in India: Prospects of contract farming in India in view of interest for commercialization of agriculture. Active organizations in contract farming and their success stories.	3	CO4
5	Unit-V	Global issues: global issues in contract farming, Contract farming and WTO agreement.	3	CO5

Reference Books:	
	• Sharma P. 2007, Contract Farming, Genetech Books.
	• Kuzilwa JA, Fold A, Henningsen A and Larsen MN. 2019. Contract farming and the development of smallholder agricultural business. Routledge
	• Kumaravel KS 2006. Contract farming in India - An Introduction.

e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇	PO ₈	PO ₉	PO ₁₀	PO ₁₁	PO ₁₂	PSO ₁	PSO ₂	PSO ₃	PSO ₄	PSO ₅	PSO ₆	PSO ₇
CO1	2	2	3	1	3	2		2		3			2	3	3	2	3	3	3
CO2	1	1	2	2	2	2		2		2			3	2	2	3	1	3	3
CO3	3	1	1	1	3	1		1		3			3	1	1	2	1	2	2
CO4	2	2	2	2	2	2		2		3			3	2	2	3	3	3	3
CO5	3	1	3	3	3	1		2		3			3	3	2	2	2	2	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 537	Title of the Course	Operations Research	L	T	P	C
Year	I	Semester	II	2	0	0	
Course Objectives	<ul style="list-style-type: none"> To acquaint the students with the applications of important operations research techniques for better understanding to solve business problems. To understand the different formulation of linear programming problem. To learn about the Inventory control and waiting line models. To expose the students to the Decision making under risk and uncertainty. 						

Course Outcomes	
CO1	Students learned about the applications of important operations research techniques for better understanding to solve business problems.
CO2	Students learned about the significance of different formulation of linear programming problem
CO3	Students know how to manage types of inventory and inventory costs, transportation and assignment problems.
CO4	Learned about the Decision-making problem in financial organizations.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Linear Programming: Objective, Assumptions, Formulation of Linear Programming Problem, Data Envelopment Analysis, Graphic Method, Simplex method, Introduction to Dynamic Programming, Transportation and Assignment Problems.	4	CO1
2	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, and Hybrid System.	6	CO2, CO3
3	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.	5	CO2
4	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, stochastic models, neural networks, Markov process.	6	CO3
5	Unit-V	Game Theory - Two -Person Zero-Sum Game, Simulation, Network analysis–PERT& CPM. Financial Engineering.	6	CO4

Reference Books:	
•	Taha HA. 2007. Operations Research - An Introduction. Prentice Hall.
•	Vohra ND. 2017. Quantitative Techniques in Management. 5th Edition McGraw Hill.
•	Wagner HM. 2005. Principles of Operation Research. Prentice Hall.

e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	2	3	1	2	3	1	1	2	2	3			3	3	3	2	3	2
CO2	3	2	2	3	2	1	2	2	1	2			3	3	2	3	2	3	2
CO3	2	2	1	3	2	1	1	1	3	3			3	3	2	3	2	2	2
CO4	3	3	2	3	3	2	2	2	2	3			3	2	3	3	2	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation



Integral University, Lucknow

Effective from Session: 2018-19							
Course Code	PGS 502	Title of the Course	Technical Writing and Communications Skills	L	T	P	C
Year	I	Semester	II	0	0	2	
Course Objectives	<ul style="list-style-type: none"> To give knowledge about the various forms of scientific writings To give knowledge about the various parts of thesis, research communications To give knowledge about writing of abstracts, summaries, citations etc To give knowledge about research communications, illustrations, photograph, drawings To give knowledge about pagination, scientific write ups, editing and proof reading, and writing of review article 						

Course Outcomes	
CO1	Learn that what are the various forms of scientific writings
CO2	Learn how to write the various parts of thesis, research communications
CO3	Learn how to do writing of abstracts, summaries and what are citations etc
CO4	Learn research communications, illustrations, photograph, drawings
CO5	Learn pagination, scientific write ups, editing and proof reading, and writing of review article

Title of Experiment	Contact Hrs.	Mapped CO
Practical: Technical Writing - Various forms of scientific writings- theses, technical papers, reviews, manuals, etc; Various parts of thesis and research communications (title page, authorship contents page, preface, introduction, review of literature, material and methods, experimental results and discussion); Writing of abstracts, summaries, précis, citations etc.; commonly used abbreviations in the theses and research communications; illustrations, photographs and drawings with suitable captions; pagination, numbering of tables and illustrations; Writing of numbers and dates in scientific write-ups; Editing and proof-reading; Writing of a review article. Communication Skills - Grammar (Tenses, parts of speech, clauses, punctuation marks); Error analysis (Common errors); Concord; Collocation; Phonetic symbols and transcription; Accentual pattern: Weak forms in connected speech: Participation in group discussion: Facing an interview; presentation of scientific papers.	26	CO1, CO2, CO3, CO4, CO5

Reference Books:
• Wren PC & Martin H. 2006. High School English Grammar and Composition. S. Chand & Co.
• Robert C. (Ed.). 2005. Spoken English: Flourish Your Language. Abhishek.
• Mohan K. 2005. Speaking English Effectively. MacMillan India.
• Sethi J & Dhamija PV. 2004. Course in Phonetics and Spoken English. 2nd Ed. Prentice Hall of India.
• Hornby AS. 2000. Comp. Oxford Advanced Learner's Dictionary of Current English. 6th Ed. Oxford University Press.
• Joseph G. 2000. MLA Handbook for Writers of Research Papers. 5th Ed. Affiliated East-West Press.
• Chicago Manual of Style. 14th Ed. 1996. Prentice Hall of India.
• Collins' Cobuild English Dictionary. 1995. Harper Collins.
• James HS. 1994. Handbook for Technical Writing. NTC Business Books.
• Gordon HM & Walter JA. 1970. Technical Writing. 3rd Ed. Holt, Rinehart & Winston.
• Richard WS. 1969. Technical Writing. Barnes & Noble.
e-Learning Source:

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	3	1	2	0	0	2	0	1	1			2	2	1	1	2	1
CO2	3	3	1	2	0	3	2	0	0	0			2	2	2	2	1	2	2
CO3	3	3	1	0	0	1	2	0	0	0			2	2	2	1	2	2	3
CO4	3	3	2	3	0	2	2	0	0	0			2	2	2	2	3	2	1
CO5	3	3	2	3	0	3	2	1	0	0			2	2	1	1	2	1	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation



Integral University, Lucknow

Effective from Session: 2018-19							
Course Code	PGS 505 (e-Course)	Title of the Course	Agricultural Research, Research Ethics and Rural Development Programmes	L	T	P	C
Year	I	Semester	II	1	0	0	
Course Objectives	<ul style="list-style-type: none"> To know the objective and principle of extension education To obtain idea on various development programmes in agriculture and allied area to help farmers. 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 						

Course Outcomes	
CO1	Students capable, efficient, and self-reliant in character.
CO2	They gain knowledge to help rural families in better appreciation of SWOT in the village.
CO3	They know about to open new opportunities for developing talents and leadership of rural people.
CO4	To provide knowledge and help for better management of farms and increase incomes.
CO5	To promote better social, natural recreational intellectual and spiritual file among the people.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	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 Centers (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.	5	CO1, CO2
2	Unit-II	Research ethics: research integrity, research safety in laboratories, welfare of animals used in research, computer ethics, standards and problems in research ethics.	3	CO2, CO3
3	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.	5	CO3, CO4, CO5

Reference Books:	
	• 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..
e-Learning Source:	
	https://sites.google.com/site/uasdpgs505/course-material-1

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	3	1	2	1	1	3	3	3	2	3			1	1	1	1	2	1
CO2	3	3	3	1	1	3	3	3	2	3			2	2	2	3	1	3	3
CO3	3	2	1	1	1	2	3	3	2	1			1	1	2	2	1	2	1
CO4	3	2	2	2	1	3	3	3	2	2			2	2	2	2	2	2	3
CO5	3	1	1	1	1	2	3	3	2	2			1	1	1	1	2	1	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation



Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	PGS 509	Title of the Course	AI Applications in Agribusiness Management	L	T	P	C
Year	I	Semester	II	2	0	1	3
Course Objectives	<ul style="list-style-type: none"> Understanding AI relevance in agribusiness Integration of AI technologies for financial analysis Optimizing supply chain and logistics with AI Data-driven decision-making in agribusiness 						

Course Outcomes	
CO1	To make aware about the basics of artificial intelligence
CO2	The students will be able to know about the basics of Machine learning and natural language processing
CO3	The students also get awareness about the use of AI in agricultural systems management
CO4	To aware the students about e-governance in agricultural systems

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Introduction to artificial intelligence: History and evolution of AI, comparison of human and computer skill, Component of AI, Scope and significance in different domains, Ethical considerations in AI development and deployment, Intelligent Agent, logical agent. Problem solving through AI: Defining problem as a state space search, analyzing the problem, solving problem by searching, informed search and Uninformed Search.	8	CO1
2	Unit-II	Machine Learning Basics: Neural networks and deep learning, Supervised and unsupervised learning, Feature selection and engineering, learning from observation, knowledge in learning. Natural Language Processing: Brief history of NLP, Text processing, Sentiment analysis, language translation, Early NLP system, ELIZA system, LUNAR system, General NLP system.	8	CO2
3	Unit-III	Agricultural Systems Management: Agricultural systems - managerial overview, Reliability of agricultural systems, Simulation of crop growth and field operations, Optimizing the use of resources, Artificial intelligence for decision support systems, AI based Predictive modelling for sales marketing.	8	CO3
4	Unit-IV	E-Governance in Agricultural Systems: Expert systems, Agricultural databases, e-business systems & applications, Technology enhanced learning systems and solutions, Rural development and information society, AI applications in logistics, Ethical consideration in AI-driven business decisions.	9	CO4

Practicals:				
Demonstration of e-NAM; ITC e-Choupal; E-Pashudhan Haat applications in helping agribusiness management, Use of AI in optimizing resources, decision support system and prediction in sales and marketing, Business plan development using AI, Application of AI in logistics.			12	CO1, CO2, CO3, CO4

Reference Books:				
<ul style="list-style-type: none"> Hemachandran K, Raul V. Rodriguez 2024. Artificial Intelligence for Business: An Implementation Guide Containing Practical and Industry-Specific Case Studies. Routledge, New York Chiranji Lal Chowdhary, Kumaresan Perumal, Logan Chella 2022. Innovative Supply Chain Management via Digitalization and Artificial Intelligence. Springer Verlag, Singapore 				

e-Learning Source:				

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO 7
	CO1	2	1	2	2	1	3	2	2		1			2	3	1	2	3	2
CO2	2	2	2	2	2	2	3	2		2			3	2	2	1	2	1	2
CO3	2	2	1	1	1	2	3	1		1			1	1	2	2	2	1	2
CO4	2	2	2	2	3	1	3	2		2			3	2	3	3	2	2	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD
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Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 541	Title of the Course	Computer Applications for Agri Business	L	T	P	C
Year	I	Semester	II	3	0	0	
Course Objectives	<ul style="list-style-type: none"> • The course aims to instill the significance of computer applications in the organizations and • It will help in handling recent trends in information technology and system for improved decision making. • Introduction to concepts of computers, system and application softwares and database management. 						

Course Outcomes	
CO1	Students would be able to understand the significance of computer applications in the organizations
CO2	Students would be able to handle recent trends in information technology and system for improved decision making
CO3	Students will learn about the cyber security and ethical challenges
CO4	Students would be able to develop the concept of MIS, cloud computing and artificial intelligence
CO5	Students will be able to understand the e-commerce agri business trends

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Unit-I	Concept of Computers- Brief History of Computers, Generation and Its Evolution, Characteristics of Computers, Main Areas of Computers and their Applications; Classification of Computers, Input-Output Devices, Memory Types (Cache, RAM, ROM), Memory Units.	8	CO1
2	Unit-II	System Software and Application Software, Open source software, introduction to computer languages, Introduction to Operating Systems – Functions, Features and Types., MS Windows and LINUX. Data Base Management System, MS Office (MS Word, MS Power Point, MS Excel, MS-Access and use of various management software Like SPSS, SAS etc.	12	CO1, CO2
3	Unit-III	The business value of internet, Intranet, extranet and Internet, Introduction to Web page design using HTML, Cloud Computing, Security and ethical challenges: Computer crime – Hacking, cyber theft, unauthorized use at work. Piracy – software and intellectual property. Health and Social Issues, Ergonomics and cyber terrorism.	10	CO1, CO3
4	Unit-IV	The concept of MIS–Definition, importance, Course Objective, prerequisites, advantages and challenges; Information Needs of organization, MIS and Decision – Making. Types/Classification of Information System for organizations; Introduction to Artificial Intelligence (AI), Neural Networks, Fuzzy logical control systems.	8	CO4
	Unit-V	e-business/e-commerce: e-business models, e-commerce processes, electronic payment systems, e-commerce trends with special reference to agri-business. Applications of MIS in the areas of Human Resource Management, Financial Management, Production/Operations Management, Materials Management, Marketing Management.	7	CO5

Reference Books:	
	<ul style="list-style-type: none"> • Laudon KC and Laudon JP. 2016. Management Information Systems- Managing the digital Firm, 14h Edition, Pearson India • Turban, Volonino, Woods. Wali OP. 2015. Information Technology for Management, Advancing Sustainable, Profitable Business Growth, Wiley • Jaiswal M and Mittal M. 2005. Management Information System, Oxford.
e-Learning Source:	
	https://agris.fao.org/agris-search/search.do?recordID=US9519420
	https://www.routledge.com/Computer-Applications-In-Agriculture/Rasmussen/p/book/9780367005320

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																			
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1	2	3	2	3	1		2		3	3			2	3	2	2	2	2
CO2	2	3	2	2	2		3		3	2			3	3	3	2	3	3	3
CO3	1	2	3	3	3		2		2	2			2	1	3	2	3	2	1
CO4	2	3	3	2	2		2		3	3			3	1	2	3	2	3	1
CO5	3	2	3	3	3		3		2	3			3	2	3	2	3	3	2

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation



Integral University, Lucknow

Effective from Session: 2022-23							
Course Code	ABM 540	Title of the Course	Research Methodology for Agri Business Mgmt	L	T	P	C
Year	I	Semester	II	3	0	0	
Course Objectives	<ul style="list-style-type: none"> To develop an understanding of research methodology To focus on process and techniques of research To study how to apply statistical tools on given data 						

Course Outcomes	
CO1	Students will learn about principles and basic of research for agribusiness firms
CO2	Students will learn the methods of sampling and different types of research design
CO3	Students will learn use of quantitative techniques in business decision making
CO4	Students will learn how to use equations, determinants, matrices in business decisions
CO5	Students will learn how to use statistical tools in data analysis

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	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, models, types of models, process of modeling.	8	CO1
2	Unit-II	Scales of measurement - nominal, ordinal, interval, ratio, Likert scale and other scales; Primary and secondary data, sources of data, Questionnaire Designing, instruments of data collection, data editing, classification, coding, validation, tabulation, presentation, analysis, development process of scale, identification of variables, variable measurement, variable standardization and dummy variables.	10	CO1, CO2
3	Unit-III	Introduction to multivariate statistical analysis techniques, Multivariate linear regression models, principal component analysis, linear discriminant analysis, factor analysis, evaluation matrices and model diagnostics for regression models.	9	CO1, CO3
4	Unit-IV	Logistic regression, decision trees, cluster analysis, random forest, GARCH, CART models, support vector machines, Forecasting techniques (AR, MA, ARMA and ARIMA models).	8	CO4
5	Unit-V	Definition, scope and importance, machine learning, types of machine learning, linear and nonlinear models in machine learning, introduction to deep learning, basic differences in machine learning and deep learning, concept of cloud machine learning, Big data analysis.	9	CO5

Reference Books:	
•	Cooper DR and Schindler PS. 2006. Marketing Research Concepts and Cases. TMH
•	Kumar R. 2014. Research Methodology, Sage publications, 4th Edition
•	Glenn JC. 2010. Hand book of Research Methods. OXFORD.
•	Kothari CR. 2018. Research Methodology- Methods and Techniques. New Age International Publishers; Fourth edition
e-Learning Source:	

Course Articulation Matrix: (Mapping of COs with POs and PSOs)																				
PO-PSO																				
	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
CO1	3	3	3	1	3	1	2	3	3	1				3	1	3	3	3	2	2
CO2	2	3	2	2	3	3	3	3	3	2				2	1	3	2	2	3	1
CO3	2	2	3	2	2	2	2	2	3	2				1	2	2	2	3	2	1
CO4	2	3	3	2	3	1	2	2	2	2				2	2	2	3	2	3	1
CO5	3	2	3	2	1	2	3	3	2	2				2	3	3	3	1	3	1

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation