NAVSARI AGRICULTURAL UNIVERSITY

Restructured and Revised Syllabi of Post-graduate Programmes

Agri-Business Management

Year 2022

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NAVSARI AGRICULTURAL UNIVERSITY

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Foreword

Presently we are at the dawn of an age of unprecedented technological change. Every day the technologies are astonishing through innovation, refinement and refurbishment. If we will not keep ourselves updated with the pace of refinement of the technologies, we may expel out of the development. Being a pillar of higher education and research in the field of agriculture and allied sciences, our responsibilities are double. Our education system needs to be rejuvenated instantaneously to develop competency and fundamental principles of the society. In anticipation of this, central government introduced National Education Policy-2020 which is more flexible, holistic and multi-disciplinary. The ICAR is sensible enough and has striving best to bring necessary reforms in agricultural education through constituting National Core Group (NCG) and BSMA Committees for revision and restructuring of Post-graduate and Doctoral syllabi of agriculture and allied sciences. The committee has thoroughly restructured the syllabus of Masters' and Doctoral programmes in 79 disciplines, introduced new courses under the dynamic leadership of stalwarts of agricultural sciences Dr. T. Mohapatra (DG ICAR & Secretary DARE, New Delhi), Dr Arvind Kumar (Chairman, NCG), Dr R.C. Agrawal (DDG Agri. Edn) and to his predecessor Dr N. S. Rathore, Dr. G. Venkateshwarlu (Member-Secretary, NCG and former ADG, EQR) and Dr. P. S. Pandey (ADG, EP & HS). To restructure and articulate the entire syllabi of agriculture and allied sciences, 19 different BSMA Committees performed outstanding job in many marathon meetings and brain storming sessions.

Since the syllabi was restructured and articulated considering national significance, there would have been few topics which does not fetch national attention, however, are indispensible from the Gujarat agriculture point of view. Therefore, to implement these recommendations in all the SAUs of Gujarat *viz*., Navsari Agricultural University, Navsari, Junagadh Agricultural University, Junagadh, Anand Agricultural University and Sardarkrushinagar Dantiwada Agricultural University, Dantiwada we reviewed and added certain topics without imposing much stress in the semester. We have not compromised with any of the content prepared by the expert team so that our student does not remain deprived of any opportunity in national level competition. I personally thanks all my colleges Vice Chancellors of SAUs of Gujarat Dr. K. B. Kathiria (AAU, Anand), Dr. R. M. Chauhan (SDAU, Dantiwada), Dr. N. K. Gontia (JAU, Junagadh) for showing faith in NAU, Navsari and bestowing the responsibilities of Nodal University for the finalizing the same. All the faculty members of all the SAUs of Gujarat has done marvelous work of reviewing these and provided their suggestion to make it more relevant to Gujarat state in the close coordination of Dr. T.R. Ahlawat, Nodal Director of Research & Dean PGS, NAU, Navsari. I acknowledge their contribution and congratulate them for coming out with this excellent document.

Jay Jawan, Jai Kisan, Jay Jay Garvi Gujarat

Date : 20-07-2022
Navsari

(Z. P. Patel)

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Dr. R. M. Chauhan
Vice Chancellor

Message

Curricula improvement is a continued process for upgrading national agricultural education system. The Indian Council of Agricultural Research (ICAR) has been continuously striving to bring necessary reforms for quality assurance in agricultural education. Therefore, the council has constituted a National Core Group (NCG) for development of Academic Regulations for Masters' and Ph.D. programmes by revision of syllabi every now and then. On the recommendations of the NCG, 19 Broad Subject Matter Area (BSMA) Committees were constituted for revising the syllabus in consultation with all the stakeholders to meet the challenges and harness opportunities in various disciplines of agriculture and allied sciences. It is obvious that a paradigm shift is necessary in academic regulations to comply with various provisions of the National Education Policy-2020. Hence, due care has been taken and flexible, multi-disciplinary and holistic approach have been followed while restructuring the syllabi to provide quality higher education. Major emphasis of the revision in the curricula is to enable an individual to study specialized areas of interest in depth and also to develop intellectual curiosity, scientific temper and creativity. Opportunities have also been given to the students/individuals to select the courses to support their planned academic activities, to register for online courses and to pursue internship for development of entrepreneurship during Masters' programme. Moreover, the concept of Teaching Assistantship has been introduced to provide experience to the Ph.D. scholars on teaching, evaluation and other related academic activities. Upon intensive discussion with the subject experts and on the basis of feedback from the faculties and students, the syllabus of Masters' and Doctoral programmes in various disciplines are restructured and new courses introduced. The syllabus has been revised suitably with the view to equip the students to gain knowledge, enhance their employability and entrepreneurial skills and build themselves to prepare for global competitiveness.

The adoption of the new and restructured Post Graduate curricula and syllabi as recommended by ICAR is to be adopted by all the state Agricultural Universities. The revised curricula and syllabi contains lecture schedule for both theory and practical of various courses, list of relevant reference books, list of related journals and websites for the benefit of students and teachers. I appreciate the endeavour made by the faculty and all the contributors for giving their valuable inputs and for preparing the syllabi for bright future of the students.

Date : 27-07-2022
Sardarkrushinagar

(R. M. Chauhan)

Prof. (Dr.) Naredra Kumar Gontia
Vice Chancellor
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Message

Indian Agriculture is evolving and advancing adopt against a variety of challenges and problems. The scientists of one of the world's largest National Agricultural Research System (NARS) including ICAR institutes and State Agricultural Universities (SAUs) are working hard to ensure the sustainable growth of the Indian agriculture despite these challenges. The Indian Council of Agricultural Research (ICAR) constituted 19 BSMA (broad subject matter area) committees with eminent agricultural scientists, academics, and subject matter specialists and revised the Post Graduate syllabus of Agriculture, and allied sciences in India so that the students can equip themselves with knowledge of recent developments and future technologies. According to the Ancient Indian Vedic Education System "The basic aim of all training, whether literary or vocational, should be to make the student fit to become a useful member of society". The State Agricultural Universities of Gujarat are always working on the same concept by leading in the country to take the challenge to implement the modern education system as well as syllabus. I am glad to know that the publication on "BSMA syllabus for SAUs of Gujarat" has been prepared for revision and restructuring of Post-graduate and Doctoral syllabi as per recommendation of ICAR-BSMA along with consideration of local need. The adoption of BSMA syllabus will make the competent PG students of SAUs of Gujarat to fall into step with knowledge of modern and emerging technologies. I convey my gratitude to all the members of various BSMA committees for SAUs of Gujarat for their fruitful inputs. I complement the efforts of Director of Research and Dean, PG Studies of Navsari Agricultural University, Navsari for compilation of this report to ensure timely implementation of BSMA in SAUs of Gujarat and also to his counter parts at JAU, AAU and SDAU.

Date : 23-07-2022
Junagadh

(Naredra Kumar Gontia)

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Dr. K.B. Kathiria
Vice Chancellor

Message

Review and revision in curriculum are imperative means not only to modify the program, but also enable teachers to espouse the ways curriculum interacts with learners in a real education milieu. It becomes more valued for post graduate programs in agricultural streams, as it takes care of interests/abilities of both the learners and teachers. The key paybacks remain elimination of needless contents, introduction of latest/updated smart methods of teaching, newer content/knowledge/practices, better connectiveness across students' theory courses and learning practices, and object-based learning experiences with recent technological impacts.

ICAR and SAUs are incessantly striving to fetch essential reforms in this direction for quality assurance in higher agricultural education. Based upon rigorous efforts from National Core Group and 19 Broad Subject Matter Area (BSMA) Committees (casing 79 disciplines), revision and restructuring of Post-graduate and Doctoral syllabi has been successfully attained by having fruitful consultation with all the stakeholders to harness opportunities across various disciplines of agriculture and allied sciences. It will certainly cater the need of paradigm shift in academic regulations to comply with various provisions of recently implemented National Education Policy-2020. It looks very pleasing to realize that the respective Committees have taken due care by adhering towards core functional elements of NEP-2020; namely flexibility, multi-disciplinary/holistic approach, better options on elective courses, online courses, internship /entrepreneurship elements. Added attractive ingredients are the teaching-assistantship for Ph.D. scholars, equipping students to attain skillful knowledge & employability with global competitiveness.

I wish to extend my heartful complement and best wishes for ICAR authorities as well as expert faculty members involved with different BSMA committees for their useful efforts. It is certainly going to be a path providing document for guiding demand driven quality PG education across various agricultural and allied disciplines in ICAR-SAU system. My specific and deep sense of gratitude goes to the Vice Chancellors of other 3 SAUs as well as Deans, Directors, Professors, Heads, faculty members and students at four SAUs of Gujarat who contributed nicely by their effective participation and interaction.

Date : 25-07-2022
Anand

(K. B. Kathiria)

NAVSARI AGRICULTURAL UNIVERSITY

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Dean Post Graduate Studies
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Preface

It is indeed awesome that our agriculture and allied education system has been in the coziest hand since its instigation. The resonance of this is well echoed through the series of incredible revolutions in agriculture which have been true architecture of economic and social structure of the nation. Looking at the burgeoning population and multiple challenges to the society, we need to stretch out to a greater strength to ensure perpetual prosperity. Recently government introduced National Education Policy-2020 which shall usher in a paradigm shift in the education system. Accordingly, ICAR, New Delhi constituted a National Core Group (NCG) and 19 Broad Subject Matter Area (BSMA) Committees for restructuring of Master's and Ph.D. curriculum, syllabi and academic regulations for the disciplines under agricultural sciences. SAUs of Gujarat are passionate to bring necessary reforms to assure the admirable education to their apprentices and aspirants.

We are indeed fortunate that Navsari Agricultural University, Navsari got a chance to serve as Nodal Institute to coordinate the implementation of various recommendations of the recommendation of BASMA in all the disciplines of SAUs under the dynamic leadership of Hon Vice Chancellor Dr. Z.P. Patel. We had three tiers system for the refinement of the same, where in the first subject specialists of all the SAUs in the chairmanship of identified convener thoroughly studied and recommended suggestions, which were further discussed at the university level and recommended. Finally we had a meeting at NAU, Navsari and finalized all the suggestions in the presence of all the Vice Chancellors, Director of Research & Dean PGS, Deans and Principals of various faculties of all the SAUs. I am indeed very much grateful to the all the Hon Vice Chancellors, Dr. Z. P. Patel (NAU, Navsari), Dr. K. B. Kathiria (AAU, Anand), Dr. R. M. Chauhan (SDAU, Dantiwada), Dr. N. K. Gontia (JAU, Junagadh) for showing confidence in me and my predecessor Dr. S. R. Chaudhary. I sincerely admire the help and guidance received from my counterparts Dr. M. K. Jhala (AAU, Anand), Dr. B. S. Deora (SDAU, Dantiwada) and Dr. D. R. Mehta (JAU, Junagadh) for their superb support. I am also thankful to all the staff members of the office of Director of Research & Dean PGS for their wonderful support in various activities of coordinating and compiling.

The commitment and cooperation of all the conveners, Deans & Principals, Registrars of all the SAUs of Gujarat is sincerely acknowledged.

I hope these curriculum, syllabi and academic regulations would come out true to its anticipated benefits to various provisions of National Education Policy-2020.

Date : 22-07-2022
Navsari

(T. R. Ahlawat)


कृषिमूला समृद्धिः
NAVSARI AGRICULTURAL UNIVERSITY


कृषिमित् कृषस्व


॥ कृषिमूलम जगत् सर्वम् ॥


AAU
कृणवन्तो राष्ट्रं कृषि संपन्नम्


भाकृअनुप
ICAR

CONTENTS

MBA AND Ph.D. PROGRAMME DETAILS

Agri-Business Management (ABM)

1. Academic Regulations for the discipline of Agri Business Management

<table>
<tr><th>Sr. No.</th><th>Item</th><th>Recommendations</th></tr>
<tr><td>1</td><td>Mandatory</td><td>PG and Ph.D. Regulations and syllabi should be uniform in all State Agricultural Universities (SAUs) including ICAR Deemed Universities and Central Agricultural Universities</td></tr>
<tr><td>2</td><td>Credit Load</td><td>Credit load should be uniform across all Programmes
The proposed credit load is as follows.
MBA (ABM) - 70
<table>
<tr><td>Major courses</td><td>20</td></tr>
<tr><td>Minor Courses</td><td>08</td></tr>
<tr><td>Supporting Courses</td><td>06</td></tr>
<tr><td>Common Courses</td><td>05</td></tr>
<tr><td>Seminar</td><td>01</td></tr>
<tr><td>Thesis/ Research
a. Summer Internship</td><td>30
10 (6 credits for preparatory courses + 4 for internship)</td></tr>
<tr><td>b. Research</td><td>20 (10 credits for preparatory Courses + 10 Project work)</td></tr>
<tr><td>Total Credits</td><td>70</td></tr>
<tr><td colspan="2">Ph. D - 100</td></tr>
<tr><td>Major Courses</td><td>12</td></tr>
<tr><td>Minor Courses</td><td>06</td></tr>
<tr><td>Supporting Courses</td><td>05</td></tr>
<tr><td>Seminars (2)</td><td>02</td></tr>
<tr><td>Research</td><td>75</td></tr>
<tr><td>Total Credits</td><td>100</td></tr>
</table></td></tr>
<tr><td>4</td><td>Attendance</td><td>The minimum attendance required is 75% to be counted separately for theory and practical both at MBA & Ph.D. levels and shall be uniformly applied in all universities.</td></tr>
<tr><td>5</td><td>Credit seminar</td><td>Credit seminar may be made compulsory for both MBA and Ph.D.
In Ph.D. a research scholar has to publish one review paper as output of major seminar</td></tr>
<tr><td>6</td><td>Submission of Synopsis</td><td>In the fourth semester for MBA and fourth semester for Ph.D. Programmes, a colloquium is compulsory before submission of synopsis of final research project</td></tr>
<tr><td>7</td><td>Mandatory research Publications</td><td>The condition that one research paper should have been accepted and second submitted of thesis work should be made compulsory for Ph.D. The publications (accepted or submitted) shall be in NAAS rated journals. (preferably >5.0)</td></tr>
<tr><td>8</td><td>Evaluation of project Report</td><td>MBA: one examiner, Ph. D: two examiners.
For Masters if the external examiner suggests major modifications to be made before acceptance/does not recommend the thesis for acceptance, the report shall be referred to another external examiner. If the second examiner recommends the report for its acceptance, recommendation shall be accepted, if the opinion of second examiner is also negative, the report shall not be considered for the award of the degree.</td></tr>
</table>

9	**Teaching assistantship to Ph.D scholar** .	Teaching assistantship may be introduced in Ph.D programme to attend UG and PG Teaching after successfully finishing their course work for not more than 16 Classes in a month and ICAR may formulate guidelines. Candidates can avail only one financial benefit i.e. any one of the university stipend or SRF or Teaching Assistanceship or any other financial grant
10	**Course numbers**	All series should be prefixed continuous from ABM 501 and ABM 601 for MBA and Ph. D respectively
11	**Steps to prevent Plagiarism**	The plagiarism certificate from the university may be made mandatory to submit the report for both PG and Ph. D programs

Course Title with Credit load MBA in Agri-Business Management (ABM)

I	MAJOR COURSES		20
No	**Course Code**	**Title of Course**	**Credits**
1.	ABM 501	Principles of Management and Organizational Behaviour	3 (3+0)
3.	ABM 502	Managerial Accounting and Control	3 (2+1)
2.	ABM 503	Applied Agribusiness Economics	2 (2+0)
4.	ABM 504	Human Resource Management for Agricultural Organizations	2 (2+0)
5.	ABM 505	Production and Operations Management	2 (2+0)
6.	ABM 506	Agricultural and Food Marketing Management - I	2 (2+0)
7.	ABM 507	Agricultural and Food Marketing Management - II	2 (2+0)
8.	ABM 508	Agri Supply Chain Management	2 (2+0)
9.	ABM 509	International Trade for Agricultural Products	2 (2+0)

II	MINOR COURSES		8
1.	ABM 510	Food Technology and Processing Management	3 (3+0)
2.	ABM 511	Rural Marketing	3 (3+0)
3.	ABM 512	Fertilizer Technology and Management	3 (3+0)
4.	ABM 513	Management of Agro-Chemical Industry	3 (3+0)
6.	ABM 514	Seed Production Technology Management	3 (3+0)
7.	ABM 515	Technology Management for Livestock Products	3 (3+0)
8.	ABM 516	Fruit Production & Post Harvest Management	3 (3+0)
9.	ABM 517	Farm Power & Machinery Management	2 (2+0)
10.	ABM 518	Food Retail Management	2 (2+0)
11.	ABM 519	Management of Agricultural Input Marketing	2 (2+0)
12.	ABM 520	Feed Business Management	2 (2+0)
13.	ABM 521	Management of Veterinary Hospitals	2 (2+0)
14.	ABM 522	Poultry and Hatchery Management	2 (2+0)
15	ABM 523	Management of Floriculture and Landscaping	2 (2+0)
16.	ABM 524	Risk Management in Agri Business	2 (2+0)
17.	ABM 525	Management of Agri-Business Co-Operatives	2 (2+0)
18.	ABM 526	Business Analytics for Agriculture	2 (1+1)
19.	ABM 527	Dairy Business Management	1 (1+0)
20.	ABM 528	Agri Extension Management	1 (1+0)
21.	ABM 529	Renewable Energy Sources Management	1 (1+0)

22.	ABM 530	Quality Management for Agri Business	1 (1+0)
23.	ABM 531*	Advertising and Brand Management	1 (1+0)
24.	ABM 532	Agri Infrastructure and Warehousing Management	1 (1+0)
25.	ABM 533	Contract Farming	1 (1+0)
26.	ABM 534	Human Resource Competence and Capacity Building Systems	1 (1+0)
27	ABM 535	Agri Commodity Markets and Futures Trading	1 (1+0)
III	**SUPPORTING COURSES**		**6**
0.	ABM 536	Strategic Management for Agri Business Enterprises	2
11.	ABM 537	Operations Research	2
12.	ABM 538	Financial Management in Agri Business	2

VI	**ABM-591 MASTER'S SEMINAR**		**01**
ii	**Research (Summer Internship + Research Project)**		**30 (10+20)**
A.	ABM -595 Summer Internship / Industrial Attachment (04 to 06 Weeks)		4
	Basic Courses mandatory for Summer Internship		6
	ABM 539	Communication for Management and Agri Business	3 (2+1)
	ABM 540	Research Methodology for Agri Business Management	3 (2+1)
B	Research Project (08 to 12 Weeks)		**20**
	ABM-599 Project work		**10**
	Basic courses mandatory for Project		**10**
	ABM 541	Computer Applications for Agri Business	3 (2+1)
	ABM 542	Project Management and Agri Business Entrepreneurship	3 (2+1)
	ABM 543	Agribusiness Environment & Policy	2 (2+0)
	ABM 544	Agri Business Laws and Ethics	2 (2+0)

Course Contents

Title: PRINCIPLES OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOUR
Course Code: ABM-501
Credit: 3+0

AIM OF THIS COURSE

Provide students with opportunities to understand a wide variety of topics related to business management, focusing on fundamental management principles and concepts that apply to agribusiness, traditional management skills, and new competencies needed to succeed in a fast- paced environment that demands ongoing innovations.

The course is organized as follows:

No	Blocks	Units
1	**Basic Concepts of Management**	1. Introduction to Management
		2. Planning, Organizing, Directing and Controlling
2	**Insights about Organizational Behaviour**	1. Foundations of Individual behaviour
		2. Group Dynamics
3	**Organizational Dynamics**	1. Understanding and managing organizational culture
		2. Concept of Organizational Development

LEARNING OUTCOMES

After successful completion of this course, the students are expected to be able to:

i. Understand the basic concepts of management and organizational behaviour
ii. Develop a overall view about the various management functions, managerial skills and approaches
iii. Get insights about the fundamentals of individual and group behaviourin the orgnisational setting
iv. Analyse the organisational level challenges in managing the resources optimally

BLOCK 1: BASIC CONCEPTS OF MANAGEMENT

UNIT-I: Introduction to Management: Nature, Scope and Significance of Management, Evolution of Management Thought, Approaches to Management, functions and skills of a manager

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

BLOCK 2: INSIGHTS ABOUT ORGANIZATIONAL BEHAVIOR

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,

UNIT IV: Group dynamics- types of groups, group formation, Group decision making, teambuilding and developing collaboration, leadership styles and influence process; leadership theories, leadership styles and effective leader

BLOCK 3: ORGANISATIONAL DYNAMICS

UNIT V: Understanding and managing organisational culture, power and political behaviour in organisations, conflict Management, negotiation, managing organizational change, concept of organizational development

TEACHING METHODS/ACTIVITIES

- Interactive Lectures
- Assignment (Reading/Writing)
- Student presentations
- Case study related to basics of management and organizational behaviour

SUGGESTED READINGS:

- Stephen P. Robbins, Mary Coulter & Neharika Vohra. 2010. *Management.* Pearson Edu.
- Heinz Weihrich, Mark V. Cannice & Harold Koontz. 2015 , *Management, A Global,Innovative and Entrepreneurial Perspective,* 14thEdition, McGraw Hill Education PvtLtd.
- James G. Beierlein, Kenneth C. Schneeberger, Donald D. Osburn. 2014. *Principles ofAgribusiness Management.* Fifth edition. Waveland Press
- Neck, C. P., Houghton, J.D. and Murray E.L., 2017, *Organizational behavior*, Sage Publication India Private Limited.
- Greenberg, J., 2013, *Behavior in Organisations*, PHI Learning Private Limited, New Delhi.
- John A. Wagner III, J. A. and Hollenbeck, J. R., 2015, *Organizational Behaviour*, Routledge Taylor & Francis Group, New York.
- Harold Koontz & Keing Weighhrich.2010. *Essentials of Management*.Tata McGraw Hill

Title: MANAGERIAL ACCOUNTING AND CONTROL
Course Code: ABM-502
Credit: 3 (2+1)

AIM OF THIS COURSE

The objective of this course is to expose the learner to the concept and methods of financial and management accounting. Focus will be on understanding techniques, uses and applications of financial and management accounting.

No	Blocks	Units
1	**Financial Accounting**	1. Introduction to financial accounting
		2. Accounting standards
		3. Double Entry system
		4. Use of accounting softwares
2	**Managerial Accounting**	1. Meaning of Managerial accounting
		2. Analysis of financial statements
		3. Cash flow and fund flow analysis
3	**Cost Accounting**	1. Introduction to cost accounting
		2. Standard costing
		3. Variance Analysis
		4. Budget and budgetary control

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Develop a clear understanding about the concepts of financial and managerial accounting
- Understand the basics of cost accounting through various tools and techniques available
- Get an insight about the budget and budgetary control methods

BLOCK 1: FINANCIAL ACCOUNTING

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

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

BLOCK 2: MANAGERIAL ACCOUNTING

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

BLOCK 3: COST ACCOUNTING

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.

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

TEACHING METHODS/ ACTIVITIES

- Lecture
- Case studies for making the participants get a clear idea about the real life budgeting and accounting practices
- Live project in the firms finance departments for getting the first hand experience

SUGGESTED READINGS

- S P Jain and K L Narang *,2014. Financial Accounting*. 12th Edition. Kalyani publisher
- Sharma and Gupta, 2018. *Management Accounting* 13th Edition, Kalyani Publisher
- Maheshwari SN & Maheshwari SK. 2018. *Financial Accounting*. 6th Ed. Vikas Publ. House.

Title: APPLIED AGRIBUSINESS ECONOMICS

Course Code: ABM- 503

Credit: 2+0

AIM OF THIS COURSE

This course applies basic economic tools and models to problems involving supply, demand, individual consumer and firm behaviour, and market structure. Basic market structure models covered include perfect competition, monopolistic competition, oligopoly, and monopoly. Economic tools and models are related to business strategies throughout the course.

The course is organized as follows:

No	Blocks	Units
1	**Overview of Managerial Economics**	1. Basic managerial economics principles
		2.Mathematical concepts used in managerial economics
		3. Introduction to behavioral economics
2	**Production, cost and supply analysis**	1. Production Function
		2. Cost Concepts
		3. Determinants of price
3	**Macroeconomics**	1. The national income
		2. Flow of money in the market and economy
		3. Business decisions under certain and uncertain situations

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the concepts of managerial economics and its implications on the agri business environment
- Develop a clearer overview on the macroeconomic environment that exists for a agri business enterprise to understand and adapt for optimizing the output

BLOCK 1: OVERVIEW OF MANAGERIAL ECONOMICS

UNIT I: Scope of managerial economics, objective of the firm and basic economic principles; mathematical concepts used in managerial economics. Introduction to behavioral economics

UNIT II: Indifference curves and budget sets - Demand analysis - meaning, types and determinants of demand; demand function; demand elasticity; demand forecasting-need and techniques.

BLOCK 2: PRODUCTION, COST AND SUPPLY ANALYSIS

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.

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)

BLOCK 3: MACROECONOMICS

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

TEACHING METHODS/ ACTIVITIES

- Interactive Lectures
- Assignment (Reading and Writing)
- Cases on recent developments in economic environment
- Live projects to understand the principles of economics for an organisation
- Group analysis of newspapers covering national level economic trends

SUGGESTED READINGS

- 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

Title: HUMAN RESOURCE MANAGEMENT FOR AGRICULTURAL ORGANISATIONS

Course Code: ABM- 504

Credit: 2 (2+0)

AIM OF THE COURSE

The objective of this course is to expose the learner to the field of human resource management. The focus will be on human resource practices and their utility for managers in agri based organizations

The course is organized as follows:

No	Blocks	Units
1	**Overview of Human Resource Management**	1. Meaning and scope of Human Resource Management
		2. Human Resource Planning
		3. Recruitment, Selection and Training
		4. Performance Appraisal
		5. Compensation Management
2	**Industrial Relations**	1. Trade Union
		2. Grievance Management
		3. Health and Safety of HR
3	**Ethical and Global issues in HRM**	1. Global HRM
		2. HR Metrics, HRIS and workplace an alystics

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the basic concept of HRM and SHRM
- Develop an insight into important human resource management functions like job analysis, job planning, recruitment, selection, performance appraisal, training, development, compensation management etc with major reference to the agri based organisations
- Get a clearer view about the status of employee – employer relationship in Indian agri enterprises and global agri based organizations
- Understand the ethical and recent trends in managing human resource effectively

BLOCK 1: INTRODUCTION TO HUMAN RESOURCE MANAGEMENT

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

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.

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

BLOCK 2: INDUSTRIAL RELATIONS

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;

BLOCK 3: ETHICAL AND GLOBAL ISSUES IN HRM

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.

TEACHING METHODS/ ACTIVITIES

- Lectures
- Videos showing trends and practices of innovative human resource management
- Live project for understanding the application of concepts in the real-life situation
- Interaction with the HR managers of the agri based organsiations to understand the intricacies involved in the managing the human resource
- Group tasks to study the policy framework and regulatory environment that exists in India and globally to manage human resource

SUGGESTED READINGS

- 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
- Subba Rao P. 2004. *Essentials of Human Resource Management and Industrial Relations*. Himalaya Publ. House.

Title: PRODUCTION AND OPERATIONS MANAGEMENT

Course Code: ABM- 505

Credit: 2 (2+0)

AIM OF THE COURSE

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

The course is organized as follows:

No	Blocks	Units
1	**Introduction to Production and Operations Management**	1. Concept and scope of production and operations management
		2. Operations strategy
		3. Productivity variables and measurement
2	**Inventory management**	1. Determination of material requirement
		2. Industrial safety
		3. Cloud operations management
3	**Overview of Quality Management**	1. Statistical process control
		2. Re engineering and Value engineering

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the basic concepts of production and operations management including manufacturing systems, layout planning and analysis
- Develop a understanding about the operations strategy, productivity variables, and their measurement along with product design and development
- Get an insight about fundamentals of inventory management, safety management, quality assurance practices and techniques with major emphasis on agri and food based industries

BLOCK 1: INTRODUCTION TO PRODUCTION AND OPERATIONS MANAGEMENT

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

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.

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.

BLOCK 2: INVENTORY MANAGEMENT

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

BLOCK 3: QUALITY MANAGEMENT

UNIT V: Quality Assurance, Accepting Sampling, Statistical Process Control, Total Quality Management, ISO standards and their Importance, Introduction to re-engineering, value engineering, check sheets, Pareto charts, Ishikawa charts, JIT Pre-requisites for implementation Six Sigma, Lean Management, Reliability Engineering, Safety Engineering, Fault Tree Analysis.

TEACHING METHODS/ACTIVITIES

- Interactive sessions
- Live projects
- Assignments (reading and writing)
- Presentations of quality management practices by leading agri and food organizations

SUGGESTED READINGS

- 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

Title: AGRICULTURAL AND FOOD MARKETING MANAGEMENT- I
Course Code: ABM- 506
Credit: 2 (2+0)

AIM OF THE COURSE

To develop the understanding the concept of marketing system with specific inputs of product, pricing, availability and promotional details

The course is organized as follows:

No	Blocks	Units
1	**Overview of Marketing Management**	1. Marketing concept
		2. Developing the product mix
		3. Branding decisions
		4. Packaging technology
2	**Pricing decisions**	1. Pricing Objectives
		2. Types of pricing
3	**Channel Management and Physical Distribution**	1. Distribution channels
		2. Warehouse management, Inventory management
		3. Transport management
4	**Marketing Communications**	1. Marketing communications mix
		2. Digital Marketing, Mobile Marketing, Social Marketing and Social Media Marketing
		3. Marketing efficiency and effectiveness,

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the basics of marketing with specific emphasis on managing the product details
- Get detailed insight on the pricing techniques and managing the demand and supply relationship profitably
- Develop the understanding about the marketing channels and intermediaries involved
- Understand the promotional strategies and communication development tools and methods

BLOCK 1: OVERVIEW OF MARKETING MANAGEMENT UNIT 1

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

BLOCK 2: PRICING DECISIONS UNIT 2

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

BLOCK 3: CHANNEL MANAGEMENT AND PHYSICAL DISTRIBUTION UNIT 3

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, Technolog ical advances in physical distribution, Vehicle scheduling and routing, Fixed and variable routing systems, Vehicle scheduling tools, Vehicle scheduling models, Computer-based vehicle scheduling

BLOCK 4: MARKETING COMMUNICATIONS

UNIT 4

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

UNIT 5

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

TEACHING METHODS/ ACTIVITIES

- Lectures
- Cases studies from recent marketing trends from the agri and food organisations
- Assignments (Group/ Individual)
- Live project based upon marketing practices adopted by various organizations
- Group discussions on contemporary marketing practices

SUGGESTED READINGS

- Kotler P. Keller K,Koshy A.& Jha M. 2013. *Marketing Management–Analysis, Planning, Implementation and Control*. Pearson Education.
- Ramaswamy V S 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
- Richard Gay, Alan Cjarlesworth, Rit a Esen 2014, *Online Marketing*, Oxford University Press
- Mohammed, Fisher, Jaworski and Cahill : *Internet Marketing – Building Advantage in a networked economy* Tata McGraw-Hill
- Strauss J. and Frost R. 2013. *E-Marketing*, Prentice-Hall
- Roberts M. 2018. *Internet Marketing*, Cengage Learning
- Vassos: *Strategic Internet Marketing – Practical e-commerce and branding Tactics*, Que Books
- Chaffey, Meyer, Johnston and Ellis – Chadwick. 2009. *Internet Marketing*, Prentice-Hall/Financial Times

Title: AGRICULTURAL AND FOOD MARKETING MANAGEMENT- II
Course Code: ABM- 507
Credit: 2 (2+0)

AIM OF THE COURSE:

To develop learning about the basic concept of marketing with major emphasis on agri and food marketing by equipping the students with the understanding of ecosystem in which the agri organization functions to meet the requirements of the customer profitably

The course is organized as follows:

No	Blocks	Units
1	**Agricultural and Food Marketing**	1.Marketing concept and marketing systems
		2. Market Liberalization
2	**Marketing Strategy, Planning and Control**	1. Marketing planning
		2. New Product Development:
3	**Commodity Marketing**	1. Grain marketing,
		2. Livestock and meat marketing,
		3. Poultry and eggs marketing, marketing of fresh milk

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the agricultural and food marketing concepts and systems
- Get an insight about the marketing planning and strategies for developing products for meeting the specific needs of the final customers
- Develop a clear view about the commodity marketing practices in India and in International markets

BLOCK 1: AGRICULTURAL AND FOOD MARKETING UNIT 1

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, Co-operatives in the agriculture and food sectors, Control and management of secondary co-operatives, the weaknesses of co- operatives, Selling arrangements between co-operatives and their members

UNIT 2

Market Liberalization: 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

BLOCK 2: MARKETING STRATEGY, PLANNING AND CONTROL

UNIT 3

Marketing Strategy, Planning and Control: 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

UNIT 4

New Product Development: The impetus to innovation, New product development process

The adoption process, the effect of products characteristics on the rate of adoption, Buyer behaviour: 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

BLOCK 3: COMMODITY MARKETING UNIT 5

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

TEACHING METHODS/ ACTIVITIES

- Lectures
- Cases studies from recent marketing trends from the agri and food organisations
- Assignments (Group/ Individual)
- Live project based upon marketing practices adopted by various organizations
- Group discussions on contemporary marketing practices

SUGGESTED READINGS:

- Acharya, S. S. and Agarwal, N. L., 2011, Agricultural Marketing in India. 4th Ed. Oxford and IBH.
- Kohls, R. L. and Uhj, J. N., 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

Title: AGRI SUPPLY CHAIN MANAGEMENT
Course Code: ABM- 508
Credit: 2 (2+0)

AIM OF THE COURSE

To introduce the students to the concepts, processes and framework of agricultural supply chain management.

The course is organized as follows:

No	Blocks	Units
1	**Overview of Supply Chain Management**	1. Introduction to Agri Supply Chain Management
		2. Demand Management in Supply Chain
		3. Manufacturing Management
2	**Procurement Management**	1. Purchasing Cycle
		2. Material Requirement Planning
3	**Logistics Management**	1. Distribution Strategies and Management
		2. Warehouse Management
		3. IT application in ASCM

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the various elements involved in managing agri supply chain from farm to fork
- Relate well with the issues and challenges involved in managing and forecasting the demand of the products
- Develop insights on the techniques of procurement management and handling inventory
- Assess the importance of managing logistics along with adequate handling and packaging intricacies

- Get a overall clarity about the use of information technology to make the agri supply chain more efficient and rewarding

BLOCK 1: OVERVIEW OF SUPPLY CHAIN MANAGEMENT

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. Innovations in Global Agri-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. SCM Metrics/Drivers and Obstacles.

BLOCK 2: PROCUREMENT MANAGEMENT IN AGRI. SUPPLY CHAIN

UNIT III: 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).

BLOCK 3: LOGISTICS MANAGEMENT

UNIT IV: 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. Case Studies on the following:(a) Green Supply Chains (b) Global Supply Chains (c) Coordination in a SC. Value of and distortion of information: Bullwhip effect (d) Sourcing and contracts in SC (e) Product availability with uncertain demand (f) Inventory planning with known /unknown demand (g) Cases from FAO/IFPRI etc.

TEACHING METHODS /ACTIVITIES

- Lectures
- Case study on the real life situations regarding the supply chain management practices
- Assignments (Group and individual)
- Live projects
- Newspaper analysis
- Presentations of best practices in the industry
- Videos and guest lectures by the eminent and successful organizations

SUGGESTED READINGS

- Acharya, S. S., and Agarwal, N. L., 2011, *Agricultural marketing in India*. Oxford and IBH.
- Altekar, R. V., 2006, *Supply Chain Management: Concepts and Cases*.PHI
- Chopra, S., Meindl, P. and Kalra, D. V., 2016, *Supply chain management: Strategy,Planning, and Operation*, Pearson Education India
- Mohanty R.P.2010. *Indian Case studies in Supply Chain Management & other LearningResources.* OXFORD
- N.Chandrasekaran.2010. *Supply Chain Management: Process, system &Practice* OXFORD
- Singh Sukhpal. *Organic Produce Supply Chains in India-organisation and governance*. Allied Publ.

Title: INTERNATIONAL TRADE IN AGRICULTURAL PRODUCTS
Course Code: ABM- 509
Credit: 2 (2+0)

AIM OF THE COURSE

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

The course is organized as follows:

No	Blocks	Units
1	**Introduction to International Trade**	1. Basic concepts of International Trade
		2. WTO and its implications for Indian agri business sector
		3. International trade restrictions and support systems
2	**Regulations and policy measures for International trade**	1. India's foreign trade policy framework
		2. market entry methods
		3. Export procedures & documentations

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the basic concepts of International trade with reference to WTO and International agreements on Agriculture
- Assess the practices of trade of agri business commodities
- Develop a clear understanding about the significant regulations and policy measures for International Trade

BLOCK 1: INTRODUCTION TO INTERNATIONAL TRADE

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

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

UNIT III: Importance of foreign trade for developing economy; absolute and comparative advantage, foreign trade of India. Cases on agri business commodity trade practices

BLOCK 2: REGULATIONS AND POLICY MEASURES FOR INTERNATIONAL TRADE

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

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

TEACHING METHODS/ ACTIVITIES

- Lectures
- Cases on contemporary issues
- Group assignments
- Live projects
- Policy discussions
- Guest lectures
- Industrial visits to firms exporting agri commodities

SUGGESTED READINGS:

- Study materials by the Center for WTO Studies, ITPO, New Delhi, The Future of Indian Agriculture
- International Trade and Food Security, Edited by F Brouwer, LEI - Wageningen UR, The Netherlands, P K Joshi, IFPRI, India. 2016

MINOR COURSES

Title: FOOD TECHNOLOGY AND PROCESSING MANAGEMENT
Course Code: ABM-510
Credit: 3+0

WHY THIS COURSE?

As a discipline, Food Technology is the combination of engineering, food science, hotel management, and home science. It is an advanced study of the technology and processing methods used to develop, research, manufacture, produce, preserve and process food with related substances.

AIM OF THIS COURSE:

Food Technology is the application of food science to the selection, preservation, processing, packaging, distribution and use of safe, wholesome and nutritious food. The food processing industry covers a range of food products.

The Course is organized as follows:

No	Blocks	Units
1	**Food Technology**	1.Food Industry in India
2	**Processing Management**	1.Basics of Food Processing
		2.Food Safety and Costs Analysis
		3. Case studies on project formulation in various types of food industries

LEARNING OUTCOMES

After completion of this course, the students are expected to be able to acquaint the students with different food processing techniques and their management.

BLOCK 1: FOOD TECHNOLOGY

UNIT 1: 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.

BLOCK 2: PROCESSING MANAGEMENT

UNIT 2: 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.

UNIT 3: 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.

UNIT 4: 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

SUGGESTED READINGS

- Acharya SS & Aggarwal NL. 2004. *Agricultural Marketing in India*. Oxford & IBH.
- Early R. 1995. *Guide to Quality Management Systems for Food Industries*. Springer
- Jelen P. 1985. *Introduction to Food Processing*. Reston Publishing.
- Potly VH & Mulky MJ. 1993. *Food Processing*. Oxford & IBH
- P. J. Fellows (2016). *Food Processing Technology Principles and Practice,* Woodhead Publishing, 4th Edition
- Potter, N. N. (2018). *Food science*. McGraw-Hill Education, 6th Edition

- Singh R.P, Heldman D.R (2013). *Introduction to Food Engineering*. Elsevier Inc., 5th Edition
- J. Scott Smith, Y.H. Hui (2013*) Food Processing: Principles and Applications*, Wiley

Title: RURAL MARKETING
Course Code: ABM-511
Credit: 3+0

AIM OF THIS COURSE:

To explore the possibilities and potential of the rural market. It aims at critically analysing the market opportunities, consumer trends and patterns and development of better marketing strategies for the rural areas.
The Course is organized as follows:

No	Blocks	Units
1	**Rural Marketing Environment**	1.Rural Market Concept & Scope
		2. Environmental factors
		3. Rural finance
		4. Rural consumer's behaviour
2	**Rural Marketing Strategy**	1. Rural Product strategy
		2. Pricing for rural markets
		3. Promotion and communication strategy

LEARNING OUTCOMES
After completion of this course, the students are expected to be able to develop understanding regarding issues in rural markets like marketing environment, consumer behaviour, distribution channels, marketing strategies, etc.

BLOCK 1: RURAL MARKETING ENVIRONMENT

UNIT 1: 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.
UNIT 2: Environmental factors: Socio-cultural, economic, demographic, technological and other environmental factors affecting rural marketing.
UNIT 3: Rural finance: Concept, demand, banking model; Finance Schemes of NABARD, Other Schemes of State Govt, Central
UNIT 4: Rural consumer's behaviour: Behavior of rural consumers and farmers; buyer characteristics and buying behaviour; customer relationship management, rural market research.

BLOCK 2: RURAL MARKETING STRATEGY

UNIT 1: 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.

UNIT 2: Pricing for rural markets: Pricing policy and pricing strategy, distribution strategy, Rural retailing and modern store formats in rural areas.

UNIT 3: Promotion and communication strategy: Media Planning, Distribution channels, personal selling strategies in rural markets, innovations in rural marketing

TEACHING METHODS /ACTIVITIES

- Lectures
- Discussion
- Case Studies
- Student-led presentations

SUGGESTED READINGS

- Krishnamacharyulu & Ramakrishnan. 2010. *Rural Marketing: Text and Cases*: Pearson Education. 2nd edition
- Sukhpal Singh.2004. *Rural Marketing: Focus on Agricultural Inputs,* Vikas Publishing
- Pradeep Kashyap. 2011. *Rural Marketing*. Pearson Education
- Dinesh Kumar and Punam Gupta. 2017. *Rural Marketing: Challenges and Opportunities*. Sage Publications.

Title: FERTILIZER TECHNOLOGY AND MANAGEMENT
Course Code: ABM-512
Credit: 3+0

WHY THIS COURSE?

Provide exposure to most recent Nitrogenous and Complex fertilizer production technologies. Improve participants' technical knowledge over a varied range of fertilizer production techniques

AIM OF THIS COURSE:

Enhance the participants' analytical and trouble-shooting skills by generating awareness to identify and resolve operational inefficiencies, if any, of their facilities.
The Course is organized as follows:

No	Blocks	Units
1	**Fertilizer Production**	1. Fertilizer development
		2 Raw material
		3. Production efficiency
2	**Testing and Field Trials**	1. Testing
		2. Field trials

LEARNING OUTCOMES

Provide a platform to exchange ideas on a varied range of production topics, opportunity for active interaction with leading technology experts and to acquaint the students in latest advances in fertilizer technology management.

BLOCK 1: FERTILIZER PRODUCTION

UNIT 1: Fertilizer development: Concept, scope, need, resource availability; import and export avenues for fertilizer; types of fertilizers, grading and chemical constituents, role of fertilizers in agricultural production, production and consumption of fertilizer in India.

UNIT 2: Raw material Supply; Principles of manufacturing-potassic fertilizers, secondary and micro-nutrient formulations

UNIT 3 : Production efficiency: Production efficiency and capacity utilization; quality control and legal aspects fertilizer control order

BLOCK 2: TESTING AND FIELD TRIALS

UNIT 1: Testing facilities; constraints in fertilizer use; assessment of demand and supply of different fertilizers, fertilizer distribution, fertilizer storage.

UNIT 2: Field trials and demonstrations; environmental pollution due to fertilizers

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

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

Title: MANAGEMENT OF AGRO CHEMICAL INDUSTRY
Course Code: ABM- 513
Credit: 3+0

WHY THIS COURSE?
The agrochemicals (pesticides, hydrogels, plant growth regulators etc.) have played a pivotal role in the past in increasing agricultural productivity and production, and in protecting and preserving the human and animal food, feed, health and the belongings.

AIM OF THIS COURSE:
Plant protection chemicals have and will continue to play a crucial role in meeting the food, feed and fiber needs of the mankind.

The Course is organized as follows:

No	Blocks	Units
1	**Agro Chemicals**	1. Agro Chemicals
		2. Insecticides
		3. Fungicides
2	**Insecticide Act and Plant Protection**	1. Insecticide Act.
		2. Plant Protection

LEARNING OUTCOMES
To familiarize the students with the agrochemicals, their structure, classification and development and management of agro-chemical industry.

BLOCK 1: AGRO CHEMICALS
UNIT 1: 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.

UNIT 2: 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.

UNIT 3: Fungicides: Fungicides – Classification and preliminary knowledge of commonly used fungicides; Biomagnifications of pesticides and pesticidal pollution.

BLOCK 2: INSECTICIDE ACT AND PLANT PROTECTION

UNIT 1: Insecticide Act: Introductory knowledge about development of agro- chemicals; Insecticidal poisoning, symptoms and treatment; Main features of Insecticide Act.

UNIT 2: Plant Protection: Directorate of Plant Protection, Quarantine and Storage– A brief account of its organizational set up and functions; IPM Concept – Bio- pesticides – Plant products.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

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

Title: SEED PRODUCTION TECHNOLOGY MANAGEMENT
Course Code: ABM-514
Credit: 3+0

AIM OF THIS COURSE:

The course covers a wide range of seed science and technology issues related to production of high quality seeds, processing, testing, certification, quality control, seed policies and regulations, variety release and registration, seed quality management in seed multiplication systems, seed storage, marketing.

The Course is organized as follows:

No	Blocks	Units
1	**Seed Technology**	1 Seed Technology
2	**Seed Management**	1. Development and Management of Seed Programmes
		2. Maintenance of genetic purity
		3. Management of seed processing plant
		4. Seed Marketing

LEARNING OUTCOMES

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

BLOCK 1: SEED TECHNOLOGY

UNIT 1: 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.

BLOCK 1: SEED MANAGEMENT

UNIT 1: 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 2: Maintenance of genetic purity: Minimum seed certification standard and Management of breeders & Nucleus seed; Management of seed testing laboratory and research and development.

UNIT 3: Management of seed processing plant seed storage management; seed packaging and handling.

UNIT 4: 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.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Agrawal RL. 2017. *Seed Technology*. Oxford & IBH.
- Desai BB, Katecha PM & Salunkhe DK. 2009. *Seed Handbook: Biology, Production, Processing and Storage*. Marcel Dekker.
- Kelly A. 1988. *Seed Production of Agricultural Crops*. Longman.
- McDonald MB Jr. & Copeland LO. 2012. *Seed Production: Principles and Practices*. Chapman & Hall.

Title: TECHNOLOGY MANAGEMENT FOR LIVESTOCK PRODUCTS
Course Code: ABM- 515
Credit: 3+0

WHY THIS COURSE?
Students may study two major topics include meat technology and dairy technology. They may also do research activities on product development, development of functional meat, an extension of shelf life, and development of milk products.

AIM OF THIS COURSE:
The main aim of this *course* is to disseminating knowledge about hygienic milk production, hygienic slaughter, utilization of slaughterhouse by-*products*, preparation of value-added *meat products*, preparing of value-added indigenous as well as milk *products*, and dressing of food *animals*.
The Course is organized as follows:

No	Blocks	Units
1	**Livestock product & Technology**	1. Status of livestock product and technology 2. Manufacturing technologies
2	**TQM and Marketing of Livestock Products**	1. TQM in processing
		2. Marketing livestock products

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

BLOCK 1: LIVESTOCK PRODUCT & TECHNOLOGY
UNIT 1: Present status of livestock products industry in India: Dairy, meat, skin and hides, wool, etc; SWOT analysis of livestock product industry, importance of value addition of livestock products, Concept of organic milk and meat. New techniques of biotechnology for improving food value.

UNIT 2: Manufacturing technologies: Dairy-Manufacturing technologies of various dairy products and byproduct utilization. Meat- Manufacturing technologies of meat and its products, industrial processing and utilization of wool and animal by-products, value added egg product development.

UNIT 3: Milk and meat processing plant: Layout and designing of milk and meat processing plant, abattoir design, sanitation and basic slaughterhouse practices, Plant Management- Production, planning and control, packaging, preservation and storage system for livestock products; transportation system for domestic markets and international markets.

BLOCK 1: TQM AND MARKETING OF LIVESTOCK PRODUCTS

UNIT1: Total quality management in processing Total quality management in processing of milk and its byproduct, meat and byproduct, value added eggduct and wool, Quality control measures during storage transit; extent of losses during storage and transport, management measures to minimize the loss.

UNIT 2: Marketing livestock products, Milk, meat, wool, fish etc and its byproduct, Marketing and distribution system of animal products; National and international specifications and quality standards for various products; environmental and legal issues involved.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Prabhat Kumar Mandal and Ashim Kumar Biswas (2014). *Animal Products Technology,* Studium Press India Pvt. Ltd.; 1st Edition
- Aashim Kumar Bishwas, Prabhat Kumar Mandal (2014). *Textbook of Poultry, Egg and Fish Processing Technology,* Studium Press (India) Pvt.Ltd.

Title: FRUIT PRODUCTION AND POST HARVEST MANAGEMENT
Course Code: ABM-516
Credit: 3+0

WHY THIS COURSE?

Postharvest management of fruits and vegetable: A potential for reducing a minimum postharvest loss as well as can potentially reduce production cost.

AIM OF THIS COURSE:

A dual *purpose of p*reventing losses that occur due to harvest losses of *fruits* and vegetables vary from 25% to 40%, depending on the kind of *produce* and the pre and *post-harvest* practices they are put through. The Course is organized as follows:

No	Blocks	Units
1	**Fruit Production**	1. Introduction
		2. Management of horticultural crops
2	**Post Harvest Management**	1 Post harvest management in horticulture-procurement
		2. Post harvest management in horticulture process
		3. Marketing of fruits

LEARNING OUTCOMES

To impart knowledge about management of horticultural crops and post-harvest technologies

BLOCK 1: FRUIT PRODUCTION

UNIT 1: Introduction: Global and National Status of Horticultural production in India and emerging scenario

UNIT 2: Management of horticultural crops: Establishing an orchard, basic cultural practices, regulation of flowering, fruiting and thinning, protection against insect- pest, weeds: Maturity indices, Harvesting and its relationship with quality, sorting and grading, pre-harvest crop management practices and their influence on quality during storage and marketing.

BLOCK 2: POST HARVEST MANAGEMENT

UNIT 1: Post harvest management in horticulture-procurement: Procurement management, important factors for marketing, standardization and quality control, packaging. Physiology of ripening and senescence. Storage system: on-farm storage-evaporatively cooled stores, ventilated storage, pit storage etc. Refrigerated storage refrigeration cycle, controlled/modified atmosphere, hypobaric storage.

UNIT 2: Post harvest management in horticulture process: Application of growth regulators for quality assurance, post-harvest treatments: pre cooling, heat treatments (hot water, hot air and vapor heat), fungicides & biologically safe chemicals, irradiation, curing, pulsing *etc*. Packing line operations, packaging of horticultural produce. Transportation rail, road, sea, air. Codex norms for export of perishables. Development of fruit-based carbonated drinks, development of dehydrated products from some important fruits, storage of pulp in pouches, essential oils from fruit waste, dehydrated fruits. Market structure and export potential of fruits.

UNIT 3: Marketing of fruits: Problems in marketing of fruits, and government policy; quality standards for domestic and international trade.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- N S Rathore, G K Mathur, S S Chasta (2013). Post-Harvest Management and Processing of Fruits and Vegetables, ICAR
- Chadha KL & Pareek OP. 1993. *Advances in Horticulture*. Vols. I-IV. Malhotra Publ. House.
- Kader AA. 1992. *Post-harvest Technology of Horticultural Crops*. Univ. of California. Div. of Agri. & Natural Resources.
- John P. Jacob (2012). Handbook on Post Harvest Management of Fruits and Vegetables, ASTRA L Publishing;
- NIIR Board of Consultants & Engineers (2016). The Complete Technology Book on Processing, Dehydration, Canning, Preservation of Fruits & Vegetables, NIIR PROJECT CONSULTANCY SERVICES; 3rd Revised Edition
- Keith Thompson (2003). *Fruit and Vegetables: Harvesting, Handling and Storage*, Wiley-Blackwell; 2nd Edition

Title: FARM POWER & MACHINERY MANAGEMENT
Course Code: ABM- 517
Credit: 2+0

WHY THIS COURSE?

The role of mechanization and its relationship to productivity, employment, social and technological change; performance and *power* analysis (Various sources of *farm power*, their availability and utilization) cost analysis of mechanized agriculture.

AIM OF THIS COURSE:

Agricultural machinery management is the section of farm management that deals with the optimization of the equipment phases of agricultural production. It is concerned with the efficient selection, operation, repair and maintenance, and replacement of machinery.

The Course is organized as follows:

No	Blocks	Units
1	**Farm Power & Machinery**	1. Farm power and tractors
		2. Tillage and Tillage machinery
		3. Sowing, Planting and Intercultural Equipment
2	**Agricultural Equipments industry and cost analysis of operation**	1 Agricultural equipments industry
		2. Cost analysis of operations

LEARNING OUTCOMES

To equip the students with sufficient theoretical knowledge and practical skills about farm power and tractor power, implement resources used in agriculture, their cost of operation and selection

BLOCK 1: FARM POWER AND MACHINERY

UNIT 1: Farm power and tractors: Farm power in India - sources, IC engines – working principles, two stoke and four stoke engines, IC engine terminology, different systems of IC engine. Tractors – types and utilities.

UNIT 2: Tillage and Tillage machinery: Tillage – ploughing methods – primary tillage implements – mould board, disc plough and chisel plough – secondary tillage implements – cultivators, harrows and rotovators – wetland equipment – puddlers, tramplers and cage wheels.

UNIT 3: Sowing, Planting and Intercultural Equipment: Sowing methods – seed drills, seed cum fertilizer drills – Paddy transplanters – nursery requirements – implements for intercultural operations – wet land, dry land and garden land intercultural tools. Plant Protection Gadgets, Harvesting Machinery and Horticulture tools: Plant protection equipment, tools for horticultural crops.

BLOCK 2: AGRICULTURAL EQUIPMENTS INDUSTRY AND COST ANALYSIS OF OPERATIONS

UNIT 1: Agricultural equipments industry: Agricultural equipments production, marketing and constraints; establishment of agricultural engineering enterprises (agro service centers, etc.). Equipment for land development and farm machinery selection: Equipment for land development and soil conservation.

UNIT 2: Cost analysis of operations: Cost analysis of operations using different implements, economic performance of machines, optimization of tractor implements system and transport of farm produce. Cost of operation of farm machinery – Tractor and implement selection

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

• Senthilkumar, T., R. Kavitha and V.M.Duraisamy 2015. A text book of farm machinery, Thannambikkai Publications, Coimbatore.
• Jagadishwar Sahay, 2010. Elements of agricultural engineering. Standard Publishers Distributors, New Delhi.

Title: FOOD RETAIL MANAGEMENT
Course Code: ABM-518
Credit: 2+0

WHY THIS COURSE?
Study a short course in Retail Management to learn how to run a retail store or department efficiently and to introduce you to key issues and concepts associated with the retail environment. Topics covered in the course typically include business administration, visual merchandising, and marketing.

AIM OF THIS COURSE:
Identify the most dramatic change in food retailing today; Assess the variety and Define a target market; Explain why a retailer would want to meet the needs of a Customer. Describe the steps to recruiting top talent; Identify selection and training, protection equipment, tools for horticultural crops.

LEARNING OUTCOMES It will equip the students with desired knowledge and skills for managing food retail operations.

No	Blocks	Units
1	**Introduction**	1. Introduction to Food market 2. Value Chain in Food Retailing
2	**Retail Marketing Strategy**	1. Marketing Mix in Food Retail Management 2. Managing Retail Operations 3. Retail Sales Management

BLOCK 1: INTRODUCTION
UNIT 1: 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.
UNIT 2: 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.

BLOCK 2:
RETAIL MARKETING STRATEGY
UNIT 1: Marketing Mix in Food Retail Management: Merchandise Management, Pricing Strategies used in conventional and non-conventional food retailing, Public distribution system, 48 Promotion mix for food retailing, Management of sales promotion and Publicity, Advertisement Strategies for food retailers & Brand Management in Retailing.
UNIT 2: Managing Retail Operations: Managing Retailers' Finances, Merchandise buying and handling, Logistics, procurement of Food products and Handling Transportation of Food Products.
UNIT 3: 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.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Singh, Sukhpal, 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 RetailManagement: Text and International Cases,* Springer Gabler
- Agrawal, Narendra, Smith, Stephen A. (2015). *Retail Supply chain Management: Quantitative Models and Empirical Studies,* Springer; 2nd revised edition

Title: MANAGEMENT OF AGRICULTRUAL INPUT MARKETING
Course Code: ABM-519
Credit: 2+0

WHY THIS COURSE?

It will help in gaining a deeper understanding of the four P's of marketing as applied to agricultural input marketing and an exposure to social and ethical issues is oriented in the course.

AIM OF THIS COURSE:

The present course aims at familiarizing the participants with various aspects of agricultural input marketing in India.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Market for agricultural inputs 2. Marketing of seeds
2	**Marketing of Agricultural Inputs**	1. Marketing of fertilizers
		2. Marketing of pesticides
		3. Marketing of tractors

LEARNING OUTCOMES

To enhance the understanding and analytical capabilities with respect to products, market environment, and operational issues in marketing of agricultural inputs.

BLOCK 1: INTRODUCTION

UNIT 1: 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.

BLOCK 2: MARKETING OF AGRICULTURAL INPUTS

UNIT 1: 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.

UNIT 2: 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.

UNIT 3: 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.
UNIT 4: 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.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

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

Title: FEED BUSINESS MANAGEMENT
Course Code: ABM-520
Credit: 2+0

WHY THIS COURSE?
It will help in gaining a deeper understanding of the production, processing and marketing of cattle feed, poultry feed and fish feed.

AIM OF THIS COURSE:
The present course aims at familiarizing the participants with various aspects feed for livestock and poultry.
The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Feed resources
		2. Nutrients requirements of livestock and poultry
2	**Feed Preparation and Distribution**	1.Feed preparation
		2. Importance of mineral mixture
		3. Feed Distribution

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

BLOCK 1: INTRODUCTION

UNIT 1: Feed resources: Gap between demand and availability of nutrients; status of feed industry in India and world, constraints in the development of Indian feed industry.

UNIT 2: Nutrients requirements of livestock and poultry: Knowledge about the quality of feed ingredients used in feed manufacturing. Procurement procedure of feed ingredients, scientific storage of feeds and feed ingredients. BIS, CLAFMA and all other commercial standards of all class of livestock and poultry feeds.

BLOCK 2: FEED PREPARATION AND DISTRIBUTION

UNIT 1: Feed preparation: Layout and design of feed plants, feed plant management; Basic principles of processing of feeds, Feed preparation for cattle and poultry and as specialty feeds for aqua and pet animals.

UNIT 2: Importance of mineral mixture: Feed additives, supplements and pass feed, to know the new technology regarding improving the feeding value of poor quality roughages. To acquaint the concept of silage technology, complete feed block technology, hydroponics technology and UMMB technology.

UNIT 3: Feed Distribution: Distribution channels, regulations relating to manufacture and sale of feed stuffs.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Frank B. Morrison (1961). *Feeds and Feeding*, Abridged, Morrison Publishing; 9th edition John Moran (2005). Tropical Dairy Farming: Feeding Management for Small Holder Dairy
- Farmers in the Humid Tropics, Csiro Publishing
- John Moran and Scott McDonald (2010*). Feed pads for Grazing Dairy Cows,* Csiro Publishing.
- Richard O. Kellems and David C. Church (2009*). Livestock Feeds and Feeding*, Pearson; 6th Edition

Title: MANAGMEMENT OF VETERINARY HOSPITALS
Course Code: ABM-521
Credit:2+0

AIM OF THIS COURSE:
It will help in gaining a deeper understanding of the Veterinary Science is the science of *treating* and curing the diverse types of Animals. The Course is organized as follows:

No	Blocks	Units
1	**Veterinary Hospital Administration**	1. Needs, Aims and Objectives
		2. Designing and planning an ideal hospital:
		3. Authority, responsibility
2	**Information System & Quality Control**	1. Hospital information
		2. Quality control system

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

BLOCK 1: VETERINARY HOSPITAL ADMINISTRATION

UNIT 1: Needs, aims and objectives: Objectives of Veterinary hospitals; the existing and simulated situations under which veterinary hospitals work or are to work.

UNIT 2: Designing and planning an ideal hospital: Optimizing the use of resources - human, space, equipment, drugs, time, capital, etc.; Materials management and problems Normal purchase procedure. Receipt; storage and distribution of materials Cost reduction & scientific inventory control. Information system and materials management performance. Equipment maintenance, condemnation & disposal.

UNIT 3: Authority, responsibility: Accountability of management for optimizing the use of skill, developing and upgrading skills and technology; efficient system of record keeping and accounting; Concept of quality & Total quality management (T.Q.M) Introduction to Veterinary audit, Statistical quality control (S.Q.C.), Quality control Circle (Q.C.C.).

BLOCK 2: INFORMATION SYSTEM & QUALITY CONTROL

UNIT 1: Hospital information system: Hospital information system as an aid to efficient controlling and monitoring; need for financial resources - investment and working capital;
Records: Types & Methodology, Reports and Reporting system. Contemporary and need-based methods of accounting; General consideration. Need based information system. Applicability in surveillance & monitoring; planning & policy making; cost control.

UNIT 2: Quality control system: Economic functions and quality control system; Animal health Economics: An introduction Need for financial resources (type and need). Investment planning and working capital; Budgeting and cost cutting (cost control). legal aspects in the functioning of the hospital.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

Title: POUTLRY AND HATCHERY MANAGEMENT
Course Code: ABM-522
Credit:2+0

WHY THIS COURSE?
This course introduces about updated production standards achievable under field conditions and financial viability of poultry operations. This specialized course is designed to train persons in Incubation and Hatchery Management and is meant for those engaged in or scheduled to take up Hatchery operations.

AIM OF THIS COURSE:
To give the opportunity for trainees to learn about raising chickens for their meat and eggs in order to manage a small-scale, commercial poultry enterprise that will be profitable

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1 Poultry and hatchery Business
		2. Poultry and hatchery unit
2	**Hatcheries and Risk Management**	1. Incubation and hatching
		2. Franchise hatcheries management
		3. Personal management and insurance

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

BLOCK 1: INTRODUCTION TO POULTRY AND HATCHERY INDUSTRY

UNIT 1: Poultry and hatchery Business: Poultry and hatchery industry; Present scenario of Poultry industry, Integration in poultry farming, Scope and future perspective, role of management in poultry industry.

UNIT 2: Poultry and hatchery unit: Planning and establishing a poultry and hatchery unit- location, size and construction; farm and hatchery equipments and physical facilities; organizing and managing a poultry farm and hatchery.

BLOCK 2: HATCHERIES AND RISK MANAGEMENT

UNIT 1: Incubation and hatching Production of quality chicks and eggs; factors affecting hatchability; bio-security and hatchery sanitation; handling of hatching eggs; maintaining chick quality-chick grading, sexing, packing, dispatch, transportation and chick delivery.

UNIT 2: Franchise hatcheries management: Custom hatching; brooding; growing and laying management; crisis management; industrial breeding, feeding, housing and disease management; waste management; Record management; cost accounting and budgetary control.

UNIT 3: Personal management and insurance: Labour relations including wages and salaries, job evaluation and employee appraisal; marketing management direct sale and sale through franchisees/ agents, advertisement, sale and after sale services, other innovative sales strategies.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Hand book of poultry science
- G. K. Rathinam, (2015) Manual of Hatchery Management: For Poultry Professionals Hardcover

Title: MANAGEMENT OF FLORICULTURE AND LAND SCAPING
Course Code: ABM-523
Credit:2+0

WHY THIS COURSE?
It deals with the cultivation of flowers and ornamental crops from the time of planting to the time of harvesting. It also includes production of planting materials through seeds, cuttings, budding, grafting etc, up to the marketing of the flower and flower produce.

AIM OF THIS COURSE:
The objective of this course is to expose the students with floriculture and landscaping technologies and their Agri-business implications including international trade.

The Course is organized as follows:

No	Blocks	Units
1	**Management of Floriculture**	1. Introduction
		2. Indoor and ornamental plants
2	**Landscaping and Trading**	1. Introduction
		2. Landscape gardening
		3. Value Addition in floriculture

LEARNING OUTCOMES
Students are suitable for it working independently and apply the latest trends to their work. They should be able to understand about floriculture and landscaping.

BLOCK 1 MANAGEMENT OFFLORICULTURE

UNIT 1: Introduction: Introduction, importance a n d scope of floriculture industry and landscaping; Recent advances in floriculture industry.

UNIT 2: Indoor and ornamental plants: Raising of foliage plants in pots, production technology of ornamental plants, commercial cultivation of flower crops (rose, jasmine gladiolus, tuberose, marigold, aster, carnation, gerbera, cilium chrysanthemum; special techniques for forcing of flowers for export.

BLOCK 2 LANDSCAPING AND TRADING

UNIT 1: Introduction: Drying and dehydration of flowers; bonsai; scope of landscaping, response of flowering plants to environmental stresses;

UNIT 2: Landscape gardening: Styles of gardening; modern and traditional garden planning; Socio-aesthetic planning; use of computers in designing gardens; planning towns

UNIT 3: Value Addition in floriculture: Extraction, purification and storage of essential oils and perfumes; post-harvest storage changes; packing techniques of produce
harvesting of flowers for export and home use, Export-Import trade in flowers and their specifications along major trading countries.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Banker, Narendra *Landscape gardening*, 2011, IBDC publishers, Lucknow
- Misra, R. L. and Misra, Sanyat. 2012, *Landscape gardening*, Westville Publishing House, New Delhi
- Chadha K. L and Choudhary B. 2006, *Ornamental Horticulture in India*. ICAR. New Delhi
- Grindal E. W. *Every Day Gardening in India*. D.B. Tarporevala Sons.
- Randhawa G. S. and Mukhopadhyay A. 1998, *Floriculture in India*. Allied Publ., New Delhi

Title: RISK MANAGEMENT IN AGRI BUSINESS
Course Code: ABM-524
Credit: 2+0

WHY THIS COURSE?
Risk and uncertainties is involved in food and Agribusiness industries. Government to formulate policy that will encourage investors adopt the highlighted risk keeping in view priority of food security for rising population. The focus is to foster profitability in agri-allied sector.

AIM OF THIS COURSE:
Identification, mitigation and management of risk is unique to agriculture-production, markets, finance, Institutions and HR. Policy implications at local, regional, national as well as international level. Data analysis and research findings to help in decision making at firm and industry levels using history to guide future events/projection, Degree of risk varies in agri- business compared to other sectors.

The Course is organized as follows:

No	Blocks	Units
1	**Risk Management process**	1. Financial intermediation 2. Strategic Issues in Bank Marketing 3. Credit policy in banks
2	**Introduction To banking Operations and Risk Management**	1. Banking operations 2. Definition of Risk and risk management techniques

LEARNING OUTCOMES

Developing an understanding of the different types of risk in general to agriculture sector and with special reference to agriculture business.

BLOCK 1: RISK MANAGEMENT PROCESS

UNIT 1. Financial Intermediation, Indian Financial system, Origin and Growth of Banking. RBI and its functions. Principles of Banking, Banking Law and Practice. Nationalization of Banks in India, Deposit Products, Lending Activities, Retail Banking, Wealth Management, Financing SMEs, Corporate Banking, Forex Management, Fee-Based & Subsidiary Services, Plastic Money, Role of Central Banks, Emerging Trends in Banking, Fundamentals of International Banking.

UNIT 2: Strategic Issues in Bank Marketing, Positioning Bank Services in the Market, New Product Development, Pricing and Launching, New Distribution Channels for Bank Marketing, Communicating and Promoting Bank Services, Improving Quality and Productivity, Customer Relationship Management in Banks, Globalizing Bank Services, Opportunities and Challenges in Bank Marketing.

UNIT 3: Credit Policy in Banks, Principles of Credit Management, Objectives of Credit Management, Credit Disbursal and Monitoring, Credit Deployment and Types of Borrowers, Follow up and Recovery Management, Treasury Operations, Introduction to Risk Management in Banks, Rural Banking in India, Security Considerations, Control System in Banks, Corporate Governance in Banks, Annual Reports and Statutory Audit.

BLOCK 2: INTRODUCTION TO BANKING OPERATIONS AND RISK MANAGEMENT

UNIT 1: Introduction to Banking Operations, Front Office and Back Office Operations, Operational Controls, Demand Forecasting and Resource Allocation, Policy Framing – Deposits, Advances and Investments, Services Design and Delivery Strategies in Banks, Service Quality Metrics, Work Measurement and Quality Assurance, Payment and Settlement Systems, RTGS and Clearing House, Cash Management Services, Facilities Planning, ERP in Banks, BPR in Banks, IT Enabled Supply Chain Management, Disaster and Recovery Management.

UNIT 2. Introduction to Risk, Risk Management Essentials, Measurement of Risk, Loss Exposure, Risk Management – Non-insurance Techniques, Introduction to Insurance, Principles of Insurance, Insurance Industry, Insurance Market, Insurance as Risk Management Techniques, Selection and Implementation of Risk Management Techniques.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS:

- Jyotsna Sethi&Nishwan Bhatia. 2012. *Elements of Banking and Insurance*. PHI Learning
- Wang Jian & Abdur Rehman. 2016. *Risk Management in Agriculture: Theories and Methods*. Science Publishing group
- Hardaker J. B., Huirne R.B.M., Anderson J. R., Lien G (2004). *Coping With Risk in Agriculture,* CABI Publishing, 2nd Edition
- Rose P. S, Hudgins S. C (2006). *Bank Management & Financial Services.* Mcgraw-Hill College; 7th edition

Title: MANAGEMENT OF AGRIBUSINESS COOPERATIVES
Course Code: ABM-525
Credit:2+0

WHY THIS COURSE?

Proper management enables **c**ooperatives to offer high quality, efficient and effective services to their members. Moreover, well managed agricultural cooperatives can also contribute to wider development issues such as food security, sustainable use of natural resources and inclusive employment creation.

AIM OF THIS COURSE:

These cooperatives were usually initiated by small scale farmers, as a response to their weak position in the market. By joining forces they could improve this position and obtain better prices and services for the purchase of inputs and the marketing of produce.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Cooperative administration
		2. Cooperative management
2	**Cooperative Movement and Management**	1. Cooperative Movement
		2. Human resource management
		3. Overview of agribusiness cooperative
		4. FPO

LEARNING OUTCOMES

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

BLOCK 1: INTRODUCTION

UNIT 1: Cooperative administration: Global perspective, ecology of cooperative administration, cooperative sector and economic development.

UNIT 2: Cooperative management: Nature, functions and purpose of cooperatives – procurement, storage, processing, marketing, process of cooperative formation, role of leadership in cooperative management.

BLOCK 2: COOPERATIVE MOVEMENT AND MANAGEMENT

UNIT 1: Cooperative Movement: The state and cooperative movement, effects of cooperative law in management, long range planning for cooperative expansion, policy making.

UNIT 2: Human resource management: Placement and role of board of directors in cooperative management.

UNIT 3: Overview of agribusiness cooperative: Credit cooperatives, cooperative marketing, dairy cooperative; financing agribusiness cooperative.

UNIT 4: FPO- Overview and Basic Concepts, Structure, Formation and Functions, Schemes & Policy Initiatives, Business Planning, Financial Management, Managing Farmer Producer Organisations, Opportunities and challenges involved, Successful models.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Kamat GS. 2011. *New Dimensions of Cooperative Management*. Himalaya Publ. House.
- Ansari AA. 1990. *Cooperative Management Patterns*. Anmol Publ.
- Ravichandran & Nakkiran. 2009. *Cooperation (Theory & Practice)* Neha Publishers & Distributors;
- Sah AK. 1984. *Professional Management for the Cooperatives*. Vikas Publ. House Anwar. S A. *HRM Practice in Cooperative Sector*. Idea Publishing
- Sukhpal Singh Farmer producer Organization

Title: BUSINESS ANALYTICS FOR AGRICULTURE
Course Code: ABM-526
Credit : 1+1

WHY THIS COURSE?

Analytics can enable farmers to make data-based decisions like which crops to plant for their next harvest. Reality as actionable insights to make decisions on data and information to improve agronomic opportunities, such as timing of applications, product decisions, amounts of products, and profitability of decision making.

AIM OF THIS COURSE:

To make the students understand the concepts of data science tools and techniques and develop the skills for using it strategically and for the developing of the agri business sector.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1 Introduction
		2 Fundamentals of Research
2	**Machine and Deep Learning**	1. Supervised machine learning-1
		2 . Supervised machine learning-2
		3. Deep learning

LEARNING OUTCOMES

To equip students of agribusiness with knowledge, skills and attitude for using data science tools and techniques so that agribusiness get competent professionals who can strategically and successfully implement data science applications.

BLOCK 1: INTRODUCTION

Unit 1: Introduction to data science, evolution of data science, work profile of a data scientist, career in data science, nature of data science, typical working day of a data scientist, importance of data science in agribusiness; defining algorithm, big data, business analytics, statistical learning, defining machine learning, defining artificial intelligence, data mining; difference between analysis and analytics, business intelligence and business analytics, typical process of business analytics cycle.

Unit 2: Fundamental of Research

Fundamentals of R and RStudio, fundamentals of packages of RStudio, data manipulations, data transformations, normalization, standardization, missing values imputation, dummy variables, data visualization (2D and 3D), basic architecture of machine learning analytical cycle, descriptive analytics-case study covering data manipulation, measures of central tendency, measures of dispersion, measures of distribution, measures of associations, t-test, f test, ANOVA, Chi -square test, basic statistical modeling framework.

BLOCK 2: MACHINE AND DEEP LEARNING

Unit 1: Supervised machine learning: Basic framework, regression models and classification models. Linear regression, nonlinear regression, multiple regression, polynomial regression, lasso regression, ridge regression, stepwise regression, quantile regression, logistic regression.

Unit 2: Supervised machine learning: Linear discriminant analysis, principal component analysis, factor analysis, support vector machines, naïve Bayes, nearest neighbors, decision trees, random forest, ensemble methods, *k*-fold cross validation, X gradient boosting. Unsupervised machine learning—basic framework, concept of clustering, k-means, c-means, hierarchical clustering, hidden markov models, forecasting models (AR, MA, ARMA and ARIMA).

Unit 3: Deep learning: Basic framework of neural nets, types of neural nets, computer vision, object detection and localization, gradient descent optimization for loss function, regularization L1 and L2, feed forward neural nets, back propagation, recurrent neural nets, convolutional neural nets, reinforcement neural net, concurrent net, introduction to IoT. All the illustrations used in the syllabus of Data Science in Agribusiness will be primarily from agribusiness domains and RStudio will be used for practical purposes.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Deep Learning with R. MEAP Edition, Manning Early Access Program. Version 1, © 2017, Manning Publication
- R. Gareth James, Daniela Witten, Trevor Hastie and Robert Tibshirani. 2017. *An Introduction to Statistical Learning with Application.* Springer Publication
- Frank Millstein. 2018. *Machine Learning With Tensor flow: A Deeper Look At Machine Learning With TensorFlow* Frank Millstein
- Jeffrey Stanton. 2012. *Introduction to Data Science.* Version 3, SAGE Publications, Inc;

Title: DAIRY BUSINESS MANAGEMENT
Course Code: 527
Credit: 1+0

WHY THIS COURSE?

The main objective of dairy management course is to provide basic input to students about production, planning and management of dairy farms, entrepreneurship development in milk preservation, entrepreneurship development in dairy processing and management of dairy farm, co-operative and industry.

AIM OF THIS COURSE:

To emphasize on the application of Principles of Management in dairy business with special emphasis on co-operative dairy units. The emphasis shall be on main functional areas like Finance, Marketing, Human Resources, Production and Information Technology. The Course is organized as follows:

No	Blocks	Unit
1	**Introduction**	1. Introduction to commodity derivatives
		2 . Dairy Plant Management System
2	**Dairy Business Strategy**	1. Marketing Management, Supply Chain and International Trade in Dairy sector
		2 . Strategic, HR Management and Entrepreneurship in Dairy Sector
		3. Financial Management and Financial Analysis in dairy sector

LEARNING OUTCOMES

- To understand the overall scenario of dairy and develop insights in managing dairy as a entrepreneurial venture.
- To enhance the Decision making, Critical thinking and the problem solving capabilities of the students.
- To bring out the hidden potential and entrepreneurship aptitude of the students and also to encourage team building activities.

BLOCK 1 : INTRODUCTION

UNIT 1: Dairy Development in India: Dairy organizations: functioning, Challenges and Opportunities, Anand pattern dairy Cooperatives: features and impact; Public sector dairy schemes, Dairy Development schemes, Dairy problems and policies, National Dairy Plan-I, Rise of Producer Companies. Policy Frameworks in context to dairying.

UNIT 2: Dairy Plant Management System: Production Planning and control in dairy plants, milk procurement from the rural milk producer, milk processing and products manufacturing. Pricing and marketing of milk and milk products. Survey on milk production potential and marketed surplus of milk for setting up of milk plants, energy utilization, Conventional and nonconventional sources of energy used in dairy sector. Concept of Quality; TQM concept and Kaizen in Dairy Industry, new concepts in quality assurance (HACCP; ISO certification); patent laws, pollution control laws in relation to dairy plants. Guidelines for obtaining ISO/HACCP certification for dairy plants. SQC in dairy operations.

BLOCK 2: DAIRY BUSINESS STRATEGY:

UNIT 1: Marketing Management, Supply Chain and International Trade in Dairy sector: Marketing-mix in relation to dairy sector, marketing environment. Marketing Opportunities Analysis in Milk and Milk Products: Demand status of Milk and milk products in the country, growth rates, Marketing research and marketing information systems; Market measurement present and future demand; Market forecasting. Market segmentation, Product-mix; Promotion mix decisions. Advertising; Sales Promotion. Food and Dairy Products Marketing, Consumer Buying Behaviour; New product development process Price determination and pricing policy International Marketing Marketing; Composition & direction of Indian exports Exports- Direct exports, indirect exports; WTO and its Implications; SPS/TBT; Supply chain Management in Dairy sector Logistics Management: Primary and Secondary Markets; Distribution channels; chilling points

Unit 2: Strategic, HR Management and Entrepreneurship in Dairy Sector: PESTLE analysis, BCG matrix, Strategic Management in dairy industry, Governance Structure in Dairy Sector, Management control System. Organizational Performance parameters – Quantitative and Financial, Use of Balanced Score card and other strategy control tools. HR management practices in dairy sector, Promotions, transfers employee remuneration and other HR benefits and problems. Motivation, turnover, employee capacity building, Training and orientation etc. social and business economics; industrial relations and human values; labour laws; trade unionism
Business Plan Preparation; TIDP plant setting; Compliances Systems in Dairy Industry

UNIT 3: Financial Management and Financial Analysis in dairy sector: Nature and uses of financial analysis, Liquidity ratios, Leverage ratios, Activity ratios, Profitability ratios, Utility of Ratio analysis. Sources of long term capital in dairy Industry: Grants from NDDB, Grants from NABARD, Government and Other Schemes, cost of debt, debentures, preference share capital, equity share capital & retained earnings, overall cost of capital. Capital budgeting in dairy Industry. Various techniques: NPV, IRR, etc. Financial Planning and control in dairy Industry: Budgeting process, Problems and practices in Budgeting and evaluation. Cost Volume – Profit analysis and operating leverage, Break-even analysis, Profit analysis and operating analysis, Utility of CVP analysis. Costing in Dairy sector: Costing Techniques and Costing of various dairy products – Milk costing based on Fat and SNF, Ice cream, milk, Paneer, etc. Essentials of sound costing system. Different methods of costing, elements of cost: Labour- recording of time, idle time, methods of remunerating labour, Premium & Bonus Plans, Materials, Overheads.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Acharya R M & Puneet Kumar, Dairy Production & Business Management EIRI, Dairy Farming
- Rao Venkateswara, Dairy Farm Business Management
- Singh Umashankar, Dairy Farming

Title: AGRI EXTENSION MANAGEMENT
Course Code: ABM-528
Credit:1+0

WHY THIS COURSE?
To enhance the techno-managerial competence of extension functionaries and to acquaint the extension functionaries on the latest developments in the field of agricultural extension

AIM OF THIS COURSE:
To equip the extension functionaries in latest tools and techniques for participatory decision making and to develop an insight into various extension models to enrich the agri - value chain

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Approaches of Agricultural Extension
		2 . Cyber Extension
2	**Implications and contemporary issues**	1. Implications of WTO
		2 . Extension and contemporary issues

LEARNING OUTCOMES
By the end of the course student will be able to critically analyze different Agricultural Extension approaches, understand Agricultural Knowledge Information System (AKISs) ITK, Understand Advances in Extension - Cyber extension, ICT enabled extension services; Market Led Extension, Public Private Partnership, Mainstreaming gender in extension organizational Innovations.

BLOCK 1: INTRODUCTION

UNIT 1: Approaches of Agricultural Extension: A critical analysis of different approaches of agricultural extension. Importance and relevance of indigenous knowledge system, identification and documentation of ITK, Integration of ITK system in research formulation, Concept of Agricultural Knowledge and Information System, Training of Stakeholders of AKIS.

UNIT 2: Cyber Extension: Concept of cyber extension, national and international cases of extension projects using ICT and their impact of agricultural extension, alternative methods of financing agricultural extension - Scope, limitations and experience and cases. Research - Extension -Farmer - Market linkage: Importance, Scope, Implications etc., Market – Led Extension, Farmer - Led Extension, Concept of Farm Field School, Farm School, Public - Private Partnership: Meaning, Models, Identification of various areas for partnership. Stakeholder's analysis in Extension. Main streaming gender in Extension - Issues and Prospects

BLOCK 2: IMPLICATIONS AND CONTEMPORARY ISSUES

UNIT 1: Implications of WTO: OA for extension services, re-orientation of extension services for agri-business and marketing activities, GOI- NGO collaboration to improve efficiency of extension.

UNIT 2: Extension and contemporary issues: Extension and issues related to rural poverty. Privatization of Extension. Intellectual Property Rights (IPRs). Extension Reforms in India – Decentralized decision making, bottom up planning, Farming System and Situation based Extension Delivery System, Extension delivery through Commodity Interest Groups. Organization innovations in Extension - ATIC, IVLP, Kisan Call Centers.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Bagchi J. 2007. *Agriculture and WTO Opportunity for India*. Sanskruti Chambers R, Pacy A & Thrupp LA. 1989. *Farmers First*. Intermediate Technology Publ.
- Crouch BR & Chamala S. 1981. *Extension Education and Rural Development*. Macmillan.
- John KC, Sharma DK, Rajan CS & Singh C. 1997. *Farmers Participation in Agricultural Research and Extension Systems*. MANAGE, Concept Publ. Co.
- Khan PM. 2002. *Text Book of Extension Education*. Himanshu Publ.
- Narasaiah ML. 2005. *Agricultural Development and World Trade Organization*. Discovery Publ.
- Talwar S. 2007. *WTO Intellectual Property Rights*. Serials Publ.
- Van den Ban BW & Hawkins BS. 1998. *Agricultural Extension*. S.K. Jain Publ.
- Venkaiah S. 2001. *New Dimensions of Extension Education*. Anmol Publ.

Title: RENEWABLE ENERGY SOURCES MANAGEMENT
Course Code: ABM-529
Credit:1+0

WHY THIS COURSE?

Renewable Energy Management will contribute to the promotion of renewable energy sources in countries, especially developing nations.

AIM OF THIS COURSE:

The course aims to provide fundamental clarity regarding various renewable & alternative energy sources/ technologies options available today, its usage potential & related aspects like cost, impact on environment, etc.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Introduction
		2. Commercial application
2	**Implications and contemporary issues**	1. Institutional Framework
		2. Devices for renewable energy development

LEARNING OUTCOMES

To provide an insight to the meaning and concepts of Renewable energy resources development and Institutional support as well as Government policy framework.

BLOCK 1: INTRODUCTION

UNIT 1: Introduction: Concept on alternate and non-conventional energy sources. Biofuels, Geothermal, Ocean, Hydropower, Biogas, Solar and Wind energy.

UNIT 2: Commercial application: Commercial application of renewable energy sources and its benefits. Government Policy towards promoting renewable energy.

BLOCK 2: INSTITUTIONAL FRAMEWORK AND TYPES

UNIT 1: Institutional Framework: MNRE, CREDA-Renewable Energy Development Authority, State level Renewable Energy Development Agency, Society of Renewable Energy.

UNIT 2: Devices for renewable energy development: Biogas plant, Wind Mills, Solar Cells – Solar Pumps, Solar Dryers, Solar water heating system etc.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Bent Sørensen (2010). *Renewable Energy: Physics, Engineering, Environmental Impacts,Economics and Planning*, Elsevier Publishing; 4th Edition
- Nicola Armaroli, Vincenzo Balzani and Nick Serpone (2013). *Powering Planet Earth– Energy Solutions for the Future*, Wiley
- Godfrey Boyle (2012). *Renewable Energy: Power for a Sustainable Future*, Oxford; 3rd Edition
- John Twidell, Tony Weir (2013). *Renewable Energy Resources,* CRC Press; 3rd Edition Ansari
- Irfan Ahmed *Renewable Energy Sources* by Jain Brothers

Title: QUALITY MANAGEMENT FOR AGRIBUSIENSS

Course Code: ABM-530

Credit:1+0

WHY THIS COURSE?

The focus of the process is to improve the *quality* of organizations outputs, including goods and services, through continual improvement of internal practices

AIM OF THIS COURSE:

The course will help the students to have an understanding of the quality standards in agribusiness. The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Basic concepts of quality management
		2. TQM
2	**Quality grades, standards and Control**	1. Quality grades and standards
		2. Statistical to quality control
		3. Food quality standards

LEARNING OUTCOMES

The course will help the students to have an understanding of the quality standards in agribusiness.

BLOCK 1: INTRODUCTION

UNIT 1: Basic concepts of quality management: importance of quality and the role of quality assurance in agribusiness.

UNIT 2: Total Quality Management: TQM and business strategy. Quality control process and its relevance.

BLOCK 2: QUALITY GRADES, STANDARDS AND CONTROL

UNIT 1: Quality grades and standards: Overview and relevance, benefits to consumers, producers and food processors, food grades and standards for various food commodities; cereals, fruits and vegetables, meats, poultry products.

UNIT 2: Statistical to quality control: Statistics relevant to quality control, quality control charts used in the food industry, process control to assure food quality, food processing.

UNIT 3: Food quality standards: Food quality standards and world food trade. HACCP, ISO9000, auditing and certification.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUUGGESTED READINGS

- Pieternel A. Luning (Author), Willem J. Marcelis. 2009. *Food Quality Management: Technological and Managerial Principles and Practices.* Wageningen Academic Publishers
- Barrie G. Dale. 2004. *Managing Quality*. Blackwell RESOURCES

Title: ADVERTISING AND BRAND MANAGEMENT
Course Code: ABM-531
Credit:1+0

WHY THIS COURSE?

To impart basic understanding among the candidates about the advertising along with detailed aspects of brand management practices and techniques.

AIM OF THIS COURSE:

It aims to ensure consistency of message and the complementary use of media measurable, persuasive brand communication *programs* with consumers.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Introduction to Advertising Management
		2. Message Strategy 3. Consumer Promotions and Trade Promotions
2	**Branding Decision**	1. Major Brand Concepts and branding Decision
		2. Managing Brand Equity and Loyalty

LEARNING OUTCOMES

This course investigates various promotional tools used in the communication mix, such as advertising, sales promotion, and publicity, to sell products and services. Concepts include: advertising planning processes, determining advertising and promotional goals and objectives, control and evaluation of advertising and promotional programs, and regulatory issues. Students will develop a comprehensive advertising campaign for a real or imaginary product.

BLOCK 1: INTRODUCTION

UNIT 1: 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

UNIT 2: 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.

UNIT 3: 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.

BLOCK 2: BRANDING DECISION

UNIT 1: 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.

UNIT 2: 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.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Keller, Kevin Lane; *Strategic Brand Management;* Pearson education, New Delhi Verma, Harsha*: Brand Management;* Excel Books; New Delhi
- Kapferer, Jean Noel; *Strategic Brand Management;* Kogan Page; New Delhi
- Kumar, S. Ramesh; *Marketing and Branding–The Indian Scenario;* Pearson Education;New Delhi Kapoor, Jagdeep ; *24 Brand Mantras*, Sage Publications; New Delhi
- Sengupta Subroto; *Brand Positioning: Strategies for competitive advantage*; Tata McGraw Hill; New Delhi Clifton, Rita & Simmons., John; B*rands and Branding*; The Economist; Delhi

Title: AGRI INFRASTRUCTURE AND WAREHOUSING MANAGEMENT
Course Code: ABM-532
Credit:1+0

WHY THIS COURSE?

To create a pool of Agricultural storage infrastructure, logistics and warehouse professionals with capacity to manage agri-warehouse operations efficiently includes the overall inventory turnover and working capital management.

AIM OF THIS COURSE:

The course introduces the key principles and activities related to the warehousing function in a modern organization designed for receiving, shipping, picking, packing etc. It also includes cold chain project, logistics awareness & training programs.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Agricultural Infrastructure in India
		2. Warehouse Functions:
		3. Warehouse Types, Characteristics
2	**Warehouse Management**	1. IT for Warehouse Management (WM):
		2. Agri-warehousing Management in India

LEARNING OUTCOMES

To study the status of development of Agricultural infrastructure as well as the role of Warehouses to boost Agricultural sector.

BLOCK 1: INTRODUCTION

UNIT 1: Agricultural Infrastructure in India: Incentive schemes, Agri-infra fund, Agri-market Infrastructure, Agri-technological infrastructure fund, Central Government policy on Infrastructure promotion for the development of primary sector such as Irrigation, Watershed development, Rural electrification, Connectivity, Communication and Markets in coordination with the Institutional framework.

UNIT 2:Warehouse Functions: Meaning of Warehousing - Importance –Functions: Receiving: Logistics support for Inward Transportation, Unloading, Inspection, Acceptance and Recording; Storing: Space allocation, Facilitation to stocking, Guarding &Recording; Risk bearing- Processing- Grading and branding – Disinfecting services -Issuing: Order preparation, Picking, Dispatching/ Delivery & Recording- Handling, Transportation & Storage of ISO Containers– Utility and Advantages of warehouses- Problems and issues in receiving processes.

UNIT 3: Warehouse Types, Characteristics: Warehouse Types, Characteristics of ideal warehouses - Warehouse Layout-Principles and Facilities- Types, Internal Operations: Measures and metrics of warehouse operations, Logistics in the warehouse- Localization of materials in a warehouse, Identification and classification of Materials and products in the warehouse, Managing the material/products turns in warehouse (FIFO/LIFO) - Problems and issues in shipment processes. Warehousing Equipment, Inventory management.

BLOCK 2: WAREHOUSE MANAGEMENT (WM)

UNIT 1: IT for Warehouse Management (WM): Warehouse documentation- Information flows in the warehouse- ERP-WMS - Bar code – RFID- Organization Data- Warehouse Structure- Warehouse Master Data - WM Material master view- Organization Data- Define Warehouse structure, Warehouse number - Storage type- Storage section - Storage Bin - Picking Area - Storage unit – Quantity- Creating Transfer requirement automatically/ manually – Creating Transfer requirement for storage.

UNIT 2: Agri-warehousing Management in India: Agri-warehousing in India, capacity development and utilization, Role and significance of Central Warehousing Corporation, State warehousing Corporation, Private sector in Agri-warehousing. Status of Warehousing Industry: Agri warehousing organisations in India, e-NAM to promote agri-warehouse.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Study materials of NABARD as well as by the Ministry of Rural development
- Edward Frazelle. 2001. *World-Class Warehousing and Material Handling,* McGrraw Hill
- Jeroen P. Van Den Berg. 2009. *Integral Warehouse Management*, Management Outlook Max Muller. 2009. *Essentials of Inventory Management.* AMACOM
- Steven M. Bragg. 2011. *Inventory Best Practices*. Wile

Title: CONTRACT FARMING
Course Code: ABM-533
Credit: 1+0

WHY THIS COURSE?

To assess the need of Contract farming arrangement. It relates to agricultural production carried out according to an agreement between a buyer and farmers, with set conditions for production and marketing of farm products.

AIM OF THIS COURSE:

The course provides an agreement between a farmer and a buyer. At the same time, the buyer also needs to provide the farmer with the necessary inputs required for the farm like land preparation ,technical aspects etc. It is an effective means to develop markets and bring about crop rotation. The Course is organized as follows:

No	Blocks	Units
1	Introduction	1. Need for contract farming
		2 . Project formulation and management
2	Policies, prospects and global issues	1. Policies for promoting contract farming
		2. Prospects of contract farming in India 3. Global issues

LEARNING OUTCOMES

To provide the students an understanding of concepts, policies, strategies and decisions relating to marketing that can be associated with agribusiness organizations. It involves agricultural production being carried out on the basis of an agreement between the buyer and farm producers. The farmer undertakes to supply agreed quantities of a crop or livestock product, based on the quality standards and delivery requirements of the purchaser.

BLOCK 1: INTRODUCTION

UNIT 1: 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.

UNIT 2: Project formulation and management: Coordination, crop husbandry, human resource. Advantages of contract farming for farmers and sponsors and the problems faced by them.

BLOCK 2: POLICIES, PROSPECTS AND GLOBAL ISSUES

UNIT 1: Policies for promoting contract farming: Agreement for contract farming-parties, duration, produce and quality specification, delivery arrangements pricing, insurance, support services etc.

UNIT 2: 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.
UNIT 3: Global issues: Global issues in contract farming, Contract farming and WTO agreement

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Premjit Sharma. 2007, C*ontract Farming*, Genetech Books
- Joseph A. Kuzilwa, Nniels Fold, Aarne Henningsen, Marianne Nylandsted Larsen. *Contractfarming and the development of smallholder* agricultural business. Routledge
- Kumaravel K S 2006. *Contract farming in India* - An Introduction.

Title: HUMAN RESOURCE COMPETENCE AND CAPACITY BUILDING SYSTEMS
Course Code: ABM-534
Credit:1+0

WHY THIS COURSE?
Capacity development is the process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment and other resources needed for Human resource development.

AIM OF THIS COURSE:
This course is designed to provide an in-depth understanding and enable the participants to manage capacity building processes and performance system for developing human resource.

The Course is organized as follows:

No	Blocks	Units
1	**Introduction**	1. Human Resource competence
		2 . Competency modelling and assessment
2	**Capacity building**	1. Competency based training and development
		2. Performance Management System 3. Capacity building systems in agriculture and agri business

LEARNING OUTCOMES
Proactive human resources management is essential to achieve the excellence through Capability Development and Planning. A Competence Profile for Staff Supporting the formal and informal training, job-rotation, traditional class-room courses, internal vs external training.

BLOCK 1: INTRODUCTION
UNIT 1: Human Resource competence: Concept and rationale; processes, Organization and Management of competence and competency mapping.

UNIT 2: Competency modelling and assessment: Approaches, tools and techniques, competency based human resource management applications.

BLOCK 2: CAPACITY BUILDING
UNIT 1: Competency based training and development: Training methods compared with objectives, learning process and facilities, Developing Group and the Climate: the social process – indicators of group development, the training climate, Trainers and Training Style: Post training support for improved performance at work.

UNIT 2: Performance Management System: Establishing and operationalising performance management system; measuring performance- results and behaviour; conducting performance review discussions; harnessing performance management system for performance improvement.

UNIT 3: Capacity building systems in agriculture and agri business: Capacity building of farmers and agri stakeholders through e-learning, knowledge management for agri business.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- S R Kandula. 2013. *Competency Based Human Resource Management*. PHI
- Raymod A Noe & Amitabh Deo Kodwani 2012. *Employee Training and Development*. McGraw Hill Education. Fifth Edition
- Alan M. Saks & Robert R. Haccoun. 2013. *Managing Performance through Training and Development*. Cengage Learning. Sixth Edition

Title: AGRI COMMODITY MARKETS AND FUTURES TRADING

Course Code: ABM- 535

Credit: 1+0

AIM OF THE COURSE

To make the students understand the marketing procedure for commodity futures through commodity exchanges

The course is organized as follows:

No	Blocks	Units
1.	Overview of Commodity Market in India	i. Price risk management in agricultural markets
		ii. Global Specifications of futures contracts
2.	Mechanics of futures trading	i. Option and forward transaction
		ii. Clearinghouse and margin system
3.	Market surveillance and risk control	i. trading in warehouse receipts
		ii. Regulation of futures and trading practices inleading national and regional exchanges in India

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Get an overview about the commodity markets in India
- Understand the mechanics of futures trading practices
- Know about the risk and surveillance mechanism available for agri commodity trading in India

BLOCK 1: OVERVIEW OF COMMODITY MARKET IN INDIA

UNIT I: Introduction to commodity derivatives and price risk management in agricultural markets; organizational setup of exchanges and specifications of futures contracts in world's leading commodity exchanges

BLOCK 2: MECHANICS OF FUTURES TRADING

UNIT II: Futures trading; hedging price risk using futures contracts; option transaction and forward transaction – concept and mechanism, price discovery mechanism and market efficiency

UNIT III: Clearinghouse and margin system; clearing, settlement and delivery of contracts

BLOCK 3: MARKET SURVEILLANCE AND RISK CONTROL

UNIT IV: Market surveillance and risk control; trading in warehouse receipts (WRs): WRs and collateralized commodity financing

UNIT V: Regulation of futures and trading practices in leading national and regional exchanges in India.

TEACHING METHODS /ACTIVITIES

- Lectures
- Live projects
- Assignments (Individual and Group)
- Presentations about the ethical practices of the firms in India
- Newspaper analysis about the contemporary issues

SUGGESTED READINGS:

- Hull, John C. 2017. *Fundamentals of futures and options markets*, Boston, Pearson publication.
- Ram, P. V. and Bala, S. D., 2016, *Strategic Financial Management*. Snow White Publ

SUPPORTING COURSES

Title: STRATEGIC MANAGEMENT FOR AGRI BUSINESS ENTERPRISES
Course Code: ABM- 536
Credit: 2 (2+0)

AIM OF THE COURSE

The objective of this course is to provide students a strategic orientation in conduct of the business and to develop a holistic perspective of an organization and to enable the students to analyse the strategic situation strategies in general and functional management areas.

The course is organized as follows:

No	Blocks	Units
1	**Overview of Strategic Management**	1. Strategic management process
		2. Environment scanning and industry analysis
		3. Value Chain Analysis
2	**Strategy Formulation and Choice**	1. Strategy formulation
		2. Types of strategies
		3. Strategic analysis tools and techniques
3	**Strategy implementation and control**	1. Strategy implementation and control
		2. Entrepreneurial ventures and small businesses

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Define the strategic management process and scanning of internal and external environment
- Get a clear picture about value chain analysis
- Understand the different types of strategic choices available and the method of analysis to choose the best among them
- Learn the method of strategic implementation and evaluation for agrientrepreneurial ventures

BLOCK 1: OVERVIEW OF STRATEGIC MANAGEMENT

UNIT I: Introduction - Concepts in Strategic Management, Strategic Management Process; Corporate Governance, Social Responsibility and Ethics in strategic management, Environment Scanning and Industry analysis

BLOCK 2: STRATEGY FORMULATION AND CHOICE

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.

UNIT III: Turnaround and Diversification Strategies: Turnaround strategy - Management of Strategic Change, Strategies for Mergers, Acquisitions, Takeovers and Joint Ventures - Diversification Strategy

BLOCK 3: STRATEGY IMPLEMENTATION AND CONTROL

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.

UNIT V: Strategic issues in managing technology & innovation, entrepreneurial ventures and small businesses, Cases in strategic management

TEACHING METHODS/ ACTIVITIES

- Lectures
- Live projects
- Assignments (Individual and Group)
- Presentations about the ethical practices of the firms in India
- News paper analysis about the contemporary issues

SUGGESTED READINGS:

- Thomas L. Wheelen & J. David Hunger. 2012, *Strategic Management & Business Policy, towards Global Sustainability*, Pearson India Edn. Thirteenth Edition
- Fred R. David & Forest R. David, 2016, Strategic Management, Concept and Cases, Pearson India Edn, Fifteenth Edition
- Thompson Jr., A. A., Peteraf, M. and Gamble, J. E., 2015, *Crafting and Executing Strategy.* McGraw Hill, Irwin.
- Stead, J. G. and Stead, E. W., 2014, *Sustainable Strategic Management.* Routledge Taylor & Francis Group.
- Kazmi Azhar. 2015. Strategic Management. Mcgraw Higher Ed. 4th Edition
- Srinivasan R.2014. Strategic Management. PHI Learning 5th Edition

Title: OPERATIONS MANAGEMENT
Course Code: ABM- 537
Credit: 2 (2+0)

AIM OF THE COURSE

To acquaint the students with the applications of important operations research techniques for better understanding to solve business problems.

The course is organized as follows:

No	Blocks	Units
1	**Introduction to Linear Programming**	1. Formulation of Linear Programming Problem
		2. Methods of solving linear programming problem
		3. Transportation and Assignment problems
2	**Inventory control and waiting line models**	1. Types of inventory and inventory costs
3	**Decision making under risk and uncertainty**	1. Decision problem
		2. Decision trees

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Knowledge and understanding about the characteristics of different types of decision- making environments and the appropriate decision making approaches and tools to be used in each type.
- Develop cognitive skills (thinking and analysis) to build and solve Transportation Models and Assignment Models

BLOCK 1: INTRODUCTION TO LINEAR PROGRAMMING

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.

BLOCK 2: INVENTORY CONTROL AND WAITING LINE MODELS

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.

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.

BLOCK 3: DECISIONMAKING UNDER RISK AND UNCERTAINTY

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.

UNIT V: Game Theory - Two -Person Zero-Sum Game, Simulation, Network analysis–PERT& CPM. Financial Engineering

SUGGESTED READINGS

- 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.

Title: FINANCIAL MANAGEMENT IN AGRIBUSINESS
Course Code: ABM- 538
Credit: 2 (2+0)

AIM OF THE COURSE

To impart trainings to the students regarding various aspects of sources of financing agribusiness.

The course is organized as follows:

No	Blocks	Units
1	**Financial management in India**	1. Agribusiness Financing in India
		2. Risk and return concept & analysis
		3. Money and Capital Markets
		4. International financial management
2	**Capital budgeting**	1. Techniques of capital budgeting decision
		2. Cost of Capital
		3. Sources of Long and Short term finance
3	**Current assets management**	1. Management of Working Capital
		2. Perspectives and operational aspects of Microfinance

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the financial management practices in India
- Know about the concepts capital budgeting and cost of capital
- Understand the major sources of financing in India and their implications for a agri- based organization

BLOCK 1: FINANCIAL MANAGEMENT IN INDIA

UNIT I: Meaning, importance, nature and scope of financing in India, agribusiness financing in India; classification and credit need in changing agriculture scenario; finance functions, investment financing, Risk and return concept & analysis

UNIT –II: Business Financing System in India, Money and Capital Markets, Regional and All - India Financial Institutions; venture capital financing and its stages, International financial management.

BLOCK 2: CAPITAL BUDGETING

UNIT III: Features, types and Techniques of capital budgeting decision. Cost of Capital, Leverage analysis, Capital structure. Theory and Policy, Sources of Long and Short term finance, Dividend Theory, Dividend Policy.

BLOCK 3: CURRENT ASSETS MANAGEMENT;

UNIT IV: Management of Working Capital, Management of Receivables, Management of cash; Cash budget, Management of collections and disbursement, Investment of Surplus cash.

UNIT V: Perspectives and operational aspects of Micro finance: Definition, Scope and importance of Micro Finance, Evolution of Micro Finance in India, Micro Finance credit lending models: - Association model, Community Banking model, Credit union model, Co- operative model, SHG model, Village Banking model.

TEACHING METHODS/ ACTIVITIES

- Lectures
- Live projects
- Assignments (Individual and Group)
- Presentations about the ethical practices of the firms in India
- Newspaper analysis about the contemporary issues

SUGGESTED READINGS

- Nelson AG & Murrey WG. 1988. *Agricultural Finance*. Kalyani Publ.
- Gordon and Natarajan. 2016. *Financial Markets and Services*. Himalaya Publishing House; Tenth Edition
- H R Machiraju. 2010. *Indian Financial System*. Vikas Publishing House
- IM Pandey. 2015. *Essentials of Financial Management*, Vikas Publishing House
- Khan & Jain. 2014. *Financial Management.* McGraw Higher Education
- Srivastav & Misra . 2010. *Financial Management*, Oxford University Press; Second edition
- G Sudarsana Reddy. 2010. Financial Management, Himalaya Publishing House

Title: COMMUNICATION FOR MANAGEMENT AND AGRIBUSINESS

Course Code: ABM- 539

Credit: 3 (2+1)

AIM OF THE COURSE

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

The course is organized as follows:

No	Blocks	Units
1	**Introduction to Business Communication**	1. Communication process, barriers and methods
		2. Types of business communication
		3. Developing listening skills
		4. Non verbal communication
2	**Reading and writing skills**	1. Reading Comprehension and techniques
		2. Business writing skills
		3. Messages for electronic media
3	**Oral and visual communication Technical writing skills**	1. Oral presentation skills
		2. Public speaking skills
4	**Team and Interpersonal communication**	1. Effective Interpersonal Communication
		2. Business etiquettes
		3. Problem solving skills
		4. Case method of learning

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the concepts of business communication
- Practice listening, reading writing and presentation skills
- Develop clarity about the method of handling team and interpersonal communication effectively

BLOCK 1: INTRODUCTION TO BUSINESS COMMUNICATION

UNIT I: Communication process, barriers to communication, methods of communication, effective communication, assertive communication, types of organisational communication. Listening skills, active listening, barriers to effective listening, Non Verbal Communication

BLOCK 2: READING AND WRITING SKILLS

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

BLOCK 3: ORAL, VISUAL COMMUNICATION AND TECHNICAL WRITING

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, Writ ing Introductions & Conclusions, Editing and Proof reading, Writing a review article and book summary

BLOCK 4: TEAM AND INTERPERSONAL COMMUNICATION

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

UNIT V: Developing self awareness (Johari Window), solving problems analytically and creatively, introduction to case method of learning, case reading, approaches and analysis

TEACHING METHODS/ ACTIVITIES

- Interactive sessions to make the participants practice communication skills
- Group and individual presentations followed by feedback
- Live projects to study the challenges faced in the organsiational communication setup
- Make the participants practice communicating on social media platforms to write blogs, make and upload videos
- Self awareness assessment based questionnaires
- Case studies to develop interest and understanding of solving real life situation analytically and creatively

SUGGESTED READINGS:

- Peter W. Cardon. 2015, *Business Communication, Developing leaders for a networkedworld* Mc Graw Hill Edication
- P. D Chaturvedi & Mukesh Chaturvedi. 2017, *Business Communication, Skills, Concepts,Cases and Applications*, Pearson India Education
- Courtland L. Bovee, John V. Thill & Abha Chaterjee 2013, *Business Communication*
- *Today*, Pearson Education, Tenth Edition

Title: RESEARCH METHODOLOGY FOR AGRI BUSINESS MANAGEMENT
Course Code: ABM- 540
Credit: 3 (2+1)

AIM OF THE COURSE

To develop an understanding of research methodology related to efficient agri business management

The course is organized as follows:

No	Blocks	Units
1	**Overview of research**	1. Research methodology in management
		2. Scales of measurement
		3. Questionnaire designing
2	**Use of softwares for statistical analysis**	1. Multivariate statistical analysis
		2. Evaluation metrices
		3. Forecasting Techniques
3	**Data science in agriculture**	1. Introduction to data science in agriculture
		2. Overview of deep learning and machine learning
		3. Concept of cloud machine learning

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand research methodology concepts along with its application in marketing research
- Develop insights about the statistical analysis tools and techniques for better research outcomes
- Understand the concept of and usage of data science, big data analysis for agriculture

BLOCK 1: OVERVIEW OF RESEARCH

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.

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.

BLOCK 2: USE OF SOFTWARES FOR STATISTICAL ANALYSIS

UNIT III: introduction to multivariate statistical analysis techniques, Multivariate line regression models, principal component analysis, linear discriminant analysis, factor analysis, evaluation matrices and model diagnostics for regression models.

UNIT IV: Logistic regression, decision trees, cluster analysis, random forest, GARCH, CART models, support vector machines, Forecasting techniques (AR, MA, ARMA and ARIMA models)

BLOCK 3: INTRODUCTION TO DATA SCIENCE

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.

TEACHING METHODS/ ACTIVITIES

- Interactive lectures
- Group assignments
- Presentations
- Live projects for marketing research problems
- Case study on application of marketing research tools

SUGGESTED READINGS

- Cooper DR & Schindler PS. 2006. *Marketing Research Concepts and Cases*. TMH
- Ranjit Kumar. 2014. *Research Methodology,* Sage publications, 4th Edition
- Glenn J.C. 2010. *Hand book of Research Methods.* OXFORD.
- Kothari CR. 2018. *Research Methodology- Methods and Techniques*. New Age International Publishers; Fourth edition

Title: COMPUTER APPLICATIONS FOR AGRI BUSINESS
Course Code: ABM- 541
Credit: 3 (2+1)

AIM OF THE COURSE

The course aims to instill the significance of computer applications in the organizations and handling recent trends in information technology and system for improved decision making

The course is organized as follows:

No	Blocks	Units
1	**Basics of computers**	1. Concept of computers
		2. System and application softwares
		3. Data base management system
2	**Business value of internet**	1. Cloud computing
		2. Cyber security and ethical challenges
3	**Management Information System**	1. Concept of MIS
		2. Introduction to Artificial Intelligence
		3. E- commerce agri business trends

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the fundamentals of computers
- Get a clearer idea about the application of Information technology in agri business management
- Use of e commerce, artificial intelligence and MIS for improved decision making in management

BLOCK 1: BASICS OF COMPUTERS

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,

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.

BLOCK 2: BUSINESS VALUE OF INTERNET

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

BLOCK 3: MANAGEMENT INFORMATION SYSTEM

UNIT IV: The concept of MIS–Definition, importance, Course Objective, pre- requisites, 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

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.

TEACHING METHODS/ ACTIVITIES

- Lectures
- Practicals
- Live project
- Assignments
- Presentations

SUGGESTED READINGS:

- Kenneth C. Laudon & Jane P. Laudon. 2016, *Management Information Systems- Managingthe digital Firm,* 14h Edition, Pearson India
- Volonino, Woods, O/P. Wali Turban. 2015, *Information Technology for Management,Advancing Sustainable, Profitable Business Growth*, Wiley
- Jaiswal M.Mittal M.2005.Management Information System, OXFORD

Title: PROJECT MANAGEMENT AND AGRIBUSINESS ENTREPRENEURSHIP
Course Code: ABM- 542
Credit: 3 (2+1)

AIM OF THE COURSE

This course aims at providing student an insight into the nature of small scale industry. They will be exposed to various aspects of establishment and management of a small business unit.

The course is organized as follows:

No	Blocks	Units
1	**Concept of Project Management**	1. Introduction to project management
		2. Project feasibility
		3. Network methods and project scheduling
2	**Introduction to Agri Entrepreneurship**	1. Concept of agri entrepreneurship
		2. Creativity, Innovation and Agro Entrepreneur
3	**Support System for Agri Entrepreneurship**	1. Sources of Financing for entrepreneurs
		2. Preparation of Detail Project Report
		3. Structure and Government Policy Support

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the fundamentals of project management
- Develop a understanding of agri entrepreneurship opportunities and challenges
- Understand the method of developing a agri based venture through the support system available in the Indian scenario

BLOCK 1: CONCEPT OF PROJECT MANAGEMENT

UNIT I: Concept, characteristics of projects, types of projects, project identification, and Project's life cycle. Project feasibility- market feasibility, technical feasibility, financial feasibility, and economic feasibility, social cost-benefit analysis, project risk analysis.

UNIT II: Network Methods: Meaning, Network Analysis, Critical Path Method (CPM),Programme Evaluation and Review Technique (PERT), Project scheduling and resource allocation. 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, Payback period, Project implementation; Cost overrun, Project control and information system.

BLOCK 2: INTRODUCTION TO AGRI ENTREPRENEURSHIP

UNIT III: Concept of Agri Entrepreneurship**:** Objective, Introduction to agri entrepreneurship, Entrepreneurial Development Models, Successful Models in Agro Entrepreneurship Intrapreneur, Development of women entrepreneurship with reference to SHGs, Social entrepreneurship

UNIT IV: Creativity, Innovation and Agro Entrepreneur: Inventions and Innovation, The Environment and Process of Creativity, Creativity and the Entrepreneur, Innovative Approaches to Agro Entrepreneurship, Business Incubation, Steps and Procedure to start a new business, Business Opportunities in different field of Agriculture and Allied Sectors

BLOCK 3: SUPPORT SYSTEM FOR AGRI ENTREPRENUERSHIP

UNIT V: Sources of Financing, Structure and Government Policy Support: Estimating Financial Requirements, Preparation of Detail Project Report, Project Appraisal, Sources of Long- Term Financing, Working Capital Financing, Venture Capitalist, Finance from Banking Institutions, Industrial Policy Resolutions in India, Incentives and Subsidies, Schemes for Incentives, Government Organisations like SIDO, DIC, KVIC, NSIC, SIDBI, NABARD and their role, Sick Industries and their Up gradation policy measures

TEACHING METHODS/ ACTIVITIES

- Interactive lectures
- Live project in association with innovative farmers/ agri entrepreneur
- Cases related to agri entrepreneurship
- Guest lectures by bankers, entrepreneurs, academicians and venture capitalist firms
- Assignments
- Presentations of Agri Business Plans

SUGGESTED READINGS

- Arora, R. and Sood, S.K., *Fundamentals of Entrepreneurship and Small Business Management.* Kalyani Publishers,Ludhiana.
- Desai, Vasant, 2016, *Business Planning and Entrepreneurial Management*, Himalaya Publishing House, Mumbai.
- Ramachandaran, K., *Managing a New Business Successfully.* Global Business Press, New Delhi. Shukla, M.B., *Entrepreneurship and Small Business Management*. Kitab Mahal.New Delhi.
- Dandekar, V. M. and Sharma, V. K., 2016, *Agri-Business and Entrepreneurship Development.* Manglam Publications, New Delhi.
- T W Zimmerer, N M Scarborough. *Essentials of Entrepreneurship and small Business Management,* 5th Edition, PHI Learning Pvt Ltd
- Panigrahi S.R. & Singh B. 2017. *Agro Entrepreneurship.* Scientific Publishers (India)

Title: AGRIBUSINESS ENVIRONMENT AND POLICY
Course Code: ABM- 543
Credit: 2 (2+0)

AIM OF THE COURSE

To expose the students to the environment in which the agri-business is conducted. The course is organized as follows:

No	Blocks	Units
1	Agribusiness in India	1. Agri business environment in India
		2. Major sub sectors of agri business in India
2	Economic reforms affecting agri business	1. Policies and regulations affecting agri business in India
		2. WTO Agreement on Agriculture and its compliances
3	Emerging trends in agri Business	1. Reforms in agri output markets
		2. International trade in agri business
		3. Food safety and quality management

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Develop an understanding about the role and problems agriculture and agri business is playing in the Indian economy
- Critically evaluate the major economic reforms that have directly or indirectly affected agri business in India
- Understand the emerging trends and challenges in the field of agri business

BLOCK 1: AGRIBUSINESS IN INDIA

UNIT I: Role of agriculture in Indian economy; Problems of agriculture in India; Agribusiness–definition and nature, Structure of Agriculture and linkages among sub-sectors of the agribusiness.

BLOCK 2: ECONOMIC REFORMS AFFECTING AGRI BUSINESS

UNIT II: Economic reforms: liberalization, privatization and globalization specifically affecting Agri Business; WTO Agreement on Agriculture and its compliances; changes in policies and regulations related to the sub sectors of agribusiness and its impact on agribusiness in India.

BLOCK 3: EMERGING TRENDS IN AGRI BUSINESS

UNIT III: Emerging trends in farm supplies, farm production, agricultural finance, agro processing, international trade etc.; reforms in agri output markets: private markets, contract farming, futures trading in agri commodities and e-NAM etc., Pricing of agricultural outputs, public distribution system, imports and exports.

UNIT IV: Importance of food safety and quality management in agri business; Environmental issues and including carbon markets and Clean Development Management etc.

UNIT V: Other major issues: Intellectual property rights, importance of cooperative or collective actions in present scenario with examples of mergers and acquisitions, Farmers Producer Organisations etc.

TEACHING METHODS /ACTIVITIES

- Lectures
- Role plays
- Case studies as group assignment
- Presentations
- Assignments
- Live projects

SUGGESTED READINGS

- FL Barnard, JT Akridge, FL Dooley, JC Foltz & EA Yeager. 2012, Agribusiness Management, Routledge, 4th Edition
- Aswathappa K. Essentials of Business Environment. Himalaya Publ.
- Francis Cherunilam 2003. Business Environment. Himalaya Publ.
- Kodekodi G.K.Viswanathan B. Agril. Development, Rural Institution & Economic Policy, OXFORD.

Title: AGRI BUSINESS LAWS AND ETHICS

Course Code: ABM- 544

Credit: 2 (2+0)

AIM OF THE COURSE

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

The course is organized as follows:

No	Blocks	Units
1	**Indian Legal System**	1. Indian Contract Act
		2. Companies Act
2	**Regulatory environment for agri business**	1.Essential Commodities Act,
		2.Consumer Protection Act
3	**Business ethics**	1.Ethics in agri business functional areas
		2. Governance mechanism

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Learn about the Indian legal system that directly affects the agri business in India
- Know about the regulatory framework in which the agri business is to be conducted and managed
- Understand the importance of practicing business ethics

BLOCK 1: INDIAN LEGAL SYSTEM

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

UNIT-II: Law of Negotiable Instruments: Promissory Notes, Bills of Exchange, Cheques and Bank Drafts, Endorsements, Law of Sale of Goods, Sales of Goods Act-1930-: Sale and agreement to sale, types of goods, Transfer of property in goods, mode of delivery of goods, performance of contract of sales, rights of an unpaid seller.

UNIT III: Companies Act-1956: incorporation, commencement of business, types of companies, management of company, Memorandum of Association and Articles of Association, prospectus, winding of companies,

BLOCK 2: REGULATORY ENVIRONMENT FOR AGRI BUSINESS

UNIT IV: Essential Commodities Act, Consumer Protection Act, RTI Act, MRTP Act - major provisions and implications. Competition Act-2002, Regulatory environment for International Business

BLOCK 3: BUSINESS ETHICS

UNIT V: Nature and importance of ethics and moral standards; corporations and social responsibilities, scope and purpose of business ethics; Ethics in business functional areas; industrial espionage; solving ethical problems; governance mechanism. implementing business ethics in a global economy

TEACHING METHODS/ ACTIVITES

- Lectures
- Live projects
- Assignments (Individual and Group)
- Presentations about the ethical practices of the firms in India
- News paper analysis about the contemporary issues

SUGGESTED READINGS

- S B Mathur. 2010. *Business Law.* Tata McGraw Hill Edn. Pvt Ltd.
- Gulshan SS & Kapoor GK. 2003. *Business Law including Company Law.* 10th Ed.New Age Publ.
- Kapoor ND. 2005. *Business Law.* S. Chand & Sons.
- Tuteja SK. 2005. *Business Law for Managers*. S. Chand & Sons.
- Tulsian, P.C. and Tulsian, B., 2015, *Business Law*. TMH, New Delhi.
- Singh Avtar, (2017), *Contract & Specific Relief,* Eastern Book Company; Twelfth edition
- Akhileshwar Pathak. 2015. *Legal Aspects of Business.* McGraw Hill Education. 6th Edition

Course Title with Credit load Ph.D. (MBA) in Agri-Business Management (ABM)

I.	MAJOR COURSES		12 Credits
No	Course Code	Course Name	Credits
1	ABM 601	Econometrics for Agri Business	3 (2+1)
2	ABM 602	Research Methods I	3 (2+1)
3	ABM 603	Agri Input & Output Marketing	3 (2+1)
4	ABM 604	Research Methods II	3 (2+1)
II	MINOR COURSES		6 Credits
5	ABM 605	Natural Resource Management	2+0
6	ABM 606	Knowledge Management	2+0
7	ABM 607	Value Chain Management in Agribusiness	2+0
III	SUPPORTING COURSES		5 Credits
8	ABM 608	Agri-Entrepreneurship and Corporate Governance	1+0
9	ABM 609	International Food and Agri Business	2+0
10	ABM 610	Communication for Management Teachers	0+2
IV	SEMINARS		2 Credits
1	ABM 691	Doctoral Seminar I	1(1+0)
2	ABM 692	Doctoral Seminar II	1(1+0)
V		RESEARCH (ABM 699)	75
		TOTAL	100

Course Contents

ABM 601: ECONOMETRICS FOR AGRI BUSINESS **(2+1)**

AIM OF THIS COURSE

The course is mainly designed to solid data base analysis of market and policy variables to back up their business strategies. The emphasis will be given on application rather than theoretical details.

The course is organized as follows:

No	Blocks	Units
1	**Formulation and specification of econometric models**	1. Simple Regression Analysis 2. Properties of Regression Coefficients and Hypothesis Testing
		3. Multiple Regression Analysis
		4. Heteroscedasticity 5. Stochastic Regressors and Measurement Errors 6. Simultaneous Equations Estimation
2	**Estimation and testing of models**	7. Modelling Dynamic Processes
		8. Autocorrelation
		9. Logit and Probit (binary choice models)

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Acquire the basic knowledge of econometrics
- Learn the basics of econometric models and testing its application in the agri business environment

COURSE OUTLINE

1. Introduction: Correlation theory, Basic concept of regression analysis, assumptions of regression model, theory of OLS, properties of least square estimates, maximum likelihood, hypothesis testing, interval estimation, prediction in linear regression model.
2. Heteroskedasticity and autocorrelation, multicollinearity, specification errors, selection of regressors, dummy variables, autoregressive and distributed models.
3. Set of regression equations, causality and simultaneity: application.
4. Time series econometrics- stationarity, unit roots and co-ingression, error- correction model, AR, MA, ARMA, ARIMA processes.
5. Qualitative dependent variables – LPM, Logit and probit models.

SUGGESTED READINGS

- Gujarati, Damodar, Basic Econometrics, McGraw-Hill Company
- James H. Stock and Mark W. Watson: Introduction to Econometrics, Pear son Education

ABM 602: RESEARCH METHODS- I **(2+1)**

AIM OF THIS COURSE

The objective of the course is to enable research scholars in developing the knowledge and skills required to specify, evaluate and utilise different types of unstructured and semi-unstructured information. They are required to develop competence in problem formulation, hypothesis generation and method of carrying scientific research in situations where research work plays a critical role. The course is practical in nature and students are expected to learn by doing live projects and studying the latest researches in different fields related to agri business.

The course is organized as follows:

No	Blocks	Units
1	**Overview of Research Methodology**	1. Research process
		2. Problems and Hypotheses
		3. Processing and analysis of data
2	**Introduction to business analytics**	1. Types of Business Analytics
		2. Introduction to predictive modelling/analytic

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Learn about the basics of research methodology
- Understand the application of research for problem solving related to agri business environment

COURSE OUTLINE

BLOCK 1: OVERVIEW OF RESEARCH METHODOLOGY

UNIT 1: Translating problems to research issues: Selection of qualitative vs quantitative research definitions, objectives, research methodologies rationale, sample/sources of data, data collection techniques, Questionnaire designing: use of measurement and scaling techniques, reliability testing.

UNIT 2: Fieldwork: Data collection, gaining access and entry, ethical considerations, identifying key informants, validation and evaluation of fieldwork, data preparation, field notes and recording

UNIT 3: Hypothesis Development and Theoretical Modelling. Business Analytics, Business Intelligence,

BLOCK 2: INTRODUCTION TO BUSINESS ANALYTICS

UNIT 4: Types of Business Analytics, Introduction to predictive modelling/analytics.

Linear programming, Contemporary applications of marketing research

ABM 603: AGRI INPUT & OUTPUT MARKETING 3 (2+1)

AIM OF THIS COURSE

Agricultural Input & Output marketing is a dynamic and competitive field where lot is to be done looking to the gap in technology existing and possible. Changes are taking place in manifolds ranging from farming practices to trading in domestic and international markets. Presence of private players, infrastructure development, impact on prices, concept of e mandi etc are becoming more important to understand in current scenario. Scholars will also study the researches and articles to understand interesting changes going on in this field.

The course is organized as follows:

No	Blocks	Units
1	**Introduction to agri input and out marketing environment**	1. Current status of agri input and output markets in India
		2. Marketing mix for agri input and output marketing
2	**Evaluation of marketing costs and efficiencies**	1. Assessment of different cost components
		2. Case studies on various marketing strategies adopted by national and global players

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Develop a understanding about the existing practices of agri input and output marketing in India
- Acquire a deep learning about assessing the marketing cost and related efficiencies tomake the agricultural marketing profitable

COURSE OUTLINE

BLOCK 1: INTRODUCTION TO AGRI INPUT AND OUT MARKETING ENVIRONMENT

UNIT 1: Agriculture input and output marketing environment-Current status, trends, market structure, infrastructure, competition, Government intervention in agricultural inputs and outputs marketing

UNIT 2: Buyers/users behaviour, Market Segmentation, Product and Pricing, Promotion and advancement in promotional strategies, Marketing Channels for different agri inputs and outputs

BLOCK 2: EVALUATION OF MARKETING COSTS AND EFFICIENCIES

UNIT 3: Evaluation of marketing costs and efficiencies, WTO and Indian Agriculture, Case Studies-Competitive marketing strategies and advancements in agricultural marketing, International agri marketing practices

ABM 604: RESEARCH METHOD - II **(2+1)**

AIM OF THIS COURSE

Once the students are equipped with the information required for interpretive research, RM II will train the students with advanced analytical tools and their uses.

The course is organized as follows:

No	Blocks	Units
1	**Hypothesis testing**	1. Analysis of variance and covariance
		2. Multidimensional scaling and conjoint analysis
2	**Data Mining, Data Mining Methods**	1. Data Mining Methods
		2. Business Process Discovery
3	**Applications of Statistical Softwares**	1. Modelling with statistical softwares., Report preparation and presentation,

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the concepts of hypothesis testing
- Learn the application of statistical analysis softwares by hands on experience in agrbusiness problem solving methods

COURSE OUTLINE

BLOCK 1: HYPOTHESIS TESTING

UNIT 1: Hypothesis testing, Analysis of variance and covariance, Correlation and regression, Discriminant and Logit analysis, Factor analysis, Cluster analysis, Multidimensional scaling and conjoint analysis

BLOCK 2: DATA MINING

UNIT 2: Data Mining, Data Mining Methods—Data Dredging, Data Fishing, Data Snooping and Process Mining—Business Process Discovery, Conformance Checking and Model Enhancement. Arena Modelling

BLOCK 3: APPLICATIONS OF STATISTICAL SOFTWARE

UNIT 3: Applications of Statistical Softwares like SAS, Modelling with statistical softwares. Report preparation and presentation, International Marketing Research

SUGGESTED READINGS

- Cohen, L. Lawrence, M., & Morrison, K. (2005). Research Methods in Education (5th edition). Oxford: Oxford University Press.
- Denscombes, M. (2010). The Good Research Guide: For small-scale social research projects. Maiden-Read: Open University Press.
- Dornyei, Z. (2007). Research Methods in Applied Linguistics. Oxford: Oxford University Press. 4. Hoadjli, A.C. (2015).
- Kothari, C. R. (1980). Research Methodology: Research and techniques, New Delhi: New Age International Publishers.
- Kumar, R. (2011). Research Methodology: a step-by-step guide for beginners (3rd edition).
- Singh, Y. K. (2006). Fundamental of Research Methodology and Statistics. New Delhi. New International (P) Limited, Publishers.

MINOR COURSES

ABM 605: NATURAL RESOURCE MANAGEMENT (2+0)

AIM OF THIS COURSE

The course on Natural Resource Management will provide indepth knowledge to the participants to look for ways to make responsible natural resource management decisions which will have an impact on all stakeholders.

The course is organized as follows:

No	Blocks	Units
1	**Introduction to natural resources**	1. Types and classification of natural resource
		2. Economic resource theory and applications
2	**Overview of Natural Resource Management**	1. NRM sectors product marketing and their roles,
		3. Concept of environmental services
		4. Ecotourism Policy and practices

COURSE OUTLINE

BLOCK 1: INTRODUCTION TO NATURAL RESOURCES

UNIT-I Natural resources: Types and classification of natural resource, concept of Economic value, relevance of environmental economics, ecosystems services, direct and indirect economic benefit from – forest ecosystems, mountain ecosystems, mineral and water resources, ecotourism. Valuation and accounting: Supply and demand, conservation and management, cost / benefit analysis, methods of costing, cost criteria, evaluating alternative projects, operational vs. total costs, determining benefiting vs. comprehensive stakeholders Application of resource accounting Methods of pricing resources-example forest and mineral resources.

UNIT-II Economic resource theory and applications: Concept of CPR, open access, Ecological economics-methodology, economic valuation of non market benefits, environmental accounting, population resources and the environment, command and control vs. emission trading, emission trading vs. exposure trading, hotelling principle, future strategies for mineral resources.

BLOCK 2: OVERVIEW OF NATURAL RESOURCE MANAGEMENT

UNIT-III Natural Resource Management: Initial concept of market and marketing, NRM sectors product marketing and their roles, promoting NRM products- NTFPs, livestock, watershed, fisheries, agriculture and medicinal plants and ecotourism, Role of national and international organizations in the promotion of sustainable natural resource use and management.

UNIT IV: Concept of environmental services: Definitions, ecotourism, alternative examples, development of ecotourism in India and outside. Threats due to large scale ecotourism. Payment for Ecosystem Services, the ecotourism dilemmas: High value may also be high impact, bulk ecotourism and problems, stakeholder challenges, tourist carrying capacity. Ecotourism Policy and practices, national policy frame work, example – Madhya Pradesh & Uttarakhand State case. Successful ecotourism initiative, Criteria and Indicators for sustainable Ecotourism.

SUGGESTED READINGS

- Barber, E. 1989. Economics: Natural Resources Scarcity and Development. Earthscan.
- Harris, J.M. 2006. Environmental and Natural Resource Economics: A Contemporary Approach, 2nd edition. Houghton Mifflin
- Field, Barry C. 2008. Natural Resource Economics An Introduction. Waveland Press.
- Honey, Martha. 2008. Ecotourism and Sustainable Development: Who Owns Paradise? 2 nd edition. Island Press. 2. Seema Bhat & Syed Liyakhat 2008. Ecotourism Development in India: Communities, Capital and Conservation published by CEE, Ahmedabad

ABM 606: KNOWLEDGE MANAGEMENT (2+0)

AIM OF THIS COURSE

The objective of the course is to provide the basics of the emerging area of Knowledge Management to students. This course throws light on few important concepts as Knowledge management and Information Technology, Knowledge process, etc.

The course is organized as follows:

No	Blocks	Units
1	**Introduction to knowledge management**	**1.** The Knowledge Economy:
		2. Knowledge Management and Information Technology:
2	**Future of Knowledge Management and Industry perspective**	**1.** Knowledge process
		2. Implementation of Knowledge Management:

COURSE OUTLINE

BLOCK 1: INTRODUCTION TO KNOWLEDGE MANAGEMENT

UNIT 1: The Knowledge Economy: Leveraging Knowledge, Data-Information- knowledge-Wisdom relationship, organizational knowledge, characteristics and components of organizational knowledge – Building knowledge societies- Measures for meeting the challenges of implementing, KM programmes.

UNIT 2: Knowledge Management and Information Technology: Role Information Technology in Knowledge Management Systems, Knowledge Management tools, Creative effective Knowledge Management Systems through Information Technology, ERP and BPR, Data Warehousing and Data Mining.

BLOCK 2: FUTURE OF KNOWLEDGE MANAGEMENT AND INDUSTRY PERSPECTIVE

UNIT 3: Future of Knowledge Management and Industry perspective: Companies on the road to knowledge management, Knowledge Management in Manufacturing and service industry, challenges and future of Knowledge Management.

UNIT 4: The Knowledge Process: Universal appeal, Stages of KM Process, Knowledge Capital vs physical capital, Customer Relationship Management, Business Ethics And KM, The Promise of Internet and the Imperatives of the new age.

UNIT 5: Implementation of Knowledge Management: Discussion on Roadblocks to success, Business Intelligence and Internet platforms, web Portals, Information Architecture: A three-way Balancing Act, KM, the Indian experience, Net Banking in India. –Role of knowledge Management in Organizational Restructuring. -The Mystique of a Learning Organisation.

SUGGESTED READINGS

- Mattison: Web Warehousing & Knowledge Management, Tata McGraw-Hill,2009
- Becerra Fernandez: Knowledge management: An Evolutionary view, PHI, 2009
- Fernando:Knowledge Management, Pearson, 2009
- B.Rathan Reddy: Knowledge management, Himalaya, 2009
- Tapan K Panda: Knowledge Management, Excel, 2009.
- Barnes: Knowledge Management systems, Cengage, 2009.
- Tiwana: The Knowledge Management tool kit, 2/e, Pearson Education, 2009.
- Warier: Knowledge Management, Vikas Publishing House, 2009
- Sislop: Knowledge Management, Oxford University Press, New Delhi, 2009
- Debowski: Knowledge Management, Wiley Student Edition, Wiley India, 2007

ABM 607: VALUE CHAIN MANAGEMENT IN AGRIBUSINESS (2+0)

AIM OF THE COURSE

To recognize the characteristics of Global Food Systems, the multiple variables impacting Global Food Systems, to identify value chain thinking and how it differs from supply chain thinking, the characteristics of agri-food markets, what influences their supply and demand, and what sets them apart from other markets, the role played by external factors such as population and income growth, globalization, climate change, technology, and international trade in global food systems, agribusiness and value chains, to recognize the role the consumer plays in the food system, markets, and value chains

UNIT 1: GLOBAL FOOD SYSTEMS AND VALUE CHAINS:

Characteristics of global food systems; identify the variables impacting global food systems; identify value chain thinking and how it differs from supply chain thinking; identify the role that external factors (for example, population and income growth, globalisation, climate change, technology and international trade) play on global food systems, agribusiness and value chains; and identify the actors in, and characteristics of, value chains, demonstrated with the building of a value chain model.

UNIT 2: AGRIBUSINESS MARKET DYNAMICS:

Characteristics of agri-food markets, what influences their supply and demand, and what sets them apart from other markets; identify the role that external factors, such as population and income growth, globalisation, climate change, technology and international trade, play on agri-food markets; interpret the key elements of supply and demand; and recognise the basic characteristics of supply and demand curves.

UNIT 3: THE ROLE OF THE CONSUMER

Role the consumer plays in the food system, markets and value chains; recognise the consumer characteristics, trends and behaviours that influence value chains; and recognise some of the techniques used in market and consumer research to better understand consumer behaviour.

SUGGESTED READINGS

- Acharya, S. S., and Agarwal, N. L., 2011, *Agricultural marketing in India*. Oxford and IBH.
- Altekar, R. V., 2006, *Supply Chain Management: Concepts and Cases*.PHI
- Chopra, S., Meindl, P. and Kalra, D. V., 2016, *Supply chain management: Strategy,Planning, and Operation*, Pearson Education India
- Mohanty R.P.2010. *Indian Case studies in Supply Chain Management & other Learning Resources.* OXFORD
- N. Chandrasekaran.2010. *Supply Chain Management: Process,system &Practice*.OXFORD
- Singh Sukhpal. *Organic Produce Supply Chains in India-organisation and governance.* Allied Publ.

SUPPORTING COURSES

ABM 608: AGRI ENTREPRENEURSHIP AND CORPORATE GOVERNANCE (1+0)

AIM OF THIS COURSE

The course aims to make students understand the nature of Entrepreneurship, and acquaint the students with challenges of starting new ventures and enable then to investigate, understand and internalize the process of setting up a business. Objective is also to enlighten them with the importance of Corporate Good Governance and Business Ethics.

The course is organized as follows:

No	Blocks	Units
1	**Agri Entrepreneurship and Feasibility Studies**	1. Nature of Entrepreneurship
		2. Starting the venture
		3. Functional plans and Sources of finance
2	**Introduction to Business Ethics and Corporate Governance**	1. Business Ethics
		2. Corporate Governance

LEARNING OUTCOMES:

After successful completion of this course, the students are expected to be able to:

- Understand the concept of agripreneurship and its application for starting a new venture
- Learn the basics of making functional plans like marketing, production and financial
- Acquire the knowledge about business ethics and corporate governance

BLOCK 1: AGRI ENTREPRENEURSHIP AND FEASIBILITY STUDIES

UNIT I: Nature of Entrepreneurship: Concept, knowledge, skills requirement and functions; characteristic of successful entrepreneurs;; scenario in India and Abroad, entrepreneurship process; factors impacting emergence of entrepreneurship; managerial vs. entrepreneurial approach and emergence of entrepreneurship, Risk Reduction strategies

UNIT 2: Starting the venture: generating business idea – sources of new ideas, methods of generating ideas, SWOT Analysis, environmental scanning, competitor and industry analysis; feasibility study – market feasibility, technical/operational feasibility, financial feasibility; drawing business plan; preparing project report; presenting business plan to investors.

UNIT 3: Functional plans: marketing plan – marketing research for the new venture, steps in preparing marketing plan, contingency planning; organizational plan – form of ownership, designing organization structure, job design, manpower planning; Financial plan – cash budget, working capital, proforma income statement, proforma cash flow, proforma balance sheet, break even analysis.

UNIT 4: Sources of finance: debt or equity financing, commercial banks, venture capital; financial institutions supporting entrepreneurs, Government Grants and Subsidies, Entrepreneurship Promotion Schemes of Department of Industries (DIC), KVIC,SIDBI,NABARD, NSIC, APSFC, IFCI and IDBI etc. ; legal issues – intellectual property rights patents, trademarks, copy rights, trade secrets, licensing; franching.

BLOCK 2: INTRODUCTION TO BUSINESS ETHICS AND CORPORATE GOVERNANCE

UNIT 5: Necessity for Business Ethics- Salient Issues in Ethics and Commerce- Shadow Economy – Basic Principles in Ethics –Corporate Climate and corporate climate audits – Political Issues – Nature and theory of Ethics, Corporate Governance- Historical perspective and issues of Corporate Governance – Corporate Governance mechanisms – Corporate Governance Models, – The confederation of Indian Industry's initiative.; Corporate Social Responsibility

SUGGESTED READINGS

- Robert Hisrich Michael Peters Dean Shepherd Entrepreneurship10th Ed 2016 by McGraw- Hill Education
- Vasanth Desai: Entrepreneurship, HPH, 2011
- David Martin: Corporate Governance, Viva, 2010
- H. Nandan: Fundamentals of Entrepreneurship, PHI, 2013
- Barringer: Entrepreneurship, Pearson, 2015
- RK Mishra,Gitarani: Corporate Governance, Excel, 2012
- V.Balachandran & V.Chandrasekaran: Corporate Governance & Social Responsibility, PHI, 2009
- A.C.Fernando: Business Ethics, Pearson, 2009
- Laura P Hartman & Abha Chatterjee: Business Ethics, TMH, 2009
- Tripat Kaur: Values and Ethics in Management, 2/e, Paragon International,2009.

ABM 609: INTERNATIONAL FOOD and AGRI BUSINESS (2+0) AIM OF THIS COURSE

The objective of the paper is to acquaint the students with the fundamentals of international business, its environment and complexities. The paper provides exposure to multiple dimensions of the field and imparts international perspective to business decisions.

The course is organized as follows:

No	Blocks	Units
1	**Global trends in International trade**	1. Structure of IB environment
		2. Global financial system,
2	**Global manufacturing and material management**	1. International product life cycle, product and branding decisions;
		2. Export assistance and incentives in India
		3. Harmonizing accounting difference across countries
		4. Ethical dilemmas and social responsibility issues

COURSE OUTLINE

BLOCK 1: GLOBAL TRENDS IN INTERNATIONAL TRADE

UNIT I: Global trends in international trade and finance; dimensions and modes of IB; structure of IB environment; risk in IB; organizational structure for IB; world trading system and impact of WTO; exchange rate systems; global financial system; barriers to IB; international business information and communication.

UNIT II: Foreign market entry strategies; country evaluation and selection; factors affecting foreign investment decisions; impact of FDI on home and host countries; types and motives for foreign collaboration; control mechanisms in IB.

BLOCK 2: GLOBAL MANUFACTURING AND MATERIAL MANAGEMENT

UNIT III: Decisions concerning global manufacturing and material management; outsourcing factors; managing global supply chain; International product life cycle, product and branding decisions; managing distribution channels; international promotion mix and pricing decisions; counter trade practices; mechanism of international trade transactions. EXIM policy of India. Export costing and pricing, Export procedures and export documentation. Export assistance and incentives in India.

UNIT IV: Harmonizing accounting difference across countries; currency translation methods for consolidating financial statements; the LESSARD-LORANGE Model; cross cultural challenges in IB; international staffing decisions; compensation and performance appraisal of expatriate staff; ethical dilemmas and social responsibility issues.

ABM 610: COMMUNICATION FOR MANAGEMENT TEACHERS(0+2)

AIM OF THIS COURSE

Communication in management education is not limited to classroom teaching. There are lot of innovative techniques to make teaching and learning interesting, practical and effective. There are various researches are done for methodological and effectiveness aspects. This course will be dealt understanding all the methods of communication for management teaching in learning by doing method and presenting the various researches done in this field.

The course is organized as follows:

No	Blocks	Units
1	**Management education**	Action gaps in education and latest developments and required skills
2	**Theory and techniques of communication in management**	1. Active listening, group communication
		2. Emotional perspective in teaching
		3. Learning in management education
3	**Case teaching and writing**	Writing a case and teaching note, Critiquing a research article

COURSE OUTLINE

BLOCK 1: MANAGEMENT EDUCATION

UNIT 1: Management education: Action gaps in education and latest developments and required skills

BLOCK 2: THEORY AND TECHNIQUES OF COMMUNICATION IN MANAGEMENT

UNIT 2: Communication: Active listening, group communication, Language process Presentation on readings- recorded and graded: Oral presentation & computer assisted presentations

UNIT 3: Theory and techniques: Didacticism, Group work & discussion method, Simulation, facilitation skills and styles for experiential learning. Emotional perspective in teaching

UNIT 4: Learning in management education: Experiential learning, Action Learning, Group learning, Simulation and games, Role Play, Teaching and learning through Electronic Media

BLOCK 3: CASE TEACHING AND WRITING

UNIT 5: Case method of teaching: Writing a case and teaching note, Critiquing a research article

Non-Gradial Common Courses

Course Title with Credit load Non- Gradial Common Courses

Sr. No	Course Code	Course Title	Credit
1	PGS -501	Library and Information Services	(0+1)
2	PGS -502	Technical Writing and Communications Skills	(0+1)
3	PGS -503	Intellectual Property and Its Management In Agriculture	(1+0)
4	PGS -504	Basic Concepts in Laboratory Techniques	(0+1)
5	PGS -505	Agricultural Research, Research Ethics and Rural Development Programmes	(1+0)
6	PGS -506	Advertising and Brand Management	(1+0)

Course Contents

PGS – 501 LIBRARY AND INFORMATION SERVICES (0+1)

Objective

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

Practical

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

PGS - 502 TECHNICAL WRITING AND COMMUNICATIONS SKILLS (0+1)

Objective

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

Practical

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

Suggested Readings

1. Chicago Manual of Style. 14th Ed. 1996. Prentice Hall of India.
2. Collins' Cobuild English Dictionary. 1995.
3. Harper Collins. Gordon HM & Walter JA. 1970. Technical Writing. 3rd Ed.
4. Holt, Rinehart & Winston. Hornby AS. 2000. Comp. Oxford Advanced Learner's Dictionary of Current English. 6th Ed. Oxford University Press.
5. James HS. 1994. Handbook for Technical Writing. NTC Business Books.
6. Joseph G. 2000. MLA Handbook for Writers of Research Papers. 5th Ed. Affiliated East- West Press.
7. Mohan K. 2005. Speaking English Effectively. MacMillan India.
8. Richard WS. 1969. Technical Writing.

9. Barnes & Noble. Robert C. (Ed.). 2005. Spoken English: Flourish Your Language.
10. Abhishek. Sethi J & Dhamija PV. 2004. Course in Phonetics and Spoken English. 2nd Ed. Prentice Hall of India.
11. Wren PC & Martin H. 2006. High School English Grammar and Composition. S. Chand & Co.

PGS -503 INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE (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.

Theory

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

Suggested Readings

1. Erbisch FH & Maredia K.1998. Intellectual Property Rights in Agricultural Biotechnology. CABI.
2. Ganguli P. 2001. Intellectual Property Rights: Unleashing Knowledge Economy. McGraw-Hill.
3. Intellectual Property Rights: Key to New Wealth Generation. 2001. NRDC & Aesthetic Technologies.
4. Ministry of Agriculture, Government of India. 2004. State of Indian Farmer. Vol. V. Technology Generation and IPR Issues. Academic Foundation.
5. Rothschild M & Scott N. (Ed.). 2003. Intellectual Property Rights in Animal Breeding and Genetics. CABI.
6. Saha R. (Ed.). 2006. Intellectual Property Rights in NAM and Other Developing Countries: A Compendium on Law and Policies. Daya Publ. House.

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

PGS - 504 BASIC CONCEPTS IN LABORATORY TECHNIQUES (0+1)

Objective

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

Practical

- Safety measures while in Lab;

- Handling of chemical substances;
- Use of burettes, pipettes, measuring cylinders, flasks, separatory funnel, condensers, micropipettes and vaccupets;
- 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, sand bath, water bath, oil bath;
- 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

1. Furr AK. 2000. CRC Hand Book of Laboratory Safety. CRC Press.
2. Gabb MH and Latchem WE. 1968. A Handbook of Laboratory Solutions. Chemical Publ. Co.

PGS - 505 AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES (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.

Theory

UNIT I

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

UNIT II

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

UNIT III

Concept and connotations of rural development, rural development policies and strategies. Rural development programmes: Community Development Programme, Intensive Agricultural District Programme, Special group – Area Specific Programme, Integrated Rural Development Programme (IRDP) Panchayati Raj Institutions, Co- operatives, Voluntary Agencies/Non-Governmental Organisations. Critical evaluation of rural development policies and programmes. Constraints in implementation of rural policies and programmes.

Suggested Readings

1. Bhalla GS & Singh G. 2001. Indian Agriculture - Four Decades of Development. Sage Publ.
2. Punia MS. Manual on International Research and Research Ethics. CCS, Haryana Agricultural University, Hisar.
3. Rao BSV. 2007. Rural Development Strategies and Role of Institutions - Issues, Innovations and Initiatives. Mittal Publ.
4. Singh K. 1998. Rural Development - Principles, Policies and Management. Sage Publ.

PGS – 506 ADVERTISING AND BRAND MANAGEMENT (1+0)

LEARNING OUTCOMES

This course investigates various promotional tools used in the communication mix, such as advertising, sales promotion, and publicity, to sell products and services. Concepts include: advertising planning processes, determining advertising and promotional goals and objectives, control and evaluation of advertising and promotional programs, and regulatory issues. Students will develop a comprehensive advertising campaign for a real or imaginary product.

Theory

BLOCK 1: INTRODUCTION

UNIT 1

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

UNIT 2

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.

UNIT 3

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.

BLOCK 2: BRANDING DECISION

UNIT 1

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.

UNIT 2

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.

TEACHING METHODS/ACTIVITIES:

- Lecture and Discussion
- Case Study
- PPT presentation

SUGGESTED READINGS

- Keller, Kevin Lane; *Strategic Brand Management;* Pearson education, New Delhi Verma, Harsha*: Brand Management;* Excel Books; New Delhi
- Kapferer, Jean Noel; *Strategic Brand Management;* Kogan Page; New Delhi
- Kumar, S. Ramesh; *Marketing and Branding–The Indian Scenario;* Pearson Education; New Delhi Kapoor, Jagdeep ; *24 Brand Mantras*, Sage Publications; New Delhi
- *Sengupta Subroto; Brand Positioning: Strategies for competitive advantage; Tata Mc Graw Hill; New Delhi Clifton, Rita & Simmons., John; Brands and Branding; The Economist; Delhi*

BLOCK 2: BRANDING DECISION

UNIT 1

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- Kapferer, Jean Noel; *Strategic Brand Management;* Kogan Page; New Delhi
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- *Sengupta Subroto; Brand Positioning: Strategies for competitive advantage; Tata Mc Graw Hill; New Delhi Clifton, Rita & Simmons., John; Brands and Branding; The Economist; Delhi*