



PROGRAMME GUIDE

2024-25



PROGRAM-GUIDE

- Scheme of Examination
- Detailed Syllabus
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Supported By



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Post Graduate Diploma in Agri-Business Management (PGDABM)

Post Graduate Diploma in Agri-Business Management (PGDABM)

पोस्ट ग्रेज्यूएट डिप्लोमा इन एग्री-बिजनेस मैनेजमेंट (PGDABM)

(A) Duration : 12 Months (D) Courses : 13
(अ) अवधि : 12 माह (द) कोर्सेस : 13

(B) Eligibility : Graduate in any Discipline (E) Credit : 32
(ब) पात्रता : किसी भी विषय में स्नातक (इ) क्रेडिट : 32

(C) Contents and Scheme of Examination
(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
Semester I										
PGDABM1	Management Principles and Values प्रबंधन सिद्धांत एवं मूल्य	3	100	70	28	-	-	30	12	<ul style="list-style-type: none">Understand significance of management and organizational behavior, basic principles of personality, inter-personal relations and organizational culture
PGDABM2	Environment and Agri – Business Management पर्यावरण एवं एग्री-बिजनेस प्रबंधन	3	100	70	28	-	-	30	12	<ul style="list-style-type: none">Familiarity with role of agriculture in Indian economy, agri business sector, emerging trends in production & exports and agri business policies
PGDABM3	Safety Practices in the Work Environment कार्यस्थल पर सुरक्षा प्रबंध	1	100	50	20	20	8	30	12	<ul style="list-style-type: none">Familiarity with safety, fire safety, first aid, food safety, primary health and basic hygiene

PGDABM4	Marketing मार्केटिंग	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Understand marketing and its application, marketing research, marketing mix, pricing and product management
PGDABM5	Financial Management for Agri-Business एग्री-बिजनेस के लिये फाइनेंशियल प्रबंधन	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Understanding of finance and accounting principles, accounting standards, cost accounting and capital management
PGDABM6	Agri-Business and Rural Marketing एग्री-बिजनेस एवं रूरल मार्केटिंग	3	100	70	28	-		30	12	<ul style="list-style-type: none"> Familiarity with concept of rural marketing, environmental factors, rural consumer's behaviour, rural marketing strategy and product promotion
Semester II										
PGDABM7	Communication and Personality Development कम्यूनिकेशन एवं पर्सनालिटी डेवलपमेंट	1	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Basic communication skills Personality grooming
PGDABM8	Production and Operations Management प्रोडक्शन एवं ऑपरेशन प्रबंधन	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Understand concept and functions of production and operations & material management, product mix Understand purchase procedures, work study & measurement, inventory control and quality assurance
PGDABM9	Entrepreneurship and Project Management उद्यमिता एवं प्रोजेक्ट प्रबंधन	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Familiarity with concept of entrepreneurship, techniques of network, financial appraisal/evaluation techniques and setting up industry &

										entrepreneurship development programmes
PGDABM10	Computer Application and Management Information System कम्प्यूटर एप्लीकेशन एवं प्रबंधन सूचना सिस्टम	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Basic knowledge of computer and management information system
PGDABM11	Communicative English कम्युनीकेटिव इंग्लिश	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Familiarity with basic principles of communications, business letters, enquiries and replies, correspondence and report writing
PGDABM12	Introduction to Entrepreneurship उद्यमिता से परिचय	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Understanding of entrepreneurship development concepts
PGDABM13	Project / on the Job Training प्रोजेक्ट/जॉब पर ट्रेनिंग	7	-	-	-	100	40	-	-	<ul style="list-style-type: none"> On the job skill by working with an agri business establishment / organization

Note: For a PASS - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
1300	520

Detailed Syllabus

PGDABM 1: Management Principles and Values

Nature, Scope and Significance of Management, Evolution of Management Thought, Approaches to Management, Functions of a Manager, Planning, Organizing, Leading, Directing, Staffing etc.

Nature, Scope and Significance of Organizational Behavior; Evolution and Historical Background of Organizational Behavior; Contributions to different Disciplines, Micro Perspective of Organisational Behaviour Personality, Self-concept, Self-esteem and Self-Efficacy; Nature and Dimensions of Attitudes, Job Related Attitudes; Perception, Motivation-Concept and Significance, Power and Politics Interpersonal Relations-understanding, determinants, and developing; Leadership Styles and Influence Process; Leadership Theories; Types of Leaders, and Effective Leader; Group Dynamics-Group, Group Formation, Types of Groups, Group Role and Implications for Management Organizational Culture or Climate-Concept, Dimensions, Ethos, Determinants; Organizational Conflicts-Concepts, Sources, Implications, and Management; Organizational Changes - Types, Resistances to Change

PGDABM 2: Environment and Agri-Business Management

Role of Agriculture in Indian Economy, Problems and Policy Changes relating to Farm Supplies, Farm Production, Agro Processing, Agricultural Marketing, Agricultural Finance etc. in the Country

Linkages among Sub-Sectors of the Agri Business Sector; Economic Reforms and Indian Agriculture; Impact of Liberalization, Privatization and Globalization on Agri Business Sector.

Emerging Trends in Production, Processing, Marketing and Exports; Policy Controls and Regulations relating to the Industrial Sector with Specific reference to Agro-Industries; Cooperatives in Agri Business Enterprises;

Agri Business Policies-Concept, Formulation; Agricultural Price and Marketing Policies; Public Distribution System; and New Dimensions in Agri Business Environment and Policy.

PGDABM 3: Safety Practices in the Work Environment

Safety Signs & Colour at Work: Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

First Aid & Artificial Respiration: First Aid - Introduction, first aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, first-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

Safe Lifting and Carrying Techniques: Causes of injury, Types of injury and methods to prevent them, Points that make an object/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

Fire and Fire Extinguishers: Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

Safe Working Measure: Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

Managing Health and Safety at Work: Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

Personal Hygiene: Introduction, how to maintain good hygiene, how to ensure food safety, Grooming, what are the consequences of not maintaining good hygiene?

Public and Home Safety: Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

Common Food Borne Diseases and Infections: Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

PGDABM 4: Marketing

Marketing and its Applications: Introduction, what is Marketing? The Philosophy of Marketing and the Marketing Concept, Common Marketing Definitions, The Marketing Mix, Role of Marketing in Development Social marketing and Marketing of Services; **Marketing Planning Process:** The Marketing Environment, Market Planning, Marketing Control, Internal Change and Market Segmentation.

Introduction to Marketing Research: What is Market Research, The Marketing Research Process, Sources of data-primary and Secondary and Focus Groups; **Marketing Environment Audit:** PEST Analysis, SWOT Analysis and PORTER'S Five Forces.

The Marketing Mix: The marketing Mix, Product, Promotion, Pricing and Place; **Consumer Behaviour:** Introduction, What Influences a Consumer? The Consumer Decision Making Process, Consumer Motivation and Applications of Consumer Behaviour

Pricing : Defining and Changing the Price of a Product, Pricing Concepts, Pricing Strategies, Pricing Objectives, Consumer Price Awareness, Legal Issues in Pricing, Psychological Issues, The Role of Cost in the Pricing Decision Process, Conflicting Interests of Retailers and manufacturers, Impact of Advertizing on Prices, Global Issues and Marketing to Organizational/Industrial Buyers; **Promotion and Advertising :** Promotion, Advertizing Effectiveness, Direct Marketing, Advertizing on the Net, Promotional Schemes, Advertizing, Types of Advertizing Media, Publicity and Public Relations/Media Relations.

Product Management: Introduction, Product Life Cycle, Branding and Product Positioning; **Distribution:** Introduction, Firm, Brand and Product Line Objectives, Distribution Strategy for the Product Manager, The Distribution Channels and Onsteps for Selecting Distribution and Sales Force.

PGDABM 5: Financial Management for Agri-Business

Introduction to Finance and Accounting: Introduction, Importance of Management Accounting, Information Used by Management Accountants, Use of Management Accounting, how are Management Accounting Decisions Reviewed? The Purpose of Accounting and General Accepted Accounting Practice.

Accounting Standards: Introduction, The Basic Terms and Concepts, The Accounting Equation, Debits & Credits, Financial Accounts Statements, Transaction, The Trial Balance, The Trading and Profit & Loss Account, The Balance Sheet, Depreciation, Profitability, Solvency and Performance Ratios.

The Accounting Process (The Accounting Cycle): Major Steps Involved in Accounting Cycle; **Understanding Financial Statements:** Introduction to Financial Statements, The balance Sheet, The Income Statement, The Statement of Cash Flows, Footnotes to Financial Statements and Supplementary Schedules, Useful Financial Ratios for Analysing Financial Statements.

Introduction to Cost Accounting and Elements of Cost: The Purpose and Nature of Cost Accounting, Elements of Cost, Cost Classification for General Cost Bookkeeping, Absorption and Marginal Costing and Cost/Volume/Profit Analysis.

Capital Management: Basic Concepts and Theories, Calculating the Cost of Capital, The Financing Decision and The Financial Market Place.

PGDABM 6: Agri-Business and Rural Marketing

Concept and Scope of Rural Marketing, Nature and Characteristics of Rural Markets, Potential of Rural Markets in India, Rural Communication and Distribution.

Environmental Factors - Socio-Cultural, Economic, Demographic, Technological and other Environmental Factors affecting Rural Marketing.

Rural Consumer's Behaviour - Behavior of Rural Consumers and Farmers; Buyer Characteristics and Buying Behaviour; Rural v/s Urban Markets, Customer Relationship Management, Rural Market Research

Rural Marketing Strategy - Marketing of Consumer Durable and Non-Durable Goods and Services in the Rural Markets with special reference to Product Planning; Product Mix, Pricing Objective, Pricing Policy and Pricing Strategy, Distribution Strategy, Communication Strategy, Innovation in Rural Marketing

Product Promotion - Media Planning, Planning of Distribution Channels, and Organizing Personal Selling in Rural Market in India.

PGDABM 7: Communication and Personality development

Grammar:

Parts of Speech, - Articles and Determines, Noun and Pronoun, Adjective and Adverb, Verb, Conjunctions and Prepositions, Tenses, Punctuations, Active & Passive Voice, Type of Sentences (simple, complex, compound), Reported Speech (direct and indirect), Types of Sentences, Prepositions, -Gerunds, -Infinitives,

Written English:

Advance Writing Skills (formal, informal paragraph, story, letter, application,

Personality development: Soft Skills Development, Body Language, Behavioral and Symptomatic Soft Skills, Etiquette and Manners, Positive Thinking, Motivation, Goal setting, Team building, Self Confidence, Leadership Skills, Time Management

PGDABM 8: Production and Operations Management

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

Functions of Productions and Material Management, Types of Production Systems, Productivity Variables and Productivity Measurement, Production Planning and Control, In Mass Production, In Batch Production, Job Order Manufacturing. Product Selection, Product Design and Development, Process Selection, Facilitate Location, Facility Layout, Capacity Design, Determination of Material Requirement, Procedure for Purchasing, Stocking and distribution of Materials.

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

An Overview of Material Management, Material Planning and Inventory Control, JIT, Budgeting and Material Planning, Purchase Management, Store Management, Safety Management.

Quality Assurance, Accepting Sampling, Statistical Process Control, Total Quality Management, ISO-9000. and it's Importance.

PGDABM 9: Entrepreneurship and Project Management

Concept, characteristics of projects, types of projects, project identification, Projects life cycle.

Entrepreneurship, Significance of entrepreneurship in economic development qualities of entrepreneur, motivation, life cycles of new business, environmental factor effecting success of a new business, reasons for the failure and visible problems for business.

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

Network Methods: Meaning and Objectives, Network Analysis, Requirements for Network Analysis, Critical Path Method (CPM), Programme Evaluation and Review Technique (PERT), Similarities and Dissimilarities of PERT and CPM.

Financial appraisal/evaluation techniques- discounted/non-discounted cash flows; Net present values, profitability index, Internal rate of returns; Cost benefits ratio; Accounting rate of return, Pay back period, Project implementation; Cost over run, Project control and information system.

Procedural steps in setting up of an industry, entrepreneurship development programs and role of various institutions in developing entrepreneurship.

PGDABM 10: Computer Application and Management Information System

Introduction to Computer, Input Output Devices, Storage Devices, Computer Software, Computer Virus, Data Communication and Network, Operating System (DOS, Windows), MS-Office (Word, Excel) and Internet & Application

Introduction to MIS; Information Systems in the Enterprize; Information Systems, Organizations, Management and Strategy; The Digital Firm: Electronic Commerce & Electronic Business.

Managing Hardware Assets, Managing Software Assets, Managing Data Resources; The Internet & The New Information Technology Infrastructure.

Redesigning the Organization with Information Systems; Understanding the Business Value of Systems and Managing Change; Managing Knowledge: Knowledge Work and Artificial Intelligence.

Enhancing Management Decision Making, Information Systems Security & Control; Ethical & Social Impact of Information Systems.

PGDABM 11: Communicative English

Communication : Introduction to Communication; Objective of Communication; Media of Communication; Types of Communication; Barriers to Communication; Principles of Communication; Aids to Correct Writing Punctuation and the Use of capital letters; Foreign Words and Phrases; Spelling; Enriching Vocabulary.

Letters : Need, Functions and Kinds of Business Letters; Essentials of an Effective Business letter; The Lay-out; Planning the Letter.

Enquiries and Replies; Orders and Their Execution; Credit and Status of Enquiries; Complaints and Adjustments; Collection Letters; Circular Letters; Sales Letters; Bank Correspondence; Insurance Correspondence; Import-Export Correspondence; Agency Correspondence.

Correspondence of a Company Secretary; Office Memorandums; Office Orders; Office Circulars; Office Notes : Tools of Internal Correspondence; Form of Messages; Correspondence; with Public Authorities and other Agencies; Telegrams and Cables; Application Letters; Interview Letters; Reference;

Testimonials; Letters of Appointment, Confirmation, Promotion, Retrenchment and Resignation; Public Relations Letters; Representations and Requests

Report Writing; Agenda and Minutes of Meetings; Copy Writing for Advertisement; Direct Mail Advertising; Classified Advertisements; Press Releases; Manuscripts for Publication and Elements Reading; Proof Reading; Proof Reading Symbols; Precis Writing.

PGDABM 12: Introduction to Entrepreneurship

Introduction to Entrepreneurship – Introduction and concept of Entrepreneurship

Theory of Entrepreneurship – Entrepreneurship in developing countries, Entrepreneurship stimulation, Entrepreneurship and economic growth, Entrepreneurship and Economic system, various theories of Entrepreneurship

Growth of Entrepreneurship – Role of Entrepreneurship, Growth of Entrepreneurs, Prospects for Entrepreneurship

Nature and Importance of Entrepreneurship – Entrepreneurship Qualities, Entrepreneurship Functions, Entrepreneurship Vs Entrepreneurs, Opportunity matrix, Entrepreneurship Decision, Role of Entrepreneurship, Growth of Entrepreneurship

Classification and types of Entrepreneurship – Business Entrepreneurs, Types of Entrepreneurship, Entrepreneurship and Motivation, Growth and Entrepreneurship

Nature and scope of management – Scope of Management, Meaning of Management, Characteristics of Management, Objectives of Management, Management as a profession, Organization and Management, Branches of Management, Importance of Management, managerial Skills

Planning – Concepts, processes and types – Importance of Planning, Characteristics of Planning, a Good Plan, Advantages of Planning.

Concepts of an Organization – Organization Concepts, organization theory, formal and informal organization, significance of organization, the organization process, analysis of organization, nature of organization, organization as an art, group dynamics, organization development.

Motivation – Introduction, Meaning, Kinds of Motivation, MC Gregor's Theory X and Theory Y, Coordination, Need Hierarchy theory of Motivation, Motivational Techniques, Financial and Non-financial Incentives.

Leadership – Introduction, Characteristics of leadership, great man theory of leadership, role of leadership, leadership styles, techniques of leadership, functions of leadership, qualities of leadership, process of leadership, develop voluntary cooperation.

Communication – Introduction, Features of communication, Need, Communication Process, communication Process models, Gestural or non verbal communication, Models of Grapevine, Communication Networks, Barriers of Communication, Effective communication, Improve written communication.

Accounting in an small enterprise – Need, How accounts maintained?, Objectives of accounting, Ledger, Trial Balance, Final accounts Balance sheet etc.

Entrepreneurship development institutions -

AISECT model of Entrepreneurship

How to setup and AISECT Centre

Training for self employment

PGDABM 13: Project / On the Job Training

All the candidates of PGDABM are required to submit a project-report based on the work done by him/her during the project period. A detailed Viva shall be conducted by an external examiner based on the project report.

- Select the project.
- Collect the information related to project
- Identify the technology in terms of front end, back end, hardware tools used, software tool used.
- Write the brief synopsis for project
- Get the synopsis approved from project in charge
- Proceed for the project using system development life cycle
- System development life cycle contain the steps like in to gathering designing, coding, development, testing, dispatched.
- Demonstrate the complete project through power point presentation to project in charge

Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
Semester I								
1	PGDABM 1	Management Principles and Values	3	90	12	51	-	27
2	PGDABM 2	Environment and Agri-Business Management	3	90	12	51	-	27
3	PGDABM 3	Safety Practices in the Work Environment	1	30	4	11	6	9
4	PGDABM 4	Marketing	2	60	8	34	-	18
5	PGDABM 5	Financial Management for Agri-Business	2	60	8	34	-	18
6	PGDABM 6	Agri-Business and Rural Marketing	3	90	12	51	-	27
Semester II								
7	PGDABM 7	Communication and Personality Development	1	30	4	17	-	9
8	PGDABM 8	Production and Operations Management	2	60	8	34	-	18
9	PGDABM 9	Entrepreneurship and Project Management	2	60	8	34	-	18

10	PGDABM 10	Computer Application and Management Information System	2	60	8	34	-	18
11.	PGDABM 11	Communicative English	2	60	8	34	-	18
12	PGDABM 12	Introduction to Entrepreneurs hip	2	60	8	34	-	18
13	PGDABM 13	Project / on the Job Training	7	210	-	-	210	-

Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
Semester I			
1	PGDABM 1	Management Principles and Values	Values and Ethics in Management - by Tripathi & Kaur
2	PGDABM 2	Environment and Agri – Business Management	Economic Environment of Business by H.L. Ahuja
3	PGDABM 3	Safety Practices in the Work Environment	S69: Safety Practices, Primary Health & Personal Hygiene
4	PGDABM 4	Marketing	S49 - Marketing Management
5	PGDABM 5	Financial Management for Agri-Business	S48 - Financial Management
6	PGDABM 6	Agri–Business and Rural Marketing	New Perspective in Rural Agricultural Marketing by Y. Ramkishan
Semester II			
7	PGDABM 7	Communication and Personality Development	S68: Effective communication & personality development
8	PGDABM 8	Production and Operations Management	S65-Production and Operations Management
9	PGDABM 9	Entrepreneurship and Project Management	Fundamentals of Entrepreneurship by H. Nandan
10	PGDABM 10	Computer Application and Management Information System	S01 - Fundamentals of Computers & Information Technology S50 - Management Information System
11	PGDABM 11	Communicative English	S61-Communicative English
12	PGDABM 12	Introduction to Entrepreneurship	S56 - Introduction to Entrepreneurship
13	PGDABM 13	Project / On the Job Training	-

**CERTIFICATE IN
HORTICULTURE NURSERY
MANAGEMENT (CHNM)**

Certificate in Horticulture Nursery Management (CHNM)

सर्टीफिकेट इन हॉर्टिकल्चर नर्सरी मैनेजमेंट (CHNM)

(A)	Duration	:	6 Months	(D)	Courses	:	08
(अ)	अवधि	:	6 माह	(द)	कोर्सेस	:	08
(B)	Eligibility	:	10 th Pass	(E)	Credit	:	16
(ब)	पात्रता	:	10वीं पास	(इ)	क्रेडिट	:	16

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CHNM 1	Introduction to Horticulture Nursery उद्यानिकी नर्सरी से परिचय	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Familiarity with the importance of plant propagation in nurseries. Understanding of role of nurseries in horticultural development. Familiarization with the plant propagation in nurseries. Knowledge of financial and other resources for the nursery enterprise.
CHNM 2	Plant Propagation Methods प्लान्ट प्रोपेगेशन मेथड्स	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Understanding of sexual methods of plant propagation. Understanding of seed production techniques and seed certification. Understanding of vegetative propagation in plants, its advantages and drawbacks. Familiarization with micro-propagation and hardening of plants.

CHNM 3	Safety Practices in the Work Environment कार्यावधि में सुरक्षा व्यवस्था	1	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Familiarity with safety, fire safety, first aid, primary health, food safety and basic hygiene
CHNM 4	Plant Nutrition and Management Practices in Nursery प्लान्ट न्यूट्रीशन एवं मैनेजमेन्ट प्रैक्टिसेज इन नर्सरी	3	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Knowledge of various macro and micro-nutrients and other nutrients required by the plants. Orientation to the sources of various plant nutrients and integrated nutrient management. Orientation to the plant growth regulators and their application to nursery plants. Knowledge of various practices, i.e., sanitation drainage, pruning, potting, repotting, depotting & mulching in horticulture nursery. Familiarity with packaging, transport and customer services in nursery management
CHNM 5	Plant Protection in Nursery प्लान्ट प्रोटेक्शन इन नर्सरी	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Knowledge of various pests, diseases, and weeds. Familiarity with various methods for management of the diseases, pests and weeds in a horticulture nursery. Orientation to integrated pest management in horticulture nursery.
CHNM 6	Communication and Personality Development संचार और व्यक्तित्व विकास	1	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Basic communication skills Personality grooming
CHNM 7	Mass Production of Nursery Plants नर्सरी पौधों का अधिक उत्पादन	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Knowledge of criteria for selection of nursery site and various nursery operations essential for nursery production.

										<ul style="list-style-type: none"> • Familiarity with different types of plant propagation structure and other important inputs used in nursery production. • Knowledge of mass scale production of fruit plants, vegetables and flowers and branding and marketing of nursery plants and seedlings • Familiarity with economics of nursery management and entrepreneurship development through nursery
CHNM 8	Ornamental Horticulture Nursery आर्नामेन्टल उद्यानिकी नर्सरी	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> • Familiarity with native plants of the region which are used for ornamental purposes and demand and supply situation of ornamental plants. • Knowledge of various groups of foliage plants for decoration in residential and public places as well as care and maintenance techniques

Note : For a PASS - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
800	320

Detailed Syllabus

CHNM 1 – Introduction to Horticulture Nursery

- Introduction
- Scope and importance of plant propagation in horticulture
- Role of nurseries in horticulture development
- Types of plant propagation nurseries
- Physical and financial resources for nursery
- Mother plant selection and maintenance.

CHNM 2 – Plant Propagation Methods

- Introduction
- Sexual and asexual plant propagation
- Seed production and seed certification
- Vegetative propagation : importance and limitations, types of vegetative propagation, vegetative propagation in plants, media for vegetative propagation
- Budding, layering and grafting in horticultural plants.
- Micro propagation and hardening of plants: micro propagation, hardening of plants

CHNM 3 – Safety Practices in The Work Environment

Safety Signs & Colour at Work: Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.

First Aid & Artificial Respiration: First Aid - Introduction, first aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, first-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.

Safe Lifting and Carrying Techniques: Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

Fire and Fire Extinguishers: Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.

Safe Working Measure: Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

Managing Health and Safety at Work: Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.

Personal Hygiene: Introduction, how to maintain good hygiene, how to ensure food safety, Grooming, what are the consequences of not maintaining good hygiene?

Public and Home Safety: Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.

Common Food Borne Diseases and Infections: Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

CHNM 4 – Plant Nutrition and Management Practices in Nursery

- Introduction
- Plant nutrients and their requirement
- Manures and fertilizers application in nursery
- Integrated nutrient management in nursery
- Water quality and water management in nursery
- Growth media and media preparation in nursery
- Sanitation, drainage, training and pruning in nursery
- Potting, re-potting, de-potting and mulching in nursery
- Plant growth regulators in nursery
- Packing and transport of nursery plants
- Customer services in nursery plants

CHNM 5 – Plant Protection in Nursery

- Introduction
- Pest management
- Diseases management in horticulture nursery
- Weed management in horticulture nursery
- Bio-pesticide application in horticulture nursery
- Integrated pest management in horticulture nursery.

CHNM 6: Communication and Personality Development

- **Basic Grammar for Effective Communication : Parts of Speech** – Revision (sentence, phrase, clause, parts of speech), Noun, Pronoun, Adjective, Article, Verb, Active & Passive Voice, Infinitive, Gerund, Preposition, Conjunctions, Interjection; **Analysis, Transformation, Synthesis and Direct & Indirect Speech** – The phrase, the clause, the sentence, Analysis of compound and complex sentences, Transformation of sentences, Synthesis of sentences, Direct and indirect speech; Composition and Comprehension – Picture composition, How to write short a short story, Letter writing; **Situational communication**
- **Personality Development:** Communication skills, Body language, Positive attitude, Etiquette and manners, SWOT analysis, Decision making, Goal setting, Positive thinking, Self confidence, Motivation, Time management, Anger management, Stress management, Leadership, Team building, Essential life skills

CHNM 7 – Mass Production of Nursery Plants

- Introduction
- Mass scale nursery plant production
- Plant propagation structures in plant nursery
- Input management in mass plant production
- Production and hardening in plants production
- Quality standards in nursery plants
- Demand and supply analysis of nursery plants
- Mass scale plant production of fruits, vegetables, flowers
- Economics of nursery management : capital investment in nursery development, nursery plant production for sale and marketing
- Government regulation and support for nursery
- Nursery income, expenditure and profit analysis.
- Entrepreneurship development through nursery

CHNM 8 – Ornamental Horticulture Nursery

- Introduction
- Selection and collection of regional ornamental plants
- Regional demand and supply situation in ornamental plants
- Mass production of ornamental plants
- Branding, exhibition and marketing of nursery plants
- Plant library concepts and operation : selection and preparation of library plants, location specificity of library plants, library plants transport and handling, care and maintenance of library plants, do's and don'ts in library plants

Counseling and Study Structure

Sl. N o.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	CHNM 1	Introduction to Horticulture Nursery	2	60	8	22	12	18
2	CHNM 2	Plant Propagation Methods	3	90	12	33	18	27
3	CHNM 3	Safety Practices in the Work Environment	1	30	4	11	6	9
4	CHNM 4	Plant Nutrition and Management Practices in Nursery	3	90	12	33	18	27
5	CHNM 5	Plant Protection in Nursery	2	60	8	22	12	18
6	CHNM 6	Communication and Personality Development	1	30	4	17	-	9
7	CHNM 7	Mass Production of Nursery Plants	2	60	8	22	12	18
8	CHNM 8	Ornamental Horticulture Nursery	2	60	8	22	12	18

Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
1	CHNM 1	Introduction to Horticulture Nursery	AG01 : Horticulture Nursery Management, AISECT
2	CHNM 2	Plant Propagation Methods	
3	CHNM 3	Safety Practices in the Work Environment	S69 : Safety Practices, Primary Health and Personal Hygiene, AISECT
4	CHNM 4	Plant Nutrition and Management Practices in Nursery	AG01 : Horticulture Nursery Management, AISECT
5	CHNM 5	Plant Protection in Nursery	
6	CHNM 6	Communication and Personality Development	S68 : Effective Communication and Personality Development, AISECT
7	CHNM 7	Mass Production of Nursery Plants	AG01 : Horticulture Nursery Management, AISECT
8	CHNM 8	Ornamental Horticulture Nursery	

CERTIFICATE FOR ORGANIC GROWER (COG)

Certificate for Organic Grower (COG)

सर्टीफिकेट फॉर ऑर्गेनिक ग्रोवर (COG)

(A) Duration : 6 Months (D) Courses : 11

(अ) अवधि : 6 माह (द) कोर्सेस : 11

(B) Eligibility : 10th Pass (E) Credit : 20

(ब) पात्रता : 10वीं पास (इ) क्रेडिट : 20

(C) Contents and Scheme of Examination

(स) पाठ्यक्रम विषय सूची एवं परीक्षा योजना

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
COG 1	Introduction and Planning for Organic Farming	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Familiarize with the importance of organic farming Understand the main principles of organic farming Familiarize with the status and scope of organic farming. Assess of demand for organic food Know about core principles and principal methods of organic farming Compare organic and inorganic farming Understand the importance of multiple cropping, crop rotation and intercropping systems in organic farming Prepare yearly plans for organic cultivation

COG 2	Seed Selection and Treatment	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Identify and select suitable crop variety for the given agro-climatic and soil situations Explain the genetical purity of the selected seed /planting material and ensure that it does not belong to the GM category Describe the types of organic practices used for seed treatment Explain seed treatment with Bio inputs like bio- fertilizers, bio-pesticides and other organically prepared alternatives Describe seed treatment procedure
COG 3	Safety Practices in the Work Environment	1	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Familiarize with safety, fire safety, first aid, primary health, food safety and basic hygiene
COG 4	Soil Nutrient Management	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Describe preparation of various organic inputs for increasing soil microbial activity Prepare soil samples, get soil tested from authorized centres and prepare plan for soil amendments and manuring Describe methods of use of farmyard manure, compost and mineral fortified compost Describe various soil enhancement methods: Jivamrut, Amritapani, Panchagavya
COG 5	Weed Control Measures	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Identify the types of weeds in the crops Discuss weed control through cultural method Explain weed control by mechanical means using tools and implements Discuss the use of bio –herbicides for control of weeds

COG 6	Irrigation Management	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> • Discuss water requirement of different crops at different growth stages and time of irrigation • Discuss micro irrigation techniques adopted for different crops • Describe use of different irrigation methods as per the requirement of field conditions, soil types and climatic conditions so as to ensure spread of water in the entire field • Describe installation of micro irrigation systems in the field based on requirement of specific crops • Explain the proper drainage system for excess of water
COG 7	Integrated Disease and Pest Management	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> • Identify different types of pests, stages of crop and pest incidence, symptoms and extent of damage • Identify major crop diseases observed, crop stages and disease incidence under organic farming • Explain the different modes of transmission of diseases • Explain the use of resistant variety of crops, selection of crop rotation with suitable crops, use of intercropping and trap cropping with suitable crops • Describe Tillage practices especially deep summer ploughing, weed management to remove alternate plant hosts and maintaining healthy soil • Describe the use of mechanical and manual methods of pests and disease control as well as use of natural enemies for pest control • Identify use of various types of Bio pesticides and explain methods of preparation of various biopesticides at farm

										<ul style="list-style-type: none"> Discuss methods of use of various Botanical extracts for control of pest and diseases, their dose, time and interval of application
COG 8	Harvest and Post – Harvest Management	2	100	50	20	20	8	30	12	<ul style="list-style-type: none"> Identify right time of harvest of the crop and appropriate stage of harvesting Explain the appropriate methods of harvesting of the crop Explain the threshing, cleaning and grading of the crop Describe ideal conditions for storage of seed and methods of storage Explain fumigation system for storage pest management Describe packaging of crop with appropriate material and method
COG 9	Communication and Personality Development	1	100	70	28	-	-	30	12	<ul style="list-style-type: none"> State basic communication skills Explain personality grooming tips
COG 10	Quality Assurance and Certification	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> Explain different types of certification available for organic produce : Third party certification & Participatory guarantee systems Explain quality checks required for organic certification in crop production systems Explain the organic standards in detail for every aspect of farming, including storage, transport and sale and standards related to farm facilities and production methods Describe the PGS certification system and adoption of PGS standards Describe the basic documentation required to be maintained on field history, maintenance of farm and internal and external inspection reports Explain the documents needed to be maintained for production and certification

COG 11	Business of Organic Farming	2	100	70	28	-	-	30	12	<ul style="list-style-type: none"> • Explain analyzing economical benefits like cost and revenue trends and breakeven point under organic farming • Discuss market trends and consumer choices and demand for organic produce • Explain export oriented strategy vs local demand • Identify major channels such as retailers, whole sellers and online market places for sale of organic produce • Describe methods of disseminating the benefits of organic food
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Note : For a PASS - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
1100	440

Detailed Syllabus

COG 1 Introduction and Planning for Organic Farming

- Importance and Scope of Organic Farming
- Role of Organic Grower
- Need and Types of Safe Farming Practices
- Transition to Organic Farming
- Diversification of Crop Portfolio
- Growing Season Plan

COG 2 Seed Selection and Treatment

- Selecting Crops and Their Companion Crops
- Selecting Suitable Seed Variety
- Seed Treatment

COG 3 Safety Practices in the Work Environment

- Maintaining Clean and Efficient Workplace,
- Basic Safety Checks and Precautions During Working with Agricultural Machinery and Vehicles,
- Hazardous Areas On Agricultural Machines, Hydraulic Equipment Safety,
- Protective Clothing or Equipment for Operating Machinery,
- Safety Practices in Use of Pesticide and Fumigants,
- Pesticide Disposal, First Aid for Pesticide Poisoning, Safety and Quality Precautions During Handling of Organic Produce,
- Prevention of Environmental Pollution from Agricultural Waste and Other Activity,
- Reporting of Accidents, Incidents or Problems to The Appropriate Person,
- Render Appropriate Emergency Procedures, Types of Emergencies at Workplace,
- Maintenance and Testing of Fire Safety Equipment,

COG 4 Soil Nutrient Management

- Activation of Soil with The Help of Organic Inputs,
- Importance of Top Soil In Organic Cultivation, What Makes Topsoil?,
- Methods of Activating Microbial Activity in Top Soil,
- Methods of Activating Microbial Activity,
- Preparation of Various Organic Inputs for Increasing Soil Microbial Activity,
- Green Manure Crops, Soil Enhancement,
- Preparation of Land to Get Appropriate Tilth Soil Tilth, Practices Influencing the Amount of Organic Matter,
- Preparation Offarmyard Manure and Enrichment and Mineral Fortification,
- Preparation of Vermicompost and Vermiwash,

COG 5 Weed Control Measures

Importance and Identification of Weeds, Importance of Weed Management, Importance of Weeds or Benefits or Advantages Derived from Weeds, Identification of Weeds, Major Weeds of Rabi Crops, Critical period of Crop Weed Competition, Maintenance of Records of the Weeds, Weed Management, Cropping or Cultural Methods of Weed Control, Water Management, Integrated Weed Control,

COG 6 Irrigation Management

IRRIGATION SYSTEM, Techniques of Soil Water Conservation and Storage, Harvesting of Rain water, Characteristics of different irrigation systems, Criteria for selection of Irrigation methods, PROPER IRRIGATION, Surface, Sprinkler or Drip Irrigation, Which system is best for me?, Principal components, Drip Irrigation, Number of Drippers and Laterals, Laying Out a Proper Drainage System, Influence of Irrigation on The Presence and Severity Of Plant Diseases,

COG 7 Integrated Disease and Pest Management

Pest and Disease Identification, Identify Different Types of Pests, Stage of Incidence and Symptoms of Damage in Crops in Organic Agriculture, Identify Stages of Crop and Pest Incidence, Preventive and Curative Care of Crop Pests and Diseases in Organic Agriculture, Use of Natural Enemies for Control of Pests and Diseases, Precautions for Use of Botanical Pesticides,

COG 8 Harvest and Post – Harvest Management

HARVESTING, Appropriate time of harvesting of crops, Stage of Harvesting of crops, Methods of Harvesting, Methods of Minimizing Harvest Losses, Storage and Post-Harvest Management, Ideal Conditions for Storage of Grains, Fumigation System for Management of Stored Grain Pests, Packaging,

COG 9 Communication and Personality Development

- **Basic Grammar for Effective Communication : Parts of Speech** – Revision (sentence, phrase, clause, parts of speech), Noun, Pronoun, Adjective, Article, Verb, Active & Passive Voice, Infinitive, Gerund, Preposition, Conjunctions, Interjection; **Analysis, Transformation, Synthesis and Direct & Indirect Speech** – The phrase, the clause, the sentence, Analysis of compound and complex sentences, Transformation of sentences, Synthesis of sentences, Direct and indirect speech; Composition and Comprehension – Picture composition, How to write short a short story, Letter writing; **Situational communication**
- **Personality Development:** Communication skills, Body language, Positive attitude, Etiquette and manners, SWOT analysis, Decision making, Goal setting, Positive thinking, Self-confidence, Motivation, Time management, Anger management, Stress management, Leadership, Team building, Essential life skills

COG 10 Quality Assurance and Certification

Third Party Certification Process, Different Types of Organic Certification Available, Organic Certification Procedure, Quality Checks Required for Organic Certification in Crop Production System, Maintenance of Organic Management, Landscape, Crop Production, Duration of Conversion Period, Diversity in Crop Production, Fertilization Policy, Pest, Disease and Weed Management Including Growth Regulators, Contamination Control, Soil and Water Conservation, Risk Management in Compliance of Standards, Participatory Guarantee System, PGS National Standards For organic Production, Certification Process In PGS, Various Operational Issues Of PGS System, Documentation in Third Party and PGS Certification, Basic Documentation Required

To Be Maintained, Maintaining Records For External Audit, Documents Needed for Sale of Organic Produce and Traceability

COG 11 Business of Organic Farming

Economics of Organic Farming, Cost Benefit Analysis of a Phased Organic Farming Plan, connecting with The Market and Market Intelligence, Marketing Strategies for Export and Local Demands, Farm Level Value Addition, Attempting Direct Marketing

Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	COG 1	Introduction and Planning for Organic Farming	2	60	8	40	12	-
2	COG 2	Seed Selection and Treatment	2	60	8	40	12	-
3	COG 3	Safety Practices in the Work Environment	1	30	4	26	-	-
4	COG 4	Soil Nutrient Management	2	60	8	40	12	-
5	COG 5	Weed Control Measures	2	60	8	40	12	-
6	COG 6	Irrigation Management	2	60	8	40	12	-
7	COG 7	Integrated Disease and Pest Management	2	60	8	40	12	-
8	COG 8	Harvest and Post – Harvest Management	2	60	8	40	12	-
9	COG 9	Communication and Personality Development	1	30	4	26	-	-
10	COG 10	Quality Assurance and Certification	2	60	8	40	12	-
11	COG 11	Business of Organic Farming	2	60	8	40	12	-

Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
1	COG 1	Introduction and Planning for Organic Farming	Organic Grower, AISECT Module
2	COG 2	Seed Selection and Treatment	Organic Grower, AISECT Module
3	COG 3	Safety Practices in the Work Environment	S69 : Safety Practices, Primary Health and Personal Hygiene, AISECT
4	COG 4	Soil Nutrient Management	Organic Grower, AISECT Module
5	COG 5	Weed Control Measures	AG04 : Tractor Operation and Maintenance, AISECT
6	COG 6	Irrigation Management	Organic Grower, AISECT Module
7	COG 7	Integrated Disease and Pest Management	Organic Grower, AISECT Module
8	COG 8	Harvest and Post – Harvest Management	Organic Grower, AISECT Module
9	COG 9	Communication and Personality Development	S68 : Effective Communication and Personality Development, AISECT
10	COG 10	Quality Assurance and Certification	Organic Grower, AISECT Module
11	COG 11	Business of Organic Farming	Organic Grower, AISECT Module

**CERTIFICATE IN
OPERATION AND
MAINTENANCE OF
TRACTOR (COMT)**

Certificate in Operation and Maintenance of Tractor (COMT)

1 fV7QdV bu vKj'sku , M eSud vKQ VDVj (COMT)

(A) Duration : 3 Months (D) Courses : 05
 1/4 1/2 vof/k : 3 elg 1/4 1/2 dkl 1 : 05
 (B) Eligibility : 8th Pass (E) Credit : Non-Credit
 1/4 1/2 ik=rk : 8ohai kl 1/4 1/2 ØfMV : uk ØfMV

(C) Contents and Scheme of Examination

1 1/2 iB; Øe fo"k l ph , oaijhkk ; kt uk

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
COMT1	Introduction to Tractor Systems and Operating Controls ट्रैक्टर प्रणालियों एवं ऑपरेटिंग कंट्रोल से परिचय	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Familiarity with tractor systems and operating controls
COMT2	Safety Practices in the Work Environment कार्यावधि में सुरक्षा व्यवस्था	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Familiarity with safety, fire safety, first aid, primary health, food safety and basic hygiene
COMT3	Tractor Operation and Safety Precautions ट्रैक्टर ऑपरेशन एवं सेफ्टी प्रिकाशन्स	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Skill in tractor operation Knowledge of hitching implements with tractor, their operation and safety precautions
COMT4	Communication and Personality Development संचार और व्यक्तित्व विकास	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> Basic communication skills Personality grooming

COMT5	Tractor Maintenance ट्रैक्टर मेंटेनेंस	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Skill in care and maintenance of tractor
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Note : For a PASS - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
500	200

Detailed Syllabus

COMT 1 – Introduction to Tractor Systems and Operating Controls

- Engine : Function, Principle of tractor engine, Components of an engine and their functions – cylinder & cylinder head, piston & piston rings, connecting rod, crankshaft, camshaft, valve and valve system, radiator, water pump, fuel pump fuel injection pump, fuel injector
- Clutch : Function, Principle of operation, Types of clutch systems and their working
- Gear Box : Principle of gearing, Types of gearbox
- Differential and Final Drive : Principle of operation, Operational details, Differential lock
- Steering System and Front Axle – Introduction, Types of steering gear box, Front axle
- Brakes – function, classification of brake, working principles of different brake system
- Hydraulic System – introduction, principle of hydraulics, working of hydraulic system, implement control
- Lubrication System : Introduction, Types of lubrication
- Cooling System : Introduction, Types of cooling system
- Fuel System : Introduction, Types of cooling system
- Electrical System : Battery, Starter, Dynamo, Alternator
- Wheel Equipment
- Power Take-off - Function, Method of operation

COMT 2 – Safety Practices in The Work Environment

- **Safety Signs & Colour at Work:** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.
- **First Aid & Artificial Respiration:** First Aid - Introduction, first aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, first-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.
- **Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.
- **Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.
- **Safe Working Measure:** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.

- **Managing Health and Safety at Work:** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.
- **Personal Hygiene:** Introduction, how to maintain good hygiene, how to ensure food safety, Grooming, what are the consequences of not maintaining good hygiene?
- **Public and Home Safety:** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.
- **Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

COMT 3 –Tractor Operation and Safety Precautions

- Tractor operating instructions
- Hitching of Implements : Hitching of trailed, hitching of mounted implements, hitching of semi-mounted implements
- Hitching of trailer
- Safety Precautions : Ensure proper brakes, Use clutch cautiously, Select right gear, Be cautious on hills, Exercise patience while mired in mud hole or ditch, use proper hitch, safety in driving the tractor

COMT 4 – Communication and Personality Development

- **Basic Grammar for Effective Communication : Parts of Speech** – Revision (sentence, phrase, clause, parts of speech), Noun, Pronoun, Adjective, Article, Verb, Active & Passive Voice, Infinitive, Gerund, Preposition, Conjunctions, Interjection; **Analysis, Transformation, Synthesis and Direct & Indirect Speech** – The phrase, the clause, the sentence, Analysis of compound and complex sentences, Transformation of sentences, Synthesis of sentences, Direct and indirect speech; Composition and Comprehension – Picture composition, How to write short a short story, Letter writing; **Situational communication**
- **Personality Development:** Communication skills, Body language, Positive attitude, Etiquette and manners, SWOT analysis, Decision making, Goal setting, Positive thinking, Self-confidence, Motivation, Time management, Anger management, Stress management, Leadership, Team building, Essential life skills

COMT 5 –Tractor Maintenance

- Safety Precaution for Tractor Maintenance
- Tools for General Maintenance: Combination pliers, Screw drivers, Ring spanner, Adjustable spanner, Double ended spanner, Steel rule, Tyre pressure gauge, Wheel spanner, Screw jack
- Care and Maintenance of Tractor: Daily check, Maintenance and adjustment of engine – change of engine oil, change of element in oil filter, adjustment of valve clearance, adjustment of decompression, adjustment of fuel injection timing, fuel filter, adjustment of fan belt tension, air cleaner oil, fuel injection nozzle
- Battery Maintenance : Care and maintenance of battery, Battery charging, Hydrometer

Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
1	COMT 1	Introduction to Tractor Systems and Operating Controls	Non-Credit	60	8	40	12	-
2	COMT 2	Safety Practices in the Work Environment	Non-Credit	30	4	20	6	-
3	COMT 3	Tractor Operation and Safety Precautions	Non-Credit	60	8	40	12	-
4	COMT 4	Communication and Personality Development	Non-Credit	30	4	26	-	-
5	COMT 5	Tractor Maintenance	Non-Credit	60	8	40	12	-

Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
1	COMT 1	Introduction to Tractor Systems and Operating Controls	AG04 : Tractor Operation and Maintenance, AISECT
2	COMT 2	Safety Practices in the Work Environment	S69 : Safety Practices, Primary Health and Personal Hygiene, AISECT
3	COMT 3	Tractor Operation and Safety Precautions	AG04 : Tractor Operation and Maintenance, AISECT
4	COMT 4	Communication and Personality Development	S68 : Effective Communication and Personality Development, AISECT
5	COMT 5	Tractor Maintenance	AG04 : Tractor Operation and Maintenance, AISECT

**CERTIFICATE IN
MUSHROOM PRODUCTION
TECHNOLOGY (CMPT)**

Certificate in Mushroom Production Technology (CMPT)

1 fV7QdV bu el : e iMD'ku VDUkykWh(CMPT)

(A) Duration : 2 Months (D) Courses : 07
 1/4 1/2 vof/k : 2 elg 1/4 1/2 dkk 1 : 07

(B) Eligibility : 10th Pass (E) Credit : Non-Credit
 1/4 1/2 ik=rk : 100hik 1/4 1/2 ØfMV : uk ØfMV

(C) Contents and Scheme of Examination

1 1/2 ikB; Øe fo"k l ph , oaijhkk ; k uk

Course Code	Title of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		Key Learning Outcomes
				Max	Min	Max	Min	Max	Min	
CMPT 1	Introduction to Mushroom Production मशरूम उत्पादन से परिचय	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Understand importance of mushroom in human diet and dietary supplements Familiarity with different types of edible mushroom, life cycle & stages of development and major species cultivated.
CMPT 2	Spawn Production Technology स्पाउन प्रोडक्शन टेक्नालॉजी	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Understand pure culture preparation techniques and technique of multiplication of culture through grain /organic waste, etc. Understand the process of sterilization of sorghum/other substrates and technique of inoculation of spawn culture Knowing the methods of bed spawn preparation.
CMPT 3	Safety Practices in the Work Environment कार्यावधि में सुरक्षा व्यवस्था	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Familiarity with safety, fire safety, first aid, primary health, food safety and basic hygiene

CMPT 4	Mushroom Cultivation Technology मशरूम कल्टीवेशन टेक्नॉलॉजी	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Knowledge of different methods of cultivation. Knowing production of mushroom using cheap and readily available substrates. Understand appropriate stages and methods of harvesting
CMPT 5	Processing, Packaging and Storage Technology प्रोसेसिंग, पैकेजिंग एवं स्टोरेज टेक्नॉलॉजी	Non Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Familiarity with various methods of processing and preservation of mushroom Understand different methods of storage, drying & packaging
CMPT 6	Communication and Personality Development संचार और व्यक्तित्व विकास	Non Credit	100	100	40	-	-	-	-	<ul style="list-style-type: none"> Basic communication skills Personality grooming
CMPT 7	Diseases and Insect Pests and their Management डिजीजेज और इन्सेक्ट पेस्ट एवं उनके प्रबंधन	Non-Credit	100	70	28	30	12	-	-	<ul style="list-style-type: none"> Understand common pests in mushroom cultivation and their control. Familiarization with common diseases and their control.

Note : For a PASS - A Student would require to secure 40% for both Theory and Practical.

Grand Total	Pass
700	280

Detailed Syllabus

CMPT 1 – Introduction to Mushroom Production

- Mushroom and its importance: Introduction, what is mushroom? Definition of mushroom, Scope of mushroom production
- Types of mushrooms: Classification of edible mushroom, Ecological classification of mushrooms
- Importance in human diet and dietary supplements
- Nutritional value and medicinal properties of mushrooms: Nutritional value of mushrooms, Medicinal properties of mushrooms – mushroom nutraceuticals
- Feasibility of cultivation in different situations and its environmental impacts – influence of climatic factors, impact of climatic factors, environmental impacts
- Life cycle and stages of development (Biology)
- Major species cultivated and their importance

CMPT 2 –Spawn Production Technology

- Introduction
- Laboratory requirements for spawn production
- Strain selection
- Stages for spawn culture preparation
- Storage of mushroom cultures
- Preparation of spawn : Preparation of mother spawn, Preparation of planting spawn, Multiplication using mother spawn, Multiplication using planting spawn
- Preparation of substrate
- Key points in spawn making : Maintenance of spawn quality, Spawn quantities, Commercial spawn supplies
- Spent mushroom substrate
- Economic analysis of spawn making

CMPT 3 – Safety Practices in The Work Environment

- **Safety Signs & Colour at Work:** Safety Signs - Cause for accidents, Safe attitudes; Safety Signs & Colour- Sign categories, Sign types.
- **First Aid & Artificial Respiration:** First Aid - Introduction, first aid and Its aim, Recovery position, Cardiopulmonary resuscitation (CPR), Wound, Shock, Convulsion, Extensive burns, Minor burns and scalds, Chemical burns, Electric shock, Fracture, first-aid box; Artificial Respiration - Respiration, Artificial respiration, Mouth to nose method of artificial respiration, Artificial respiration in case of cardiac arrest, Important points to note after giving artificial respiration to victims.
- **Safe Lifting and Carrying Techniques:** Causes of injury, Types of injury and methods to prevent them, Points that make an objects/load difficult to carry, Preparation before lifting or

shifting heavy loads, Correct body posture before beginning the lift in kinetic method of lifting, Manual lifting techniques using kinetic method, shifting of working tables, Shifting of electronic equipments/instruments, Basic steps of safe lifting and handling.

- **Fire and Fire Extinguishers:** Fire, Fuel, Heat, Oxygen, Controlled and uncontrolled fire, Controlling and extinguishing fire, Fire extinguishers, Types of fire extinguisher - water-filled extinguishers, foam, extinguishers, dry powder extinguishers, carbon dioxide type extinguishers, halon extinguishers, General procedure to be adopted in the event of a fire.
- **Safe Working Measure:** Electric shock, action and treatments; Hazard identification, risk assessment and risk control; Workstation layout and ergonomic guidelines.
- **Managing Health and Safety at Work:** Introduction, General office safety, Types of office accidents, Office hazard control, Office environment, Hazards from electrical equipments, Office safety procedures, Emergency action plan.
- **Personal Hygiene:** Introduction, how to maintain good hygiene, how to ensure food safety, Grooming, what are the consequences of not maintaining good hygiene?
- **Public and Home Safety:** Introduction, Safety at home, Activities that have a potential for accidents, Things that are normally used at home and have a potential for accidents, Public safety, Prevention.
- **Common Food Borne Diseases and Infections:** Introduction, The Farm – beginning of the food chain, Food processing-preventing food-borne illness and improving quality, Transport and storage–safeguarding food, Food safety and retailing, Food safety in the home, Food borne diseases.

CMPT 4 –Mushroom Cultivation Technology

- Introduction
- Mushroom housing and composting
- Different methods of mushroom cultivation
- Cultivation technology of different edible mushrooms: paddy straw mushroom, oyster mushroom, button mushroom
- Important steps for obtaining healthy mushroom crop
- Harvesting – stages, time and method of harvesting

CMPT 5 – Processing, Packaging and Storage Technology

- Introduction
- Storage of fresh mushrooms: Quality parameters, Cooling and refrigeration,
- Packaging: Need, Types of packaging, washing before packaging, Transportation after packaging
- Long term storage: Need, steeping preservation, Drying, Pickling, Canning of processed products
- Value-added products: Purpose, Mushroom soup powder, Mushroom biscuit, Mushroom nuggets, Mushroom ketch up, Mushroom candy, Mushroom preserve (murraba), Mushroom chips, Ready-to-serve mushroom curry, Packaging material for mushroom products,

CMPT 6 – Communication and Personality Development

- **Basic Grammar for Effective Communication : Parts of Speech** – Revision (sentence, phrase, clause, parts of speech), Noun, Pronoun, Adjective, Article, Verb, Active & Passive Voice, Infinitive, Gerund, Preposition, Conjunctions, Interjection; **Analysis, Transformation, Synthesis and Direct & Indirect Speech** – The phrase, the clause, the sentence, Analysis of compound and complex sentences, Transformation of sentences, Synthesis of sentences, Direct and indirect speech; Composition and Comprehension – Picture composition, How to write short a short story, Letter writing; **Situational communication**
- **Personality Development:** Communication skills, Body language, Positive attitude, Etiquette and manners, SWOT analysis, Decision making, Goal setting, Positive thinking, Self-confidence, Motivation, Time management, Anger management, Stress management, Leadership, Team building, Essential life skills

CMPT 7 – Diseases and Insect Pests and Their Management

- Introduction
- Precautions during production and processing
- Common diseases and their control: Factors causing diseases in mushrooms, Fungal diseases, Bacterial diseases, Virus diseases
- Insect pests and their control: How larvae damage the crop, Mushroom flies, Fly management and control, Springtails, Mushroom mites
- Nematodes: What are the mushroom nematodes, How nematodes damage mushrooms, Sources of nematode infestation, Symptoms of nematode infestation, Measures for the nematode management

Counseling and Study Structure

Sl. N o.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Prac tical	Assign ments
1	CMPT 1	Introduction to Mushroom Production	Non-Credit	60	8	40	12	-
2	CMPT 2	Spawn Production Technology	Non-Credit	60	8	40	12	-
3	CMPT 3	Safety Practices in the Work Environment	Non-Credit	30	4	20	6	-
4	CMPT 4	Mushroom Cultivation Technology	Non-Credit	60	8	40	12	-
5	CMPT 5	Processing, Packaging and Storage Technology	Non-Credit	60	8	40	12	-
6	CMPT 6	Communication and Personality Development	Non-Credit	30	4	26	-	-
7	CMPT 7	Diseases and Insect Pests and their Management	Non-Credit	60	8	40	12	-

Study Modules & Books Information

Sr. No	Course Code	Subject Name	Modules to be used
1	CMPT 1	Introduction to Mushroom Production	AG02 : Mushroom Production Technology, AISECT
2	CMPT 2	Spawn Production Technology	
3	CMPT 3	Safety Practices in the Work Environment	S69 : Safety Practices, Primary Health and Personal Hygiene, AISECT
4	CMPT 4	Mushroom Cultivation Technology	AG02 : Mushroom Production Technology, AISECT
5	CMPT 5	Processing, Packaging and Storage Technology	
6	CMPT 6	Communication and Personality Development	S68 : Effective Communication and Personality Development, AISECT
7	CMPT 7	Diseases and Insect Pests and their Management	AG02 : Mushroom Production Technology, AISECT