

Learning Outcomes based Curriculum Framework (LOCF)

**For (F.Y.U.G.P)B.VOC (TEA GARDENMANAGEMENT) has been designed
Under NEP 2020 guidelines and is aligned with the National Skills Qualifications
Framework (NSQF)**

From Academic year 2026 – 27

RESOLUTION NUMBER- KC TGM/BOS/26/01

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Preface

The Bachelor of Vocation (B.Voc) in Tea Garden Management programmed has been designed in alignment with the Learning Outcomes Framework (LOCF) under the guidelines of the National Education policy (NEP). The curriculum is also aligned with the National Skills Qualifications Framework (NSQF) to ensure that students acquire the appropriate knowledge, skills, and competencies at each stage of their academic and practical training. This programmed aims to bridge the gap between academic knowledge and industry requirements by providing skill-oriented, practical, and employment focused education in the field of tea plantation and management.

Tea is not only an important agricultural commodity but also a vital sector contributing significantly to the economy, especially in regions like Assam. The programmed is structured to equip students with comprehensive knowledge of tea cultivation, plantation management, soil science, pest and disease control, tea processing, quality management, and statutory compliance. Equal emphasis is laid on developing managerial, entrepreneurial, and technical skills required for efficient tea garden operations.

The curriculum integrates theoretical learning with hands-on training, field exposure, and industry interaction to ensure holistic development of the learners. It also promotes sustainable practices, environmental awareness, and modern technological applications in tea cultivation and production.

This syllabus is prepared with the objective of producing skilled professionals who can meet the growing demands of the tea industry, contribute to its sustainable development, and explore self-employment opportunities. The programmed also encourages innovation, critical thinking, and lifelong learning among students.

The academic structure for the session 2026-27 has been carefully framed to maintain academic standards, flexibility, and relevance in accordance with the evolving needs of the industry and society.

Preamble

Preamble: Bachelor of VOCATION (Tea Garden Management) (FYUGP)

1. Vision and Scope

The Three-Year Undergraduate Programme (FYUGP) in Tea Garden Management (B.Voc) is a skill-oriented degree course specially designed for tea-producing regions like Assam & Bengal. It focuses on both practical training and theoretical knowledge (plantation & factory) to students for the tea industry.

This aim of this syllabus is to provide students with practical skills, scientific knowledge and managerial ability required for the tea industry.

2. Core Objectives

The curriculum is structured to provide a holistic educational experience through:

- **Scientific Understanding:** Knowledge of tea plant biology and growth processes.
- **Practical Skills:** Hands-on training in cultivation and field management.
- **Technical Expertise:** Understanding of tea manufacturing and quality control.
- **Plant Protection:** Identification and management of pests and diseases.
- **Managerial Skills:** Development of leadership and estate management abilities.
- **Legal Awareness:** Understanding of statutory regulations and labour welfare.
- **Entrepreneurship:** Enhancing employability and self-reliance in the tea sector.

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The Framework

1Major1Minor

Semester	Major/Core(Credit)	Minor (Credit)	MDC (Credit)	AEC(Credit)	SEC(Credit)	VAC(Credit)	Total Credit
1 st	Major(4)	Minor(4)	MDC(3)	AEC(3+1)	SEC (2+1)	VAC (2)	20
2 nd	Major(4)	Minor(4)	MDC(3)	AEC(3+1)	SEC (2+1)	VAC (2)	20
3 rd	Major(4) Major(4)	Minor(4)	MDC(3)	×	SEC (2+1)	VAC (2)	20
4 th	Major(4) Major(4) Major(4) Major(4)	Minor(4)	×	×	×	×	20
5 th	Major(4) Major(4) Major(4)	Minor(4)	×	×	Internship (4) <i>During Summer Term</i>	×	20
6 th	Major (4) Major (4) Major (4) Major (4)	Minor (4)	×		×	×	20
Minimum Credit	60	24	9	8	SEC(9) Internship (4)	6	120

SEC: Major oriented from a pool of 3 papers (consider one paper upto 3rd semester)

AEC: MIL/English (Credits Theory 3 + Practical 1) in each semester

IKS: 5% of total credits (6 credits for 3 years and 8 credits for 4 years) 50%

of the above IKS credit must be from core papers

Key Features

In alignment with modern pedagogical standards, this syllabus incorporates:

Feature	Description
Multiple Entry/Exit	Providing flexibility for students to exit with a Diploma, Advance Diploma, or Degree.
Interdisciplinary Choice	Allowing students to pair with Minor subjects like Human resource Management, Marketing Management
Skill Enhancement (SEC)	Focusing on practical employability in nurseries, vermicomposting

4. Graduate Attributes

Upon completion of this program, students will not only possess academic knowledge but will also demonstrate:

- **Scientific Understanding:** Knowledge of tea cultivation, soil management, pest control, and climate impact on tea production.
- **Technical Skills:** Practical skills in plucking, pruning, field management and tea processing techniques.
- **Digital & Managerial Literacy:** Ability to use digital tools for plantation records, marketing, and supply chain management.
- **Ethical & Social Responsibility:** Commitment to sustainable tea cultivation and welfare of plantation workers.
- **Critical Thinking:** Ability to solve real-life problems in tea estates and improve productivity and quality.

Core Programme Objectives (POs)

These objectives define what a student should achieve by the end of the degree (3 years):

- **Tea Science & Cultivation Knowledge:** To provide comprehensive knowledge of tea plant (*Camellia sinensis*), including nursery management, planting, pruning, and field maintenance.
- **Practical Field & Factory Skills:** To develop hands-on skills in tea plucking, processing (green tea, orthodox, CTC), and quality evaluation.
- **Problem Solving & Decision Making:** To enable students to identify and manage issues related to pest, diseases, soil fertility, and climate challenges in tea gardens.
- **Estate & Labour Management:** To train students in tea garden administration, labour laws, welfare measures, and organizational management.
- **Entrepreneurship & industry Readiness:** To encourage self-employment, tea business startups, and skills for employment in tea estates and tea industries.
- **Sustainability & Environmental Management:** To promote eco-friendly tea cultivation, biodiversity conservation, and efficient resource management.

Levels of Certification & Qualification

Students can exit at different stages with specific qualifications based on the credits earned:

- **Level 5 (UG Diploma):** Awarded after completing **1 year** (2 semesters) and approximately **40–44 credits**.
- **Level 6 (UG advance Diploma):** Awarded after completing **2 years** (4 semesters) and approximately **80–88 credits**.
- **Level 7 (Bachelor's Degree):** Awarded after completing **3 years** (6 semesters) and approximately **120–132 credits**.

Course Structure (LOCF Components)

The curriculum is divided into several types of courses to provide a comprehensive understanding of plant science:

- **Core Courses (CC):** Details of Tea cultivation, Tea Nursery & Plantation Management, Soil Science & Nutrient Management in tea, Tea processing (Green Tea, Orthodox, and CTC), Pest & Disease Management in Tea, Tea quality control & Grading, Tea Estate Management & Administration.

- **Skill Enhancement Courses (SEC):** Hands-on training courses (e.g., Nursery Management, Biofertilizers, and Medicinal Plants) designed to increase employability.
- **Ability Enhancement Courses (AEC) & Value Added Courses (VAC):** Courses aimed at enhancing communication skills and fostering ethical/environmental awareness.

Programmed Education Objectives (PEOs)

The Bachelor's Degree Programme in Tea Garden Management aims to:

1. Provide a strong foundation in tea science, including cultivation, processing, and quality management of tea (*Camellia sinensis*), to meet industry requirements.
2. Develop practical and technical skills in tea plantation operations such as nursery management, pruning, plucking, pest and disease control, and factory processing.
3. Equip students with problem-solving and decision-making abilities to address real-life challenges in tea gardens related to productivity, sustainability, and quality improvement.
4. Impart knowledge of tea estate management, labour laws, and organizational practices for efficient administration of tea plantations.
5. Promote sustainable and environmentally responsible practices in tea cultivation, ensuring conservation of soil, water, and biodiversity.
6. Enhance entrepreneurial skills to encourage self-employment, small tea garden development, and tea-based business ventures.
7. Develop communication, leadership, and teamwork skills required for professional growth in the tea industry.

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The list below provides an overview of possible career paths provided by an undergraduate training in Tea Management:

Plantation & Estates Jobs

- Tea Garden Supervisor
- Assistant Manager (Tea Estate)
- Field Officer / Plantation Executive
- Small Tea Grower / Tea Garden Owner

Tea Processing & Quality sector

- Tea Factory Supervisor
- Assistant Manager (Factory)
- Tea Processing Executive
- Tea Taster / Quality Analyst
- Tea Blender

Business & Entrepreneurship

- Tea Entrepreneur (Own Tea Garden / Startup)
- Tea Retailer / Exporter
- Tea Brand Developer

Semester First

Course Name-Botany of Tea & Tea Nursery

Paper Code- TGM-VOC-010104

Course level 100-199.Credits -4. Marks100. Numbers of classes -60

Objectives:

This paper aims to provide in-depth knowledge of the botany and historical evolution of tea (*Camellia sinensis*), with a focus on its scientific classification, morphology, and physiological processes. It emphasizes skill-based learning in tea nursery practices, including propagation techniques, selection of quality planting materials, and efficient nursery management. The course also integrates principles of land and soil preparation, cultivation practices, and environmental sustainability essential for tea production. Designed to be industry-oriented and practice-driven, the course enhances technical competencies, promote experiential learning, and prepares students for employability and professional roles in tea plantation and nursery management sectors.

Expected Learning Outcomes (ELOs)

By the end of this semester, a student should be able to:

- 1. Demonstrate skills in land preparation practices such as clearing, ploughing, drainage, and pit preparation for tea plantation.**
- 2. Apply knowledge of soil and climate for suitable tea nursery management.**
- 3. Develop the ability to manage tea nursery effectively for planting purpose.**
- 4. Identify common pests and diseases in nursery plants and apply basic control measures.**
- 5. Perform nursery operations such as bed preparation, planting, and plant care.**
- 6. Explain the growth, development, and environmental requirements of tea**

COURSE DETAILS:

Unit-1:Introduction to Tea Botany and History

Morphology of tea plant, Taxonomy and varieties of tea, Climate and soil requirements, Origin and spread of tea, History of Tea Cultivation in India & Assam, Historical developments, Tea economy and importance

Ethno botany of Tea: Indigenous knowledge of tea plant (*Camellia sinensis*) and their use by local communities. (IKS)

Unit-2:Tea Nursery Practices

Nursery site selection, Nursery bed preparation, Seed propagation, Vegetative propagation, Clonal selection, Irrigation management, Shade management, Pest and disease management in nursery

Propagation methods & Nursery site selection (Experiential Learning)

Unit-3:Planting Material and Cultivation

Selection of planting material, Land preparation, Field planting techniques, spacing and pit preparation, Staking and mulching, Gap filling, Soil conservation practices, Basis field maintenance.

Unit-4: Practical component focuses on “Learning by Doing”

- 1. Identification of tea plants parts- leaf, bud, stem, root of *Camellia sinensis***
- 2. Study of soil types and soil pH testing for tea nursery.**
- 3. Preparation of nursery beds.**
- 4. Seed selection and seed treatment for nursery.**
- 5. Vegetative propagation methods- cutting, grafting, and cloning techniques.**
- 6. Application of manures and fertilizers in nursery plants.**
- 7. Weed control practices in tea nursery**
- 8. Identification of common pest and diseases at nursery stage and basic control measures.**
- 9. Irrigation and drainage management in nursery**
- 10. Transplanting techniques from nursery to field.**

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Project Work

Suggested Assessment Methods (NEP Style)

1. Practical Performance Assessment : Evaluation of hands-on skill in nursery practices, propagation, and land preparation
2. Assignment & Presentation: Topic based assignment and students presentations,
3. Field visit report: Assessment based on observation and report writing after visiting tea garden.
4. Viva-Voce: Oral examination to assess conceptual understanding and practical knowledge.
5. **Summative:** End-semester theory exam and a hands-on spotting/section-cutting practical exam

Notes 1.EL- Experiential learning

2. IKS- Indian Knowledge system

Reference:

Baruah, D.N. (1989) Science and Practices in Tea Culture, Tea Research Association, Culcutta

Tea Field Management, Tea Research Association, Tocklai Experimental Station, Jorhat

Semester First

Course Name-Scientific Practices in Tea Plantation

Paper Code-TGM-VOC-010204

Course level 100-199.Credits-4.Marks100. Numbers of classes -60

Course Objectives:

This course aims to develop a comprehensive scientific understanding of the fundamental factors influencing tea plantation management. It focuses on the importance of soil composition and its role in ensuring optimum growth and productivity of tea plants, along with an in-depth analysis of climate requirements essential for successful cultivation. The course further introduces the principles of mineral nutrition to enhance plant health and yield. Emphasis is also placed on identifying and managing various stress conditions affecting tea plantations, as well as understanding the critical role of proper drainage systems in maintaining soil health and preventing water logging. Overall, the course is designed to equip learners with the scientific knowledge and practical insights necessary for sustainable and efficient tea plantation practices.

Expected Learning Outcome:

Upon successful completion of this course, students will be able to analyze the composition and characteristics of soil to determine its suitability for tea plantation. They will develop the ability to evaluate climatic factors and their influence on the growth, yield, and quality of tea. Students will also acquire practical knowledge of mineral nutrition and its application in maintaining plant health and improving productivity. Furthermore, they will be able to identifying various biotic and abiotic stress conditions affecting tea plants and applying appropriate management strategies. The learners will also demonstrate an understanding of effective drainage practices to prevent water logging and maintain optimal soil conditions. Overall, students will be able to integrate scientific principles into sustainable and efficient tea plantation management.

Course Details

Unit 1: Soil and Climate Requirement for Tea Plantation

Importance of Soil Composition in Tea Plantation

Soil Texture, Soil Structure, and Soil pH for Tea Plantation, Soil Tillage, Soil Temperature, Soil Topography & Soil Rehabilitation, and Soil Conservation practices in tea plantation, and Soil Testing(**Experiential Learning**)

Climate Requirement for Tea Plantation

Climatic condition includes Temperature, Rainfall, Humidity required for suitable tea plantation, Cold weather Practices in Tea

Traditional Ecological Knowledge in Tea Cultivation: (**Indian Knowledge System**)

- Indigenous understanding of soil fertility, rainfall patterns and seasonal cycles.
- Local farming wisdom followed by tea tribes of Assam and Northeast India.

Unit 2: Mineral Nutrition and soil fertility Management in tea

Mineral Nutrition of Tea

Functions of essential elements in tea plants, Nutrient content in tea plants, Soil fertility and crop productivity

Nutrient Deficiency and Correction

Deficiency symptoms of nutrient elements, Correction measures of nutrient deficiencies, Fertilizer application and crop productivity, foliar nutrition in tea plantation

Unit 3: Stress Management and Drainage in Tea Plantation

Stress Management in Tea Plantation: Concept and types of stress in tea plantation, Drought management practices in tea cultivation, Water management in tea plantation, Importance of water in growth and development of tea plant, Mulching and shade management of moisture conservation, Irrigation methods in tea plantation, Water logging and its effect on tea plants

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Drainage Management in Tea Plantation

Types of drainage systems in tea plantation, Importance of drainage for root development and crop productivity, Maintenance of drainage channels in tea gardens, Role of drainage in prevention of pest and disease incidence, Sustainable water conservation practices in tea plantation.

Field study of drainage and stress management practices (Experiential Learning)

Unit 4: Practical (Field)

Soil sampling and pH determination in tea plantation, Identification of suitable soil texture for tea cultivation, Study of climatic factors affecting tea growth, Identification of nutrient deficiency symptoms in tea plants, Fertilizer dose calculation and application methods, Identification of drought and water logging symptoms in tea plants, Field study on stress management practices in tea gardens.

Project Work

Suggested Assessment Methods (NEP Style)

1. Assignment& Presentation: Topic based assignment and students presentations,
2. Field visit report: Assessment based on observation and report writing after visiting tea garden.
3. Viva-Voce: Oral examination to assess conceptual understanding and practical knowledge.
4. **Summative:** End-semester theory exam and a hands-on spotting/section-cutting practical exam

Notes 1.EL- Experiential learning

3. IKS- Indian Knowledge system

Reference:

Baruah, D.N. (1989) Science and Practices in Tea Culture, Tea Research Association, Culcutta

Tea Field Management, Tea Research Association, Tocklai Experimental Station, Jorhat

Semester Second

Course Name-Scientific Management of Tea Plantation

Paper Code-TGM-VOC-020104

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

This course is designed to impart comprehensive knowledge of the scientific principles and field-level practices involved in the efficient management of tea plantations. It emphasizes the development and maintenance of tea through systematic approaches to young tea management, canopy formation, and growth regulation. The course aims to equip students with practical and technical skills in critical operations such as plucking, tipping, and pruning to ensure sustained productivity and quality of tea. It also focuses on the role of shade tree management in maintaining ecological balance and optimizing microclimatic conditions within tea gardens. Overall, the course seeks to develop the ability to apply modern, sustainable, and resource-efficient management practice for enhancing yield, quality, and long-term viability of tea plantation.

Expected Learning Outcomes:

Upon successful completion of this course, learners will be able to demonstrate a comprehensive understanding of the scientific principles underlying tea plantation management and apply appropriate techniques for the establishment and management of young tea for uniform and healthy growth. They will be able to execute standard methods of plucking and tipping to maintain optimum yield and quality, as well as analyze and implement various pruning practices for effective canopy management and rejuvenation of tea bushes. Further, learners will be able to assess the role of shade trees in regulating microclimatic conditions and apply suitable shade management strategies to support sustainable tea cultivation. The course will also enable students to integrate scientific knowledge with practical field applications to address real-world challenges and develop technical and managerial competencies for efficient, sustainable, and quality-oriented tea plantation management.

Course Details**U nit 1: Young Tea Management**

Introduction to young tea management, Objectives and importance of training in tea cultivation, Frame formation and frame development operations, Methods of bringing up tea in plains of North-East India and hilly areas, Cultural practices in young tea management, Nutrient and moisture management in young tea fields, Common problems in young tea establishment and their management, Growth observations and field management practices

Unit 2: Pruning and Skiffing Management in Tea

Introduction to Pruning and Skiffing, Objectives and importance in tea cultivation, Difference between pruning and skiffing, Types of pruning and Skiffing, Effect of pruning/ skiffing on growth, yield and quality, Pre Pruning and Post Pruning operations, Pruning Cycle/ Choice of Pruning Cycle, Factors affecting pruning decision

Experiential Learning: Identification of pruning types in garden, Measuring pruning height, Demonstration of pruning techniques

Indian Knowledge System: Indigenous Pruning and skiffing Knowledge (Traditional timing of pruning based on seasonal indicators, use of simple tools and local techniques, knowledge passed through generations (experience-based decisions)

Unit 3: Tipping, Plucking and Shade Management in Tea

Meaning and concept of Tipping , Importance of tipping in tea production, Height and methods of tipping, Disadvantage of low tipping, Factors influencing shoot growth, Factors affecting shoot size, Definition and importance of plucking, types of plucking, plucking system, Factors affecting plucking, Mechanical plucking, advantages and disadvantages of mechanical plucking

Introduction to shade management in tea, objectives and importance of shade in tea plantation, types of shade and common shade tree species, shade regulation techniques and shade management practices, effects of shade tree on tea growth, microclimate, and soil health.

(Observation of tea growth under different shade levels- Experiential Learning)

Unit 4: Practical

Practical Performance Assessment: Evaluation of field- based skills in tea garden management, including tipping and plucking practices (identification of correct plucking standard – two leaves and a bud, maintaining plucking round and quality), pruning and skiffing operations(identification of pruning types, maintaining correct height and frame, use of tools), young tea management practices(gap filling, mulching, fertilizer application and plant protection and shade management observation(identification of shade tree species, shade regulation techniques and effect on tea growth). Students will be assessed on accuracy, skill, observation ability and field performance

1. Assignment & Presentation: Topic based assignment and students presentations,
2. Field visit report: Assessment based on observation and report writing after visiting tea garden, focusing on plucking practices, pruning/skiffing operations, shade condition and young tea sections.
3. Viva-Voce: Oral examination to assess conceptual understanding and practical knowledge.
5. **Summative:** End-semester theory exam and a hands-on spotting/section-cutting practical exam

Notes 1.EL- Experiential learning

4. IKS- Indian Knowledge system

Reference:

Tea Field Management, Tea Research Association, Tocklai Experimental Station, Jorhat

Semester Second

Course Name-Integrated Crop Protection in Tea

Paper Code-TGM-VOC-020204

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

- a. To impart comprehensive knowledge of major pests, diseases, and weeds affecting tea and their impact on productivity and quality.
- b. To develop the ability to identify, monitor, and diagnose crop health issues in tea plantations accurately.
- c. To equip students with skills in integrated management strategies, combining cultural, biological, and chemical methods sustainably.
- d. To promote eco-friendly and sustainable crop protection practices, including biological control and use of resistant tea varieties.
- e. To enable evidence-based decision making in pest, disease, and weed management using field monitoring and economic thresholds.
- f. To foster analytical and problem-solving skills for planning and implementing effective crop protection programs in tea garden.

Expected learning Outcomes:

By the end of this course, students will be able to:

- 1. Identify and diagnose major pests, diseases, and weed in tea.
- 2. Apply integrated management strategies for sustainable crop protection.
- 3. Implement eco-friendly practices, including bio-control and resistant varieties.
- 4. Conduct field monitoring, forecasting, and informed decision-making.
- 5. Plan and evaluate effective tea crop protection programs balancing productivity and environmental safety.

Course Details**Unit 1: Integrated Pest & Diseases Management (IPDM) in Tea**

Introduction and principles of integrated Pest and Disease Management(IPDM), Major insect pests and diseases of tea plantation, Identification and symptoms of common tea pests and diseases, Economic Threshold Level(ETL) and pest surveillance techniques, Seasonal incidence and epidemiology of tea pests and diseases, Methods of pest and diseases control, Integrated diseases and pest management strategies in tea gardens

Integration of traditional knowledge with modern IPM practices (Indian Knowledge System)**Unit 2: Weed Management in Tea Plantation**

Introduction and importance of weed management in tea, Classification and identification of common weeds in tea plantations, Crop-weed competition and its effect on tea growth and yield, Critical stages of weed competition in tea fields, Methods of weed control: cultural, mechanical, biological, and chemical methods, Herbicides used in tea plantation and their application techniques, Herbicides resistance and preventive measures, Sustainable weed management approaches in tea ecosystem

Unit 3: Environmental Safety & Residue Management in Tea

Concept and importance of environmental safety in tea cultivation, Maximum Residue Limit (MRL) in tea export standards, Pesticide residue problems in production and export, Environmental impact of pesticides on soil, water, and non-target organisms, Eco-friendly and sustainable pest management approaches, Safe handling, storage, and disposal of agrochemicals, Regulatory aspects and certification standards in tea industry, Good Agricultural Practices(GAP) in tea plantation, Role of residue management in quality tea production.

Unit 4: Practical / Field Exposure

Identification of pests, diseases, and weeds (Experiential Learning), Observation of symptoms and damage caused by tea pests and diseases, Identification and use of spraying equipment, Identification of common herbicides and weed control practices, Observation of eco -friendly and biological control measures.

Field visit to tea garden, Demonstration of spraying techniques, Preparation of IPM plan

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Internal Assessment

1. Assignment & Presentation: Topic based assignment and students presentations.
2. Field visit report: Assessment based on observation and report writing after visiting tea garden.
3. Viva-Voce: Oral examination to assess conceptual understanding and practical knowledge.
5. **Summative:** End-semester theory exam and a hands-on spotting/section-cutting practical exam

Reference: Tea Field Management, Tea Research association, Tocklai Experimental Station, Jorhat
Plant Protection code for Indian Tea Industry Ver. 14(July 2022). Tea Board of India

Semester Third

Course Name-Organic Tea Management & Certification

Paper Code-TGM-VOC-030104

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objective:

This course is designed to provide advanced and industry oriented knowledge on organic tea production, global market demand, certification systems and sustainable tea plantation management. This course focuses on practical aspects of organic certification procedures, traceability systems, export requirements and residue-free tea production to develop skilled manpower for modern tea industry.

Course Outcomes:

After successful completion of the course, students will be able to:

1. Understand the importance and future demand of organic tea industry.
2. Explain national and international organic certification systems.
3. Maintain certification records and traceability documents.
4. Apply sustainable nutrient and plant protection practices.
5. Understand the export-oriented organic tea production systems.
6. Develop professional skill for employment in organic tea estates and certification sectors.

Unit 1: Organic Tea Industry: Importance, Scope and Future Opportunities

Concept and principles of organic tea cultivation, Difference between conventional tea and organic tea, Importance of organic tea in modern tea industry, Health benefits and food safety aspects of organic tea, Environment impact of chemical-based tea cultivation, Sustainable and residue-free tea production systems, Global market demand for organic tea, Export potential of Indian organic tea, Consumer preference and premium market value of organic tea, Future career opportunities in organic tea sector, Organic tea entrepreneurs and startup opportunities, Challenges and prospects of organic tea cultivation in Assam.

Unit 2: Organic Tea Certification Systems and Procedures

Introduction to organic certification, Objectives and importance of certification, National Programme for Organic Production (NPOP), National Standards for Organic Production (NSOP), International organic standard: USDA Organic, EU Organic Regulation, IFOAM Standards, Step-by-step procedure for organic tea certification, Conversion period for organic tea estates, Inspection and audit procedures, Internal control system (ICS) in tea estates, Traceability system in organic tea production, Documentation and record keeping procedures, Certification agencies in India, Labeling and packaging standards for organic tea, Residue testing and quality assurance, Export documentation and certification requirements.

Unit 3: Sustainable Organic Tea Production and Management

Soil fertility management in organic tea plantation, Composting and vermicompost production, organic nutrient sources and biofertilizers, Panchagavya, Jeevamrit and liquid organic formulations, Biological pest and disease management, Botanical pesticides and neem-based formulations, Integrated Pest Management (IPM) in organic tea cultivation, Weed management in organic tea fields, Biodiversity conservation and shade management, Climate-smart and sustainable tea cultivation practices, Organic tea processing and contamination prevention, Quality maintenance in certified organic tea production

Unit 4: Practical and Industry Training

Preparation of compost and vermicompost, Preparation of botanicals pesticides and organic formulations, Identification of organic inputs approved for tea cultivation, Preparation of organic certification records and farm diary, Case study analysis of certified organic tea estates, Visit to certified organic tea garden/ tea factory/ certification agency

Internal Assessment

Preparation and presentation of industrial field report, Practical note book submission, Viva-voce examination

Suggested References

Barua, D.N.- Tea Cultivation to consumption, Tea Research Association (TRA) Advisory Publications, Handbook of Organic Tea Cultivation- G.K.Saikia, NPOP Operational Manual for Organic Certification

Semester Third

Course Name-Small Tea Grower Management

Paper Code-TGM-VOC-030204

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. Understand the socio-economic importance of Small Tea Growers (STGs)
2. Develop entrepreneurial and leadership skills among tea growers.
3. Learn the role of SHGs, FPOs/FPCs and cooperatives in tea sector development.
4. Understand green leaf quality management, marketing and value-chain development.
5. Analyze challenges and opportunities for sustainable growth of STGs.

Course Outcomes:

After completion this course, students will be able to:

1. Explain the role of STGs in the tea industry.
2. From the manage SHGs, FPOs and producer companies.
3. Identify and solve major production and marketing constrains.
4. Develop business plans for tea-based enterprises.
5. Apply quality management and marketing strategies for higher profitability.

Unit 1: Small Tea Grower Development and Institutional Management

Evolution and importance of Small Tea Growers (STGs), STG sector in Assam and India, Tea Board schemes and support mechanisms, Role of Tocklai, Tea Board and extension agencies, SHG, FPO, FPC and cooperative models, Registration and Management of FPO/FPC, Leadership development and community mobilization, Women and youth entrepreneurship in tea sector, Cluster development approach for STGs, Challenges and opportunities in STG sector,

Unit 2: Tea Enterprise, Economics and Business Management

Economics of tea cultivation, Cost of production and profitability analysis, Farm budgeting and financial planning, Credit management and institutional finance, Crop insurance and risk management, Detailed Project Report (DPR) preparation, Tea-based entrepreneurship opportunities, Green leaf pricing mechanism, Value chain and supply chain management, Branding, Packaging and value addition, Tea marketing and e-commerce, Business models for Small Tea Growers.

Unit 3: Sustainable Production, Quality and Future Technologies

Green leaf quality standards, Quality-linked pricing systems, Scientific plucking and leaf handling, Climate-smart tea cultivation, Sustainable tea production systems, Organic tea production concepts, Traceability and compliance management, carbon footprint and carbon credit concepts, Digital agriculture in tea plantations, GIS and GPS applications in tea management, Drone technology in tea sector, Artificial Intelligence (AI) in tea industry, Future trends and innovations in tea sector.

Unit 4: Practical

Preparation of Detailed Project Report (DPR) for a small Tea Grower unit, Cost-benefit analysis of tea cultivation, Green leaf quality assessment and grading, Preparation of Tea Board subsidy and financial assistance proposals, Value chain mapping of a Small Tea Grower cluster, Market survey and green leaf price analysis, Case study of successful Small Tea Growers.

Internal Assessment

Field Study Report on Small Tea Growers, Tea Marketing strategy Preparation and Presentation, Viva-voce, Exam

Reference:

Small Tea Growers Development Guidelines- Tea Board of India, Organic Tea Cultivation Manual- Tea Board of India

Tea Marketing and Value Chain Management Reports- Tea Board of India

Semester Third

Course Name-Irrigation and Spray Technology in Tea Plantations

Paper Code-TGM-VOC-030304

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To provide basic knowledge of irrigation practices and spray technology used in tea plantations.
2. To develop understanding of efficient water management and plant protection techniques in tea plantations.
3. To familiarize students with irrigation systems, spraying equipment, and safe application practices for suitable tea production.

Course Outcomes:

Upon successful completion of the course, students will be able to:

1. Explain the importance of irrigation and water management in tea cultivation.
2. Describe the principles and operation of sprinkler and drip irrigation systems used in tea plantations.
3. Identify different spraying equipment and understand their use in tea crop protection.
4. Apply pesticides safely and efficiently in tea plantations.

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COURSE DETAILS

Unit 1: Irrigation Management in Tea

Importance of irrigation in tea cultivation, Water requirement of tea and critical stages, Soil moisture and water conservation practices, Sprinkler Irrigation: principles, components and operation, Drip irrigation: principles, components and operation, Irrigation scheduling and efficient water use in tea plantations.

Unit 2: Spray Technology in Tea

Importance of spray technology in tea cultivation, Components of a sprayer and their functions, Types of sprayers used in tea plantations, Spray nozzles: types, selection, characteristics and uses, Droplet formation, spray pattern and coverage, Calibration, operation and maintenance of sprayers, Safe handling and application of pesticides, Environmental and workers safety during spraying.

Unit 3: Irrigation Practices in Tea (Practical)

Identification of irrigation system components, Study of sprinkler and drip irrigation systems in tea, Measurement of discharge and operating pressure, Preparation of a simple irrigation schedule for tea plantations

Unit 4: Spray Technology (Practical)

Identification of sprayers and nozzles used in tea gardens, Calibration of knapsack/power sprayers, Determination of spray volume and application rate, Demonstration of safe pesticide handling spraying techniques, Identification and study of different spray nozzles and their applications, Measurement of nozzle discharge rate and spray pattern, Operation, cleaning, and maintenance of sprayers and nozzles.

Internal Assessment

Field Report, Seminar/Presentation, Viva-Voce, Sessional Examination

Semester Fourth

Course Name-Tea Processing Operations and Factory Management

Paper Code-TGM-VOC-040104

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives

1. To provide knowledge of black tea manufacturing operations.
2. To develop competency in factory process management.
3. To understand machinery operation and process control.
4. To train students in efficient tea factory practices.
5. To prepare students for supervisory roles in tea factories.

Course outcomes

Students will be able to:

1. Execute major tea manufacturing operations.
2. Operate tea processing equipment safely.
3. Monitor and control processing parameters.
4. Maintain manufacturing records and documentation.
5. Assist in tea factory management activities.

C

Unit 1: (Theory)

Green Leaf Handling and Withering Technology

Green leaf reception and handling procedure, Green leaf quality standards and leaf standards, Factory layout and workflow, Objectives of withering, Physical and biochemical changes during withering, Types withering (Natural Withering/ Artificial Withering/ Combined Withering), Types of Withering Trough, Trough Components and operation, Withering management and process control, Factors affecting withering quality, Common withering defects and corrective measures.

Unit 2: (Theory)

CTC Manufacturing and Fermentation Technology

Introduction and significance of CTC tea manufacture, Comparison between CTC and Orthodox tea manufacture, Principle and objectives of CTC processing, Role of Rotorvane in CTC manufacture, CTC process parameters (feed rate, pressure, speed and cut), Multi-stage CTC manufacturing systems, Dhoolhandling and management, Fermentation (oxidation): principles of biochemical changes, Factors affecting fermentation quality, Fermentation room design and management, Fermentation defects and corrective measures, Quality evaluation of fermented dhool

Unit 3 (Practical)

Withering and Leaf Processing Operations

Identification of different types of withering troughs, Study of trough components and air distribution systems, Determination of wither percentage, Measurement of moisture loss during withering, Assessment of leaf flaccidity and withering quality, Monitoring air temperature and airflow, Green leaf quality assessment, Preparation of withering records.

Unit 4: (Practical)

CTC Manufacturing and Fermentation Operations

Identification of Rotorvane and CTC machine components, Study of rotorvane operation, Observation of different CTC machine settings, Assessment of CTC cut and particle size, Monitoring feed rate and throughput, Evaluation of dhool characteristics, Monitoring fermentation time, temperature and humidity, Identification of under-fermented and over fermented dhool, Recording process parameters during manufacture, Preparation of factory operations report.

Internal assessment

Semester Fourth

Course Name-Green Tea Processing and Quality Management

Paper Code-TGM-VOC-040204

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To develop knowledge of green tea processing technologies and quality standards.
2. To impart practical skills in green tea manufacturing operations.
3. To understand the chemistry, health benefits and market potential of green tea.
4. To train students in quality assessment, packaging and certification systems.
5. To prepare skilled manpower for green tea production and value addition sectors.

Course Outcome:

Students will be able to:

1. Manufacture quality green tea using standard processing techniques.
2. Evaluate green tea quality through sensory and physical analysis.
3. Apply quality assurance and certification standards.
4. Manage green tea packaging and storage systems.
5. Explore entrepreneurship opportunities in green tea production.

C

COURSE DETAILS

Unit 1: (Theory)

Fundamentals of green tea industry

History and development of green tea, Global and Indian green tea industry, Types of green tea and specialty green teas, Green leaf quality requirements, Chemical composition and health benefits of green tea, Market trends and export opportunities.

Unit 2: (Theory)

Green tea manufacturing Technology

Principles of green tea processing, steaming and pan-firing techniques, Rolling and shaping operations, Drying and moisture management, Handmade green tea manufacturing, Comparison of handmade and machine made green tea, Specialty handmade green teas and market potential, sorting, grading and packaging, quality control and certification standards.

Unit 3: (Practical)

Green tea manufacturing operations

Selection and assessment of green leaf, steaming and pan-firing demonstrations, rolling and shaping practices, Drying and moisture determination, Preparation of handmade green tea, sorting and grading exercises, packaging and storage practices.

Unit 4: (Practical)

Entrepreneurial green tea production:

Handmade green tea manufacturing, small-scale green tea processing techniques Cost and quality comparison of handmade and machine-made green tea, Packaging and branding of handmade green tea, Preparation of a mini business plan for handmade green tea production

Internal Assessment:

Semester Fourth

Course Name-Orthodox Tea Processing and Quality Assurance

Paper Code-TGM-VOC-040304

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To provide comprehensive knowledge of orthodox tea manufacturing.
2. To develop practical skills in orthodox tea processing operations.
3. To understand quality assurance and grading systems
4. To familiarize students with export-oriented orthodox tea production.
5. To enhance professional competency in specialty tea manufacturing.

Course Outcomes:

Students will be able to:

1. Perform orthodox tea manufacturing operations efficiently.
2. Assess and maintain orthodox tea quality standards.
3. Apply grading and quality assurance techniques.
4. Manage post-processing operations and storage.
5. Meet export-oriented quality requirements.

C

COURSE DETAILS

Unit 1: (Theory)

Fundamentals of orthodox tea manufacturing

History and evolution of orthodox tea, Global orthodox tea trade, Green leaf standards for orthodox tea manufacture, specialty orthodox tea categories, Orthodox tea quality parameters, Market prospects and export opportunities, Handcrafted orthodox tea manufacturing, Leaf style development and appearance standards, Factors influencing premium orthodox tea quality.

Unit 2: (Theory)

Orthodox Tea Processing Technology and Quality Assurance

Withering technology and process control, Types of withering troughs and their applications, Orthodox rolling technology and machinery, Fermentation management and biochemical changes, Drying and firing systems, Shorting and grading operations, Packaging and storage management, Manufacturing of specialty orthodox teas, Quality defects in orthodox tea and corrective measures, Export quality standards and quality assurance systems

Unit 3: (Practical)

Orthodox tea manufacturing operations

Green leaf quality assessment, Withering percentage determination, study of different withering troughs, operation of orthodox rollers, monitoring rolling efficiency, Fermentation monitoring and record keeping, Drying and moisture analysis, sorting and grading practices

Unit 4: (Practical)

Orthodox Tea Quality Evaluation and Specialty Tea Production

Orthodox tea tasting and liquor evaluation, Leaf appearance assessment, Identification of commercial orthodox grades, Quality defect analysis, Preparation of handcrafted orthodox tea samples, Manufacture of specially orthodox tea samples, Packaging and storage assessment

Internal Assessment

Semester Fourth

Course Name-Tea Quality Management, Certification and Value Addition

Paper Code-TGM-VOC-040404

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To develop professional skills in tea quality evaluation and tea tasting.
2. To understand quality assurance systems in tea manufacturing.
3. To familiarize students with food safety, certification and traceability requirements.
4. To develop knowledge of value-added tea products and specialty tea markets.
5. To prepare students for careers in tea quality control, tea tasting and certification management.

Course Outcomes

After successful completion of the course, students will be able to:

1. Evaluate tea quality using professional sensory and physical assessment techniques.
2. Conduct tea tasting and quality grading according to industry standards.
3. Implement quality assurance and food safety systems in tea factories.
4. Prepare maintain certification and traceability documentation.
5. Develop value-added tea products and understand specialty tea markets.
6. Perform tea quality audits and contribute to quality management systems.

C

Unit 1: (Theory)

Tea quality evaluation and sensory science

Concept and importance of tea quality, Quality parameters of made tea, Factors influencing tea quality from field to factory, Physical evaluation of tea (leaf appearance, colour, uniformity and style), liquor evaluation parameters, Sensory science and organoleptic assessment, tea tasting principles and methodology, tea tasting terminology and professional cupping techniques, identification of tea quality defects, consumer preferences and quality perception.

Unit 2: (Theory)

Quality Assurance, Certification and Value Addition

Quality Assurance (QA) and Quality Control (QC) in tea industry, Good Manufacturing Practices (GMP), Hazard Analysis and Critical Control Point (HACCP), Food Safety Management Systems (ISO 22000), Traceability in tea supply chains, Sustainable tea production concepts, Residue Management and maximum residue limits (MRLs), Tea packaging technologies and shelf-life management, Value-added tea products and specialty tea markets, Branding, labeling and market compliance requirements

Unit 3: (Practical)

Tea Tasting and Quality Assessment Laboratory

Identification of commercial tea grades, Dry leaf evaluation, Infusion and liquor evaluation, Professional tea tasting practices, Comparative quality assessment of different tea types, Identification of tea manufacturing defects, Preparation of tea quality profiles, Quality scoring and grading exercises, Consumer preference analysis, Maintenance of tea tasting records

Unit 4: (Practical)

Quality Assurance, Certification and value addition Practices

Preparation of HACCP plans for tea factories, Factory hygiene and sanitation audit, Organic certification documentation procedures, Packaging material evaluation, Development of value-added tea products, Product labeling and branding exercise, Industrial visit and quality management report, Tea quality audit and certification compliance project.

Internal Assessment

Semester fourth

Course Name-Tea blending, Product Innovation and Market Development

Paper Code-TGM-VOC-040504

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives

1. To develop knowledge and practical skills in tea blending and product innovation.
2. To understand the principles of tea quality matching and bland formulation.
3. To train students in the development of value-added and specialty tea products.
4. To familiarize students with a branding, packaging, and market development strategies.
5. To promote entrepreneurship and self-employment opportunities in the tea sector.

Course outcomes:

After successful completion of the course, students will be able to:

1. Develop and standardize different tea blends, according to market requirements.
2. Formulate value-added and specialty tea products.
3. Evaluate blended tea quality using professional assessment techniques.
4. Design packaging, labeling and branding strategies for tea products.
5. Conduct consumer preference studies and market analysis.
6. Apply digital and conventional marketing techniques in tea business.
7. Prepare business plans establish small-scale tea enterprises.
8. Demonstrate entrepreneurial skills in tea product development and commercialization.

C

Unit 1: (Theory)

Tea Blending Science and Product Development

Introduction to tea blending and its significance in the tea industry, Objectives and principles of tea blending, Characteristics of teas used in blending, Selection of teas based on origin, grade, flavor and liquor characteristics, Factors affecting blend quality and consistency, Tea blend formulation and standardization, Specialty tea blends and premium tea products, Flavored tea concepts and product diversification, wellness and functional tea products, quality evaluation of blended tea.

Unit 2: (Theory)

Blending, Packaging and Market Development

Concept of tea product innovation, Product development cycle in the tea industry, Branding and brand positioning strategies, Packaging materials and packaging technologies, Labeling requirements and regulatory standards, Consumer behavior and market preferences, Tea marketing channels: retail, wholesale and export, Digital marketing and e-commerce for tea products, Entrepreneurship opportunities in tea blending and value addition, Business planning for tea-based enterprises.

Unit 3: (Practical)

Tea Blending and product Development practices

Identification and evaluation of teas used for blending, Preparation for breakfast tea blends, Preparation of premium orthodox tea blends, Preparation of green tea blends, Development of wellness tea products, Blends standardization and consistency testing, Comparative quality assessment of tea blends, Cost calculation and pricing of blended products, Maintenance of blending records.

Unit 4: (Practical)

Product Branding, Marketing and Entrepreneurship Practices

Packaging material selection and evaluation, Label design and product information Preparation, Development of tea brand identify, consumer sensory evaluation and acceptance testing, Market survey tea products, Retail shelf analysis and product positioning, Preparation of promotion materials, Development of e-commerce product listings, Preparation of a business plan for a tea startup, Mini project: Development, Branding and Marketing of a New Blend

Internal Assessment

Semester fifth

Course Name-Labour Laws and Industrial Relations in Tea Plantations

Paper Code-TGM-VOC-050104

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To understand labour laws applicable to tea plantations and tea factories.
2. To develop knowledge of labour welfare, social security and industrial relations.
3. To understand statutory compliance and labour administration in tea estates.
4. To familiarize students with labour dispute management and recent labour reforms.

Course Outcome

Students will be able to understand labour legislation, welfare administration, wage management, industrial relations, factory laws, occupational safety, labour dispute resolution, and statutory compliance requirements in tea plantations and tea factories.

Unit 1: Labour Legislation and Plantation Labour Welfare

Concept, scope and significance of labour laws, Evolution of labour legislation in India, Constitutional provisions relating to labour welfare, Labour administration in India and the tea industry, Plantation Labour Act, 1951- Scope, objectives and applicability, Registration and administration of plantations, Housing facilities and labour line management, Drinking water, sanitation and welfare facilities, Medical facilities and estate hospitals, educational, recreational and crèche facilities, Welfare Officers- Appointment, duties, and responsibilities.

Unit 2: Wages Administration, Social Security and Labour codes

Code on wages, 2019, wages structure in tea plantations, minimum wages and fair wages, payment of wages and wages records, Bonus and incentive schemes, Equal remuneration and wages equity, Employees' Provident Fund (EPF), Employees' Pension Scheme (EPS), Employees' state Insurance (ESI), Payment of Gratuity Act, Social Security Code, 2020, Maternity benefits act, Employee's Compensation Act, Retirement benefits and terminal settlements, Labour welfare schemes for tea garden workers, Statutory register and labour compliance requirements.

Unit 3: industrial Relations and Labour Dispute Management

Industrial relations in tea plantations, Trade unions act and trade union administration, Trade union recognition and functions, Collective bargaining in tea estates, Worker participation management, Industrial Relations Code, 2020, Standing orders and service conditions, Code of discipline in industry, Domestic enquiry and disciplinary action, Misconduct and disciplinary action, Industrial disputes- Causes and consequences, Labour Courts and Industrial Tribunals, Strike- Legal provisions and procedures, Lockouts – Legal provisions and procedures, Lay-off, retrenchment and closure of tea estates, Settlement and award procedures

Unit 4: Tea Factory Laws, Occupational Safety and Contemporary Labour Issues

Factories Act, 1948- Scope and applicability to tea factories, Health provisions under factory legislation, safety measures in tea manufacturing operations, Machine safety and accident prevention, Fire safety and emergency preparedness, working hour, shifts and overtime regulations, Employment of women and young persons in factories, welfare provisions for factory workers, Occupational Safety, Health and Working Conditions Code, 2020, Factory inspection and enforcement mechanisms, Corporate Social Responsibility (CSR) in Tea Estates, Rainforest Alliance, Trustea and labour compliance standards.

Internal Assessment

Semester fifth

Course Name-Estate Management

Paper Code-TGM-VOC-050204

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To provide knowledge of tea estates administration, organization, and management systems.
2. To develop leadership, communication, and decision-making skills for tea estate management.
3. To impart knowledge of human resource management, labour welfare, and industrial relations in tea estates.
4. To develop competencies in estate budgeting, financial planning, and commercial management.
5. To familiarize students with sustainable estate management practices and modern technologies used in tea industry.

Course Outcome: After successful completion of the course, students will be able to:

1. Explain the organizational structure and administrative functions of tea estates.
2. Apply leadership and human resource management skills in tea estate operations.
3. Manage labour welfare, industrial relations, and workforce productivity effectively.
4. Prepare estate budgets and support financial and commercial decision- making.
5. Utilize sustainable management practices and digital technologies for efficient tea estate administration.

C

Unit 1: Tea Estate Administration and Leadership

Estate organizational structure, Functions of Manager and assistant Manager, Office administration and documentation, Leadership and team management, Communication and decision- making, Estate planning and reporting., Management information system and Estate reporting, Key Performance Indicators in Tea Estates

Unit 2: Human Resources, Welfare and Industrial relations

Workforce planning and labour deployment, Productivity management, Labour welfare administration, Employee motivation and leadership, Trade unions and collective bargaining, Conflict and grievance management, Corporate social responsibility, Labour Productivity Benchmarking, Negotiation Skills for Estate Managers

Unit 3: Financial and Commercial Management

Estate budgeting, Cost Control and financial planning, Estate accounting basics, Wage and payroll administration, Procurement and inventory management, Tea marketing and auction systems, Project planning and entrepreneurship, Bought leaf Management, Tea Value Chain Analysis

Unit 4: Strategic and Sustainable Estate Management

Estate infrastructure management, Risk and crisis management, Climate change and sustainability, Certification systems (Trustea, Rainforest Alliance), Digital estate management (MIS,GIS,ERP), ESG practices, Tea tourism and diversification, Future challenges and opportunities in the tea industry, Mechanization and future Workforce Management, Managerial Decision Making and Problem Solving in Tea Estates

Internal Assessment:

Semester fifth

Course Name-Tea Plantation Development

Paper Code-TGM-VOC-050304

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To understand plantation development schemes available to the tea sector.
2. To familiarize students with government policies and subsidy programmes.
3. To develop knowledge of welfare and sustainability initiatives in tea plantations.
4. To understand project preparation and implementation procedures.
5. To prepare students for managerial roles in plantation development programmes.

Course Outcomes

1. Explain major plantation development schemes and support programmes.
2. Identify financial assistance and subsidy opportunities for tea estates.
3. Apply sustainability and welfare programmes in plantation development.
4. Evaluate the impact of development schemes on the tea industry

C

Unit 1: Tea Industry Development Programmes

Role of Tea Board of India in tea development, Tea development and promotions Schemes, Small Tea Grower (STG) Development Programmes, Tea Quality Up gradation Programmes, Capacity Building and Skill development Programmes.

Unit 2: Plantation Development Schemes

Replanting and Rejuvenation Schemes, Irrigation Development Schemes, Mechanization Support Schemes, Nursery Development Programmes, Soil and Water Conservation Projects, Infrastructure Development in Tea Estates

Unit 3: Sustainability and Welfare Schemes

Trustea Sustainability Initiatives, Rainforest Alliance Programmes, Labour Welfare Schemes in Tea Estates, Health, Housing and Educational Welfare Programmes, Women Empowerment and Community Development Programmes, Climate Change Adaptation Projects

Unit 4: Government Policies, Subsidies and Project Management

Government Subsidies for Tea Sector, Bank Finance and Credit Support, Preparation of Development Project Proposals, Monitoring and Evaluation of Plantation Projects, Public-Private Partnership Models, Future Development Programmes in the Tea Industry

Internal Assessment

:

Semester fifth

Course Name-Integrated Tea Industry Practical

Paper Code- TGM-VOC-050404

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives

1. To develop practical skills in plantation, Manufacturing, and Estate management.
2. To provide hands-on exposure to tea industry operations.
3. To enhance managerial and problem-solving abilities through field excercises.
4. To develop competency in quality, sustainability, and business management.
5. To prepare students for supervisory and managerial careers in the tea Industry.

Course Outcomes

1. Perform plantation management and field monitoring activities.
2. Assess tea manufacturing operations and tea quality parameters.
3. Maintain estate administrative, financial, and labour records.
4. Apply sustainability, marketing, and business management concepts in tea enterprises.
5. Demonstrate professional skills required for employment as Tea Estate Supervisor, Welfare Officer, Factory Executive, or Assistant Manager

C

Unit 1: Plantation Operations and Field Management (Practical)

Nursery and planting materials assessment, Field inspection and tea section mapping, Plucking standard evaluation, Yield estimation and crop forecasting, Fertilizer requirement calculation, Shade and drainage survey, Pest and diseases field diagnosis, Plantation audit and reporting

Unit 2: Tea Manufacturing and Quality Assessment (Practical)

Green leaf quality assessment, Manufacturing process observation and reporting, Factory production record analysis, Recovery percentage calculation, Tea grading and sorting, Quality Control inspection, Tea Tasting

Unit 3: Estate Administration and Human Resources Management (Practical)

Preparation of wage sheets and payroll, Labour productivity analysis, Estate budget preparation, Store and inventory management, Office correspondence and report writing, Estate performance monitoring

Unit 4: Tea Business, Sustainability and Industry Project (Practical)

Tea auction and market survey, Tea branding and marketing exercise, Sustainability and Trustea audit, Climate risk assessment of a tea estate, Preparation tea business plan, Digital estate MIS preparation

Internal Assessment

Project Report, PPT Presentation and Viva-Voce

Semester Sixth

Course Name-Residential Tea Estate Training (3 Months)

Paper Code-TGM-VOC-060104

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To provide hands-on exposure to tea estate operations.
2. To familiarize students with plantation, factory and administrative activities.
3. To develop practical managerial competencies.
4. To enhance observation and reporting skills.
5. To prepare students for professional employment in tea industry

Course outcome:

1. Demonstrate practical knowledge of tea estate operations.
2. Analyze plantation and factory management practices.
3. Prepare professional industry reports.
4. Apply managerial skills in workplace situations.
5. Develop industry readiness.

Unit 1: Orientation and Training plan

Unit 2: Plantation and factory Operations

Unit 3: Estate Administration and Labour Welfare

Unit 4: Training Report

Evaluation: Training Diary- 20 marks, Training Report- 50 marks, PPT Presentation

Semester Sixth

Course Name-Dissertation and Research Project

Paper Code-TGM-VOC-060204

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To develop research and analytical skills.
2. To provide experience in scientific investigation.
3. To strengthen problem-solving abilities.
4. To develop report writing competency.
5. To encourage evidence-based decision making.

Course Outcomes:

1. Conduct independent research.
2. Analyze industry-related problems.
3. Prepare scientific reports.
4. Present findings professionally.
5. Apply research outcomes to tea industry situations.

Unit 1: Project Identification and Proposal Preparation

Unit 2: Data Collection and Field Investigation

Unit 3: Data Analysis and Interpretation

Unit 4: Dissertation Writing

Evaluation: Project Proposal- 10 marks, Field Investigation- 20 marks, Dissertation Report – 40 marks, Presentation and viva- 30 marks.

Semester Sixth

Course Name-Industry Analysis and Management Portfolio

Paper Code-TGM-VOC-060304

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To develop analytical and managerial competencies.
2. To assess operational performance of tea enterprises.
3. To strengthen reporting and documentation skills.
4. To enhance professional decision-making abilities.
5. To build industry-oriented management expertise.

Course Outcomes:

1. Evaluate tea estate performance.
2. Analyze factory and quality management systems.
3. Assess welfare and sustainability initiatives.
4. Prepare management portfolios.
5. Demonstrate professional analytical skills.

Unit 1: Tea Estate Performance Assessment

Unit 2: Factory and Quality Management Assessment

Unit 3: Labour Welfare and Sustainability Assessment

Unit 4: Portfolio Preparation and Seminar Presentation

Evaluation:

Industry Study- 30 marks, Management Portfolio- 40 marks, Seminar Presentation- 20 marks, Viva-10 marks

Semester Sixth

Course Name-Professional Development Portfolio

Paper Code-TGM-VOC-060404

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To enhance communication and professional skills.
2. To develop leadership and interpersonal competencies.
3. To improve presentation and documentation abilities.
4. To strengthen employability skills.
5. To prepare students for managerial carrers.

Course outcomes:

1. Communicate effectively in professional settings.
2. Demonstrate leadership and teamwork skills.
3. Prepare professional documents and portfolios.
4. Perform successfully in interviews and presentations.
5. Exhibit professional behaviour and workplace readiness.
- 6.

Unit 1: Business communication and Professional Writing

Unit 2: Leadership and Personality Development Activities.

Unit 3: Career Development and Employability Skills

Unit 4: Professional Portfolio

Evaluation: Skill Development Activities- 30, Professional Portfolio- 30 marks, Seminar Presentation- 30 marks, Viva-10 marks

Semester Sixth

Course Name-Tea Industry Capstone Project

Paper Code-TGM-VOC-060504

Course level 100-199. Credits-4. Marks100. Numbers of classes -60

Course Objectives:

1. To integrated knowledge gained throughout the programme.
2. To develop industry problem- solving skills.
3. To enhance project planning and execution abilities.
4. To strengthen professional presentation skills.
5. To prepare students for leadership roles in the industry.

Unit 1: Project Planning and Problem Identification

Unit 2: Project Execution and industry Investigation

Unit 3: Analysis, Recommendations and action Plan

Unit 4: Final report

Evaluation: Project Work-30 marks, Capstone Report- 30 marks, Presentation- 30 marks, Viva- 10 marks

