

CURRICULUM
Pre-diploma in Tea Technology
(Apprenticeship Model)



Council for Technical Education and Vocational Training
Curriculum Development and Equivalence Division
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Introduction

This curricular program is designed to prepare the middle-level competent Tea Technicians. The graduates will be equipped with the required knowledge, skills and attitude necessary to this level to meet the demand of the Tea Industry in the country and abroad.

The implementation modality of this curriculum is the apprenticeship model. UNESCO-UNEVOC defines apprenticeship as a ‘unique form of vocational education, combining on-the-job learning and school-based training, for specially defined tasks and work processes. It is regulated by law and based on written employment contract with a compensatory payment, and standard social protection scheme. A formal assessment and a recognized certification come at the end of a clearly identified duration.’

The program extends over 24 months. The first fifteen weeks of in-house classes that insist on theoretical and basic practical skills will be provided in the institution. It involves an instructional mode of delivery for technology-based education and training in which learning takes place in two venues: the technical school or training institute and the company or industry. Here, the term “industry” is not a single area, it is meant generally to include all the sectors of the economy in our community, which range from manufacturing firms, service shops, business establishments, and government agencies to non-government organizations (NGOs). There will have a tripartite training agreement between apprentices, sponsoring industries and training institutions for implementing this curricular program.

Rationale

The rationale behind designing this curricular program is to acquire competencies by an apprentice through his/her engagement in hands-on practices (the real world of work experiences) as he/she gets an opportunity to get exposed to Tea technology-based industries where they can learn about modern-day tools, machines and processes which gives them the insight and attitudes to combine creativity, knowledge and tools to complete the difficult task of shaping an idea into reality.

This curricular program will be implemented and operated as based on the *Apprenticeship Training Operation Working Procedures, 2075 B.S.*

Curriculum Title

The title of this curricular program is Pre-diploma in Tea Technology (Apprenticeship Model).

Program Aim

The program aims to prepare middle-level competent Tea Technicians who can serve at related government offices, industries or firms, Private and cooperative sectors in Nepal and abroad.

Program Objectives

The objectives of the program are to produce a mid-level workforce, who will be able to:

1. Prepare industry ready through institute-based education and industry-based training.
2. Perform basic Tea technology related works carried out in tea industries and farms.
3. Maintain soil fertility and productivity of tea orchard.
4. Manage pest, disease and disorder of tea.
5. Operate and handle machine and their accessories used in tea factory.
6. Repair and maintenance of basic types of machines, tools and equipment used in tea industries and farms.
7. Taste the different tea samples.
8. Prepare business plan for establishing tea orchard and factories.

9. Create self-employment opportunities by linking skills, knowledge and attitudes to related field of occupation.

Duration

This course will be completed within 24 months after the enrollment in a formal setting. The detailing of course duration is depicted below.

A. Institute Based Training Phase: 1280 Hours

- Pre-Training Phase: 15 weeks (600 Hours)
- One day/week for 78 weeks (78 days/13 weeks): 13 weeks (520 Hours)
- Block Release Phase: 4 weeks (160 Hours)

B. Industry Based Training (Hands on Practice) Phase: 2600 Hours **65 Academic Weeks (78-13): 65 Weeks (2600 Hours)**

- Handling and maintenance of machinery used in Processing industry 16 Weeks (638 Hours)
- Processing technology-I 26 Weeks (1059 Hours)
- Processing Technology-II 11 Weeks (425Hours)
- Quality Management 12 Weeks (478 Hours)

Entry Criteria

Individuals with following criteria will be eligible for this program:

- SLC/SEE appeared
- Above 16 years of age.
- Pass entrance examination administered by CTEVT/as decided by the Office of the Controller of Examination, CTEVT.
- Mentally and Physically fit for the occupation.
- Pass the interview conducted jointly by industry and the training institute.

Candidates will be recruited on the merit base of entrance examination.

Group Size

The group size of this program will be 40 (forty) in a batch.

Medium of Instruction

The medium of instruction will be in English and/or Nepali language.

Pattern of Attendance

The apprentices should have 80% attendance in theory classes and 90% in practical performance/industrial practice to be eligible for internal assessments and final examinations.

Qualification of Instructional Staff

- Instructors should have Bachelor Degree in Tea Technology/ Agriculture
- Assistant Instructors should have Diploma in Agriculture (Plant Science/Tea Technology)
- Practical Assistant/Teaching Aide should have Pre-diploma in Plant Science/Tea Technology with 3 years' experience
- Good communication and instructional skills
- Experience in the related field

Teacher and Apprentice Ratio

- Overall ratio of teacher and student must be 1:10 (at the institution level)
- Teacher and apprentice ratio for theory class should be as per nature of classroom
- Teacher and apprentice ratio for practical should be 1:10
- Minimum 75% of the teachers must be full time

Instructional Media and Materials

The following instructional media and materials are suggested for the effective instruction, demonstration and practical.

- Printed Media Materials (Assignment sheets, Handouts, Information sheets, Individual training packets, Procedure sheets, Performance Check lists, Textbooks etc.).
- Non-projected Media Materials (Display, Photographs, Flip chart, Poster, Writing board etc.).
- Projected Media Materials (Multimedia, etc.).
- Computer-Based Instructional Materials (Computer-based training, Interactive video etc.)
- Web-Based Instructional Materials (Online learning)
- Radio/Television/Telephone
- Education-focused social media platforms

Teaching Learning Methodologies

The methods of teachings for this curricular program will be a combination of several approaches such as.

- Theory: Illustrated lecture Discussion, Seminar, Interaction, Assignment and Group work.
- Practical: Demonstration, Observation, Guided practice, Self-practice and Project work.
- Industrial practice: Work place-based learning at the building construction companies or industries under the supervision of industrial supervisor.

Approaches of learning

There will be inductive, deductive and learner-centered approaches of learning.

Provision of Back Paper

Examinations and Marking Scheme

- The subject teacher will internally assess learning achievements of apprentices in each subject during the instructions, followed by a final examination at the end of curricular program.
- Continuous assessment will be adopted for institute based practical components.
- The marking weightage of industrial practice will be limited to practical only for the all subjects that they are offered in industrial practice. Moreover, proportions of internal assessment and final examinations are as follows:

S.N.	Nature	Internal Assessment	Final Exam	Pass %
1	Theory	50%	50%	40%
2	Practical	50%	50%	60%
3	Industrial Practice	50%	50%	60%

- There will be three internal assessments, those to be administered by the institute, and one final examination in each subject at the end of the program. Moreover, modes of

internal assessment and final examinations include both theory and practical or as per the nature of instruction as mentioned in the curriculum structure.

- Continuous assessment will be adopted for institute based practical components.
- Each student must pass every internal assessment to appear the final examinations.
- Continuous evaluation of the students' performance is to be done by the related In-company Trainer/ Industrial Supervisor/Internal Guide to ensure the proficiency over each competency under each area of a subject specified in the curriculum.
- Performance evaluation of industrial practice should be done by the related In-company Trainer/Industrial Supervisor/Internal Guide. In addition, on the basis of continuous assessments (at the interval of three months' plan and program) an aggregate mark of each subject will be calculated for determining internal assessment marks of industrial practice.
- Logbook, an official document is used to record information on learning experienced by the learners attained during industrial practice or training. Both of the In-company Trainer/Industrial Supervisor/ Internal Guide and the apprentice are required to sign in the logbook as a skill or a task is confirmed and performed. In addition, the maintained logbook will be baselines for both formative and summative aspects of evaluation.

There will be the provision of back paper, but the apprentice must pass all the subjects within three years from the enrollment date; however, there should be a provision of chance exam for the apprentices as per CTEVT rules.

Marking System

The marking system will be as follows:

Grading	Overall marks
Distinction:	80% and above
First division:	75% to below 80%
Second division:	65 % to below 75%
Pass division:	Pass marks to below 65%

Disciplinary and Ethical Requirements

- Intoxication, insubordination or rudeness to peers will result in immediate suspension followed by review by the disciplinary review committee of the institute.
- Dishonesty in academic or practice activities will result in immediate suspension followed by administrative review, with possible expulsion.
- Illicit drug use, bearing arms at the institute, threats or assaults to peers, faculty or staff will result in immediate suspension, followed by administrative review with possible expulsion.

Certificate Requirements

The Council for Technical Education and Vocational Training will award certificate of “Pre-diploma in Tea Technology (Apprenticeship Model)” to those apprentices who successfully complete the requirements as prescribed by the curriculum.

Career Path

The graduates will be eligible to work as “Tea Technician” in the government related organizations as prescribed by the Public Service Commission or the concerned authorities of Federal Democratic Republic of Nepal and other private industries.

General Attitudes Required

An apprentice should demonstrate the following general attitudes for effective and active learning.

Acceptance, Affectionate, Ambitious, Aspiring, Candid, Caring, Change, Cheerful, Considerate, Cooperative, Courageous, Decisive, Determined, Devoted, Embraces, Endurance, Enthusiastic, Expansive, Faith, Flexible, Gloomy, Motivated, Perseverance, Thoughtful, Forgiving, Freedom, Friendly, Focused, Frugal, Generous, Goodwill, Grateful, Hardworking, Honest, Humble, Interested, Involved, Not jealous, Kind, Mature, Open minded, Tolerant, Optimistic, Positive, Practical, Punctual, Realistic, Reliable, Distant, Responsibility, Responsive, Responsible, Self-confident, Self-directed, Self-disciplined, Self-esteem, Self-giving, Self-reliant, Selfless, Sensitive, Serious, Sincere, Social independence, Sympathetic, Accepts others points of view, Thoughtful towards others, Trusting, Unpretentiousness, Unselfish, Willingness, Work-oriented.

Curriculum Structure of Pre-Diploma in Tea Technology (Apprenticeship Model)

S. N	Subjects	Nature	Hours/ Week			Total Hours		
			T	P	Total	T	P	Total
A.	Institute Based Training (3.5 Months/90 Working Days or 1 to 15 Weeks) for 15 Academic Weeks @40 Hours/Week							
1.	Applied Communication and Professionalism	T+P			5	37	38	75
2.	Basic Applied Mathematics	T			5	75		75
3.	Fundamental of Tea Technology	T+P			2	15	15	30
4.	Nursery Management	T+P			10	52	98	150
5.	Field Establishment	T+P			4	45	15	60
6.	Insect, Pest and Disease Management	T+P			5	30	45	75
7.	Cultural Practices and Soil Management	T+P			5	30	45	75
8.	Training, Pruning and Harvesting Technology	T+P			4	30	30	60
	Total of A				40	314	286	600
B.	Institute Based Training @ 1 Day Per Week for 78 Weeks (16 to 93 Weeks)/78 Days/13 Academic Weeks @ 40 Hours/Week							
1.	Agricultural Extension and Community Development	T+P			8	39	65	104
2.	Tea Marketing and Intellectual Property Right	T+P			6	26	52	78
3.	Tea Industry and Tourism	T+P			7	26	65	91
4.	Tea Policies, Legislation & Supporting Schemes	T+P			7	26	65	91
5.	Computer Application	T +P			6	26	52	78
6.	Entrepreneurship Development	T+P			6	30	48	78
	Total of B				40	173	347	520
C.	Industrial Practices @ 5 Days Per Week for 78 Weeks (16 to 93 Weeks)/ (78 -13 Weeks)/ 65 Academic Weeks @ 40 Hours/Week							
C1	@ Tea Orchard 25 Academic Weeks, First Phase of Industrial Practice							
1.	Field Establishment	P	10 (weeks)				400	400
2.	Insect Pest and Disease Management	P	5 (Weeks)				200	200
3.	Training, Pruning and Harvesting Technology	P	10(Weeks)				400	400
	Total							1000
C2	@ Tea Industry 40 academic weeks, Second Phase of Industrial Practice							
1.	Tea Machinery, Safety and House Keeping	P	11 (Weeks)				440	440
2.	Tea Processing technology –I	P	16 (Weeks)				640	640
3.	Tea Processing technology-II	P	6 (Weeks)				240	240
4.	Quality Management	P	7 (Weeks)				280	280
	Total							1600
	Total of C		(65 weeks)				2600	2600
D.	Block Release for 4 Academic Weeks (94 to 97 Weeks) @40 Hours/Week	T+P	(4 weeks)			80	80	160
	Grand Total (A+B+C+D)		(97 weeks)			567	3313	3880
E.	Exam Preparation and Final Exam (98 to 104 Weeks)/7 Weeks							

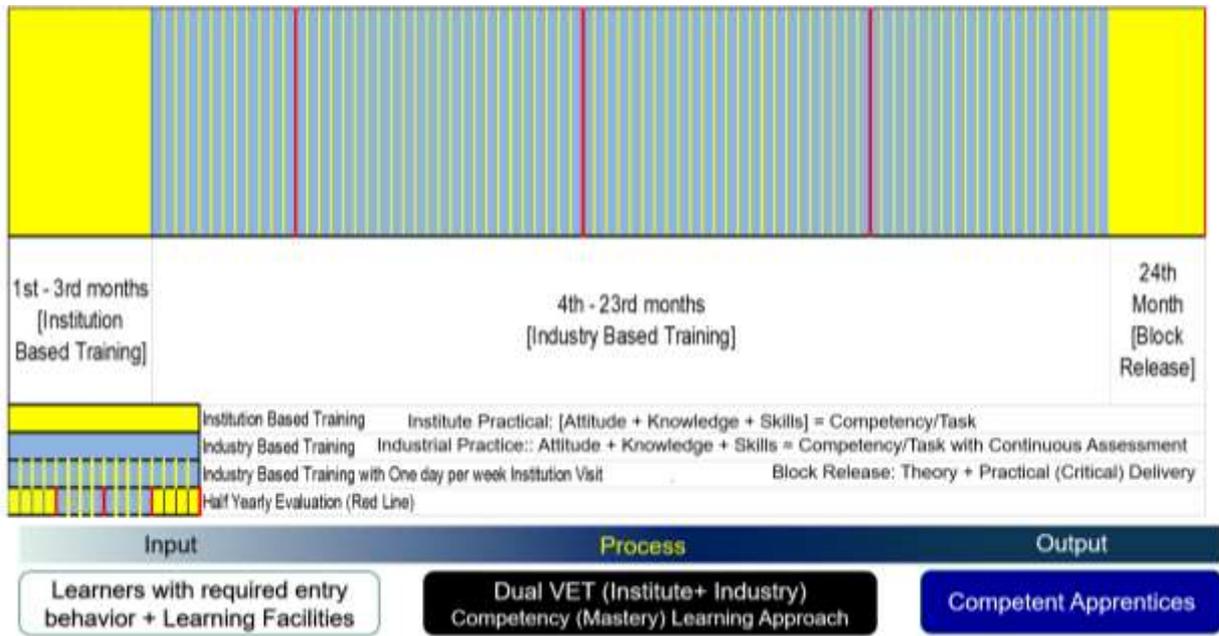
Important: Industrial practices (C) phase of learning/training can be extended to 40 Hours X 78 Weeks (5 Working Days/Week) = 3120 Hours on the request of sponsoring industry at the time of Tripartite Agreement if the age of an apprentice is above 18 years.

Evaluation Scheme

S. N.	Subjects	Nature	Total Hours			Full Marks		
			T	P	Total	T	P	Total
A+B	Institute Based Training (15 Weeks Plus 13 Weeks) for 28 Academic Weeks @40 Hours/Week							
1.	Applied Communication and Professionalism	T+P	37	38	75	25	25	50
2.	Basic Applied Mathematics	T	75	-	75	25	25	50
3.	Fundamental of Tea Technology	T+P	15	15	30	-	-	-
4.	Nursery Management	T+P	52	98	150	50	50	100
5.	Field Establishment	T+P	45	15	60	25	-	25
6.	Insect, Pest and Disease Management	T+P	30	45	75	25	25	50
7.	Cultural Practices and Soil Management	T+P	30	45	75	25	25	50
8.	Training, Pruning and Harvesting Technology	T+P	30	30	60	25	25	50
9.	Agricultural Extension and Community Development	T+P	39	65	104	25	50	75
10.	Tea Marketing and Intellectual Property Right	T+P	26	52	78	25	25	50
11.	Tea Industry and Tourism	T+P	26	65	91	25	25	50
12.	Tea Policies, Legislation & Supporting Schemes	T+P	26	65	91	25	25	50
13.	Computer Application	T+P	26	52	78	25	25	50
14.	Entrepreneurship Development	T+P	30	48	78	20	30	50
	Total (A+B)		487	633	1120	345	355	700
C.	Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week							
C1	@Tea Orchard 25 Academic weeks, First Phase of Industrial Practice							
1.	Field Establishment	P			400		200	200
2.	Insect Pest and Disease Management	P			200		100	100
3.	Training, Pruning and Harvesting Technology	P			400		200	200
C2	@ Tea Industry 40 academic weeks, Second Phase of Industrial Practice							
1.	Tea Processing Technology-I	P			640		320	320
2.	Tea Machinery, Safety and House Keeping	P			440		220	220
3.	Tea Processing Technology-II	P			240		120	120
4.	Quality Management	P			280		140	140
	Total (C)			2600	2600		1300	1300
D.	Block Release for 4 Academic Weeks @ 40 Hours/Week	T+P	80	80	160			
	Grand Total (A+B+C+D)		567	3313	3880	345	1655	2000

Important: An academic week indicates six working days per week.

Conceptual Framework of Apprenticeship Model



Source: Apprenticeship Implementation Guidelines, 2011 (CETET), Page 10 (reprinted by Federation of Education Societies (FES))

Applied Communication and Professionalism

Total: 75 hours
Theory: 37 hours
Practical: 38 hours

Course Description:

This course is designed for the development of communication skills in Nepali and English languages, intending to enhance professional skills of apprentices at work places. The communication skills are incorporated here with the perspectives of applying in speaking and writing for to-be professional apprentices or technicians so that they can exhibit such skills while working in national and international labor market work places. This course includes speaking and writing skills, self-motivation, positive attitudes, decision-making skill, creativity skill, stress and time management knowledge, and team work and leadership skills.

Course Objectives:

After completion of this course, apprentices will be able to:

- Apply speaking and writing skills of communication skills on day-to-day organizational activities;
- Write different types of letters, job applications, simple reports and memos in English and Nepali medium;
- Bring into operation the decision-making & creative activities through acquiring self-motivation and positive thinking;
- Apply time and stress management skills; and
- Follow decision-making process, team building and leadership for effective organizational functioning.

Section A: Institute Based Training (15 Academic Weeks)

Units	Topics	Contents	Time (Hrs.)
1	Communicative functions/ Conversation skills		8 Hrs.
		1.1 Everyday functions: 1.1.1 Greetings, 1.1.2 Welcoming, 1.1.3 Introductions, 1.1.4 Thanking, 1.1.5 Excuses/apologizing/forgiving	2
		1.2 Everyday Activities: 1.2.1 Asking about activity 1.2.2 Asking about trouble/problems/conditions 1.2.3 Asking about health status 1.2.4 Telling not to interrupt/disturb	2
		1.3 Requests and offers 1.3.1 Making requests 1.3.2 Offers: Offering, Accepting, Declining 1.3.3 Excuses: Asking to be excused, Excusing 1.3.4 Permission: Asking for permission, Giving permission	2
		1.4 Expressing 1.4.1 Likes/dislikes 1.4.2 Hopes/wishes 1.4.3 Advice/suggestions/recommendations 1.4.4 Prohibitions	2
2	Comprehension and Writing skills		10 Hrs.

Units	Topics	Contents	Time (Hrs.)
		2.1 Comprehension passages	2
		2.2 Technical Terms	1
		2.3 Writing Paragraphs	1
		2.4 Writing letters 2.4.1 Resume/bio-data 2.4.2 Applications letters 2.4.3 Business letters	2
		2.5 Writing work reports	2
		2.6 Writing Instructions	1
		2.7 Writing dialogues	1
3	नेपाली संचार		८ घन्टा
		३.१ प्राविधिक शब्दहरु	१ घन्टा
		३.२ बोध अभिव्यक्ति	१ घन्टा
		३.३ अनुच्छेद लेखन	१ घन्टा
		३.४ पत्रलेखन:	१ घन्टा
		क. व्यापारिक पत्र	१ घन्टा
		ख. निवेदनपत्र	१ घन्टा
		ग. व्यक्तिगत विवरण (बायोडाटा) लेखन	१ घन्टा
4	Motivation, Attitudes, Decision-Making & Creativity		5 Hrs.
		4.1 Motivation: 4.1.1 Self-motivation 4.1.2 Features of self-motivation • Honesty, • Enthusiasm, • Dedication • Productiveness	2
		4.2 Attitudes: 4.2.1 Positive and Negative attitudes 4.2.2 Factors affecting attitudes 4.2.3 Positive attitude and advantages 4.2.4 Negative attitude & disadvantages	1
		4.3 Decision-Making to solve problem: 4.3.1 Decision-making and problem-solving; 4.3.2 Steps of problem-solving; 4.3.3 Steps of decision-making process.	1
		4.4 Creativity 4.4.1 Meaning 4.4.2 Purpose 4.4.3 Technique to improve creative thinking skills.	1
5	Stress and Time Management		3 Hrs.
		5.1 Stress Management 5.1.1 Definition of stress 5.1.2 Causes and consequences of stress 5.1.3 Stress management techniques	2
		5.2 Time Management 5.2.1 Meaning	1

Units	Topics	Contents	Time (Hrs.)
		5.2.2 Time wasters 5.2.3 Effective time management strategy	
6	Team works and Leadership		3 Hrs.
		6.1 Team Work 6.1.1 Definition 6.1.2 Purpose 6.1.3 Characteristic of champion team 6.1.4 Interpersonal relationship	1.5
		6.2 Leadership Skills 6.2.1 Leadership Power 6.2.2 Leadership Styles 6.2.3 Public Speaking and Presentation	1.5
Total Theory			37 Hrs.

Practical

Units	Task	Hours
1	1.1 Compose a dialogue introducing a new friend in the class. 1.2 Compose a dialogue ting new friend in the class. 1.3 Make a request to the teacher for checking your practical work. 1.4 Compose a dialogue offering drinks to the (supposed) guests.	8
2	2.1 Prepare your own resume/bio-data. 2.2 Write a job application. 2.3 Write a letter to the Business Company/industry for delivery of goods. 2.4 Write a report of a complete task you performed.	8
3	३.१. नेपाली निवेदन लेख्नुहोस्। ३.२. आफुनो अभ्यास कार्यलाई आवश्यक पर्ने सामान अर्डर गरी सम्बन्धितउद्योगलाई एक पत्र लेख्नुहोस्। ३.३. आफुनो व्यक्तिगतविवरण तयार पार्नुहोस्। ३.४. वर्तमान सन्दर्भमा सूचनाप्रविधिको आवश्यकताविषयमा २५० शब्दमा एक निबन्ध लेख्नुहोस्। ३.५. आफूले एक दिन गरेको अभ्यासका आधारमा कार्य प्रतिवेदन लेख्नुहोस्। ३.६. बैंक भौचरको नमूना तयार पार्नुहोस्।	६
4	4.1 Demonstrate and show the self-motivate people's behaviors in classroom. 4.2 Demonstrate and show the positive and negative attitudes peoples behave in classroom. 4.3 Take decision using decision-making process on given problems by class teacher. 4.4 Perform the creativity skill on classroom on the given situation.	8
5	5.1 Apply the stress management techniques in classroom. 5.2 Apply the time management techniques in classroom.	4
6	6.1 Perform the team building practices and team work activities in classroom. 6.2 Perform public speaking, applying presentation skills on given topic in classroom.	4
Total practical		38 Hrs.

Reference Books:

- Thapa Dr. Ashok, Gautam Dr. Deepak, Seti Jagatmani, Paudel Tulasa, Adhikari Kashyap Y.P, Communication Nepali, Heritage Publishers & Distributors Pvt. Ltd., Kathmandu, 2077
- Poudel, R.C., A Manual to Communicative English, K.P. Pustak Bhandar, Kathmandu, 1956/57.
- Sinha Surya, Complete Personality Development Course, Diamond Books, December 31, 2010
- Shah, B.L., A text book of writing skills in English, First edition Hira Books Enterprises, Kathmandu,2001
- Fruehling, R. T. and Oldham N. B., Write to the point, McGraw- Hill, Inc. New York NY 10020
- Taylor, G., English conversation practice, 1975.

Fundamentals of Tea Technology

Total: 30 hrs
Theory: 15 hrs
Practical: 15 hrs

Course Description:

Introduction to Tea Technology is a course designed to provide apprentice with a comprehensive understanding of the technology involved in producing high-quality tea. The course covers fundamental knowledge regarding tea. The course begins with an introduction to the history of tea and the global tea industry. Apprentice will learn about the different types of tea, tea varieties, and chemical components of tea. The course also covers health benefit of tea.

Course Objectives:

After completion of this course, apprentices will be able to:

- Know the tea and its history in general.
- Identify the varieties of tea
- Know botanical name and health benefit of tea

Section A: Institute Based Training (3.5 Months/90 Working Days or 1 to 15 Weeks) for 15 Academic Weeks @40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Introduce the tea	Tea <ul style="list-style-type: none"> ▪ Definition ▪ Botanical and English name ▪ Status ▪ Economic importance ▪ Climatic factors <ul style="list-style-type: none"> ➤ Temperature <ul style="list-style-type: none"> ○ Day length ○ Solar radiation ➤ Humidity ➤ Precipitation ▪ Soil <ul style="list-style-type: none"> ▪ PH ▪ OM ▪ Topography 	2	0	2
2.	History of tea	History <ul style="list-style-type: none"> ▪ History of world ▪ History of Nepal ▪ Botanical origin <ul style="list-style-type: none"> ➤ Chinese varieties ➤ Assam varieties ➤ Cambodian varieties 	2	0	2
3.	Familiar with chemical components of tea	Chemical components <ul style="list-style-type: none"> ▪ Introduction ▪ Chemical components of green leaf ▪ Chemical components made tea 	2	0	2
4.	Introduce to tea bush	Tea bush <ul style="list-style-type: none"> ▪ Introduction ▪ Characteristics ▪ Photosynthesis 	1	12	13

		<ul style="list-style-type: none"> ▪ Respiration ▪ Transpiration 			
5.	Familiar with Varieties of tea	Varieties of tea <ul style="list-style-type: none"> ▪ Introduction ▪ Varieties <ul style="list-style-type: none"> ▪ Chinese varieties ▪ Assam varieties ▪ Cambodian varieties ▪ Difference between clone and seed varieties 	3	3	6
6.	Familiar with Classify tea on the basis of type of manufacture	Classify tea on the basis of type of manufacture <ul style="list-style-type: none"> ▪ Fermented tea <ul style="list-style-type: none"> ➤ Black Tea ➤ Golden Tea ➤ CTC ➤ Red Tea ▪ Semi fermented tea <ul style="list-style-type: none"> ➤ Oolong Tea ➤ Yellow Tea ▪ Non fermented tea <ul style="list-style-type: none"> ➤ Green Tea ➤ White Tea 	2	0	2
7.	Familiar with health benefit of tea	Health benefit <ul style="list-style-type: none"> ▪ Medicinal value ▪ Antioxidant properties ▪ Anti-inflammatory properties ▪ Cardiovascular health benefits ▪ Neurological benefits ▪ Digestive benefits 	3	0	3
		Total	15	15	30

Reference books

1. Thapa N. (2020) .Tea Technology for Producers and Entrepreneurs in the Tea Industry.
2. Smith, J. D. (201Raastriya Granthalay). The Science of Tea Technology. Greenleaf Publishing.
3. Johnson, S. A., & Williams, L. M. (2020). Tea Cultivation and Processing Techniques. Cambridge University Press.

Total: 159 hrs
Theory: 52 hrs
Practical: 98 hrs

Course Description:

The Nursery Management of Tea Technology course is designed to provide apprentice with an in-depth practice and understanding of the processes involved in establishment and operation of a successful tea nursery. The course covers topics such as site selection for Nursery, tea varieties selection. Also, able to prepare mother bush, Nursery bed and nursery soil treatment, different propagation practices.

Course Objectives:

After completion of this course, apprentices will be able to:

- Select the site for Nursery and tea varieties
- Prepare mother bush, Nursery bed, nursery soil treatment and Cutting for Nursery
- Perform plantation of cutting and polybag Transplantation
- Prepare shade
- Perform caring and hardening

Section B: Institute Based Training @ 1 Day per Week for 78 Weeks (16 to 93 Weeks)/78 Days/13 Academic Weeks @ 40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Ot
1.	Select the site for Nursery	Site selections <ul style="list-style-type: none"> ▪ Definition ▪ Climate <ul style="list-style-type: none"> ▪ Temperature ▪ Humidity ▪ Precipitation ▪ Soil <ul style="list-style-type: none"> ➤ PH & Organic Matter content ▪ Topography ▪ Water resource ▪ Human Resource 	3	4	6
2.	Select the tea varieties	Tea Varieties <ul style="list-style-type: none"> ▪ Definition ▪ Types ▪ Concept of clones ▪ Difference between vegetative and seed propagation 	3	4	4
3.	Prepare mother bush	Mother Bush <ul style="list-style-type: none"> ▪ Introduction ▪ Characteristics of good mother bush ▪ Pruning ▪ Fertilization 	3	10	9
4.	Prepare Nursery bed	Nursery Bed <ul style="list-style-type: none"> ▪ Introduction ▪ Types <ul style="list-style-type: none"> ➤ Poly bag ➤ Soil Bed ▪ Methods 	4	8	10

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Ot
5.	Perform nursery soil treatment	Nursery soil treatment <ul style="list-style-type: none"> ▪ Introduction ▪ Method <ul style="list-style-type: none"> ➤ Solar ➤ Chemical ▪ Precaution 	4	8	10
6.	Prepare Cutting for Nursery	Cutting <ul style="list-style-type: none"> ▪ Definition ▪ Types ▪ Methods ▪ Characteristics of good cutting 	4	6	6
7.	Perform plantation of cutting	Plantation of cutting <ul style="list-style-type: none"> ▪ Planting depth ▪ Spacing ▪ Angle ▪ Facing ▪ Polar (Proximal and Distal end) ▪ Callus formation 	4	10	4
8.	Perform polybag Transplantation	Polybag Transplantation <ul style="list-style-type: none"> ▪ Media Preparation ▪ Media filling ▪ Size ▪ Types 	4	12	6
9.	Prepare shade	Nursery shade <ul style="list-style-type: none"> ▪ Introduction ▪ Types ▪ Shading material ▪ Method 	6	12	10
10.	Perform caring	Nursery Caring <ul style="list-style-type: none"> ▪ Introduction ▪ Methods <ul style="list-style-type: none"> ➤ Insect, pest, disease control ➤ Watering ➤ Weeding ➤ Composting and fertilization 	9	12	21
11.	Perform hardening	Sapling hardening <ul style="list-style-type: none"> ▪ Definition ▪ Purpose ▪ Method 	8	12	18
Total			52	98	104

Reference books:

- Tea and Coffee Development Board. (2014). Coffee: The Potentiality in Nepal.
- Johnson, S. M. (2019). Nursery Management Techniques for Tea Plantation. Greenleaf Publishing.
- Patel, R. K., & Singh, P. K. (2020). Tea Nursery Practices: A Comprehensive Guide. Cambridge University Press.

Field Establishment

Total: 60hrs
Theory: 45 hrs
Practical: 15 hrs

Course Description:

The field establishment of Tea Technology course is designed to provide apprentice with an in-depth practice and understanding of the processes involved in establishing a successful tea plantation. The course covers topics such as selection of plants materials, hardening of sapling, soil preparation, contour line construction, planting, and irrigation, shade management, caring of young tea plants and pruning techniques.

Course Objectives:

After completion of this course, apprentice will be able to:

- Select a healthy plant for field
- Maintain spacing, staking and digging a proper hole for tea plantation
- Prepare land for planting
- Prepare Drains
- Manage proper shade
- Plants tea on single hedge and double hedge
- Take care of young tea plants

Section B: Institute Based Training @ 1 Day per Week for 78 Weeks (16 to 93 Weeks)/78 Days/13 Academic Weeks @ 40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Select plant material	Plant selection. <ul style="list-style-type: none"> ▪ Introduction. ▪ Methods <ul style="list-style-type: none"> ▪ Varieties. ▪ Characteristics of healthy plant. <ul style="list-style-type: none"> ▪ Size ▪ Age ▪ No of leaves ▪ Selection according to altitude 	6	1	7
2.	Perform hardening	<ul style="list-style-type: none"> ▪ Definition ▪ Shade thinning ▪ Bud tipping 	1	1	2
3.	Prepare Land for tea transplantation	Land Preparation. <ul style="list-style-type: none"> ▪ Introduction <ul style="list-style-type: none"> ▪ Status of land ▪ Land leveling <ul style="list-style-type: none"> ▪ Slope % ▪ Soil erosion. ▪ Soil test <ul style="list-style-type: none"> ▪ pH ▪ OM ▪ Method 	2	1	3
4.	Establish drain and irrigation	Drain and Irrigation Establishment <ul style="list-style-type: none"> ▪ Introduction ▪ Types ▪ Size ▪ Method ▪ Water logging 	4	2	6

5.	Make A frame	A Frame <ul style="list-style-type: none"> ▪ Introduction ▪ Principle ▪ Purpose 	4	1	5
6.	Layout contour line using A frame	Contour line layout <ul style="list-style-type: none"> ▪ Definition ▪ Method ▪ Purpose 	4	1	5
7.	Prepare layout for plant spacing	Farm Layout <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Methods ▪ Type (Single and Double hedge) 	4	1	5
8.	Prepare pit	Pit preparation <ul style="list-style-type: none"> ▪ Definition ▪ Purpose ▪ Size ▪ Filling methods and material 	4	1	5
9.	Perform planting.	Plantation of tea <ul style="list-style-type: none"> ▪ Precondition ▪ Method (Bheti) ▪ Time ▪ Mulching ▪ Precaution 	6	2	8
10.	Manage shade	Shade Management <ul style="list-style-type: none"> ▪ Introduction ▪ Purpose ▪ Different types of shade ▪ Plants used for shading 	6	2	8
11.	Frame formative prune	Frame Formative pruning <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Types of center out <ul style="list-style-type: none"> ➤ Decentering ➤ Thumb prune ➤ Lung prune ▪ Methods <ul style="list-style-type: none"> ➤ Center out ➤ First frame formative prune ➤ Pegging ➤ Final frame formative prune ▪ Characteristics of good frame 	4	2	6
Total			45	15	60

Reference books

- Tea and Coffee Development Board. (2014). Coffee: The Potentiality in Nepal.
- Johnson, S. M. (2019). Nursery Management Techniques for Tea Plantation. Greenleaf Publishing.
- Patel, R. K., & Singh, P. K. (2020). Tea Nursery Practices: A Comprehensive Guide. Cambridge University Press.

Insect, Pest and Disease Management

Total: 75hrs

Theory: 30 hrs
Practical: 45 hrs

Course Description:

The insect, pest and disease management course is designed to provide apprentice with an in-depth practice and understanding of the processes involved insect, pest and disease identification and management. This course also include different practices done in tea orchard for conservation of beneficial insect, pest and disease management techniques, judicious utilization of local resources and safe use other pesticide.

Course Objectives:

After completion of this course, apprentice will be able to:

- Identify and manage insect, pest and disease of tea
- Prepare pest and disease management schedule in tea
- Identify and manage common physiological disorders in tea

Section B: Institute Based Training @ 1 Day per Week for 78 Weeks (16 to 93 Weeks)/78 Days/13 Academic Weeks @ 40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Identify types of insect pests in tea	Pests <ul style="list-style-type: none"> ▪ Definition ▪ Types of insect pest in tea <ul style="list-style-type: none"> ➤ Mites ➤ Sucking insects ➤ Leaf eating insects 	2	2	4
2.	Identify damage symptoms of common insect pests in tea	Damage Symptoms <ul style="list-style-type: none"> ▪ Introduction ▪ Damage symptoms of common insects in tea & their control 	2	8	10
3.	Identify common insect pest management techniques	Management Techniques <ul style="list-style-type: none"> ▪ Introduction ▪ Common insect pest management techniques <ul style="list-style-type: none"> ➤ Physical method ➤ Biological method ➤ Chemical method ➤ Cultural method 	4	5	9
4.	Prepare pest management schedule in tea	Pest management schedule <ul style="list-style-type: none"> ▪ Introduction ▪ Doses and pest management schedule <ul style="list-style-type: none"> ➤ Seasonal ➤ Growing stage 	2	4	6
5.	Apply insect pest management techniques in tea	Pest management techniques <ul style="list-style-type: none"> ▪ Introduction ▪ Types 	1	5	6
6.	Identify common tea diseases with their symptoms	Common tea diseases <ul style="list-style-type: none"> ▪ Concept of disease, signs, and symptoms ▪ Disease triangle ▪ Symptoms in different parts 	4	4	8

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		<ul style="list-style-type: none"> ➤ Leaf diseases ➤ Stem diseases ➤ Root diseases 			
7.	Identify common disease management techniques	Disease management techniques <ul style="list-style-type: none"> ▪ Concept ▪ common fungicides used in tea with their doses ▪ Storage / disposal of fungicide ▪ Handling fungicides ▪ Safe application of fungicides ▪ Biological ▪ Botanical ▪ Cultural 	5	5	10
8.	Develop calendar of disease occurrence	Calendar of disease occurrence <ul style="list-style-type: none"> ▪ Concept, needs and importance ▪ Calendar of disease occurrence and its components 	2	5	7
9.	Carry out disease control techniques in tea	Disease control techniques in tea <ul style="list-style-type: none"> ▪ Introduction ▪ Identifying disease control techniques in tea ▪ Apply disease control 	4	4	8
10.	Identify and manage common physiological disorders in tea	Physiological disorder <ul style="list-style-type: none"> ▪ Concept, needs and importance ▪ Types ▪ Identification technique ▪ Principles and procedures for management 	4	3	7
Total			30	45	75

Reference books

- Smith, J. D. (2019). Insect Pest and Disease Management in Tea Plantations. Greenleaf Publishing.
- Modern Tea Cultivation and Processing Technology Manual - NTCDC

Cultural Practices and Soil Management

Total: 75 hrs
Theory: 30 hrs
Practical: 45 hrs

Course Description:

The Cultural Practices and Soil Management course is designed to provide apprentice with an in-depth practice and understanding of the processes involved preparation and application of compost and manure along calculation and application of fertilizers, management of irrigation, drainage and This course also include different soil management practices done in tea orchard such as soil sampling, analysis of soil lab report and soil amendment practices.

Course Objectives:

After completion of this course, apprentice will be able to:

- Prepare and apply manure and compost, and apply fertilizer
- Manage the weed, drainage system and Irrigate the tea farm
- Identify the soil properties.
- Perform soil sampling and analyze the report of soil test.
- Amend the soil.
- Perform soil conservation practice

Section B: Institute Based Training @ 1 Day per Week for 78 Weeks (16 to 93 Weeks)/78 Days/13 Academic Weeks @ 40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Introduce to intercultural operation	Intercultural operation <ul style="list-style-type: none"> ▪ Definition ▪ Importance ▪ Different Activities 	2	7	9
2.	Prepare manure and compost	Manure and Compost <ul style="list-style-type: none"> ▪ Definition ▪ Importance ▪ Characteristics ▪ Methods ▪ Precaution 	2	6	8
3.	Apply manure and fertilizers on tea field	Manure and fertilizer Application <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Types ▪ Characteristics ▪ Methods of application ▪ Time of application 	2	2	4
4.	Manage the weed	Weed management <ul style="list-style-type: none"> ▪ Definition ▪ Important weeds ▪ Methods of weed management ▪ Concept of prevention, control management, eradication 	2	2	4
5.	Irrigate the tea farm	Water application <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Types of irrigation ▪ Irrigation schedule 	4	7	11

6.	Manage drainage system	Drainage <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Types 	2	4	6
7.	Identify the soil properties.	Soil properties <ul style="list-style-type: none"> ▪ Introduction ▪ Types of soil <ul style="list-style-type: none"> ➤ sandy ➤ loamy ➤ clayey ▪ Physical properties of soil ▪ Chemical properties of soil ▪ Biological 	2	4	6
8.	Perform soil sampling.	Soil sampling <ul style="list-style-type: none"> ▪ Introduction ▪ Methods of sampling ▪ Purpose of sampling ▪ Time for collection of soil sample 	4	3	7
9.	Analyze the report of soil test.	Soil test analysis <ul style="list-style-type: none"> ▪ Acidic and alkaline soil ▪ NPK content of soil ▪ Organic matter content 	3	2	5
10.	Amend the soil.	Soil amendment <ul style="list-style-type: none"> ▪ Introduction ▪ Methods ▪ Techniques ▪ Doses ▪ Amendment material ▪ Soil Liming and Gypsum application 	3	4	7
11.	Perform soil conservation practice	Soil erosion <ul style="list-style-type: none"> ▪ Definition ▪ Types ▪ Management practice ▪ SALT technique Mulching <ul style="list-style-type: none"> ▪ Definition ▪ Importance ▪ Mulching material ▪ Method 	4	4	8
Total			30	45	75

Reference Books:

1. Tea Manual,2058. National Tea and Coffee Development Board, Kathmandu

Training, Pruning and Harvesting

Total: 60 hrs
Theory: 30 hrs
Practical: 30 hrs

Course Description:

The Training, Pruning and Harvesting course is designed to provide apprentice with an in-depth practice and understanding of the processes and Principle involved in training, pruning and harvesting of tea plant including preparation of tea block and pruning cycle, performance of pruning, tipping and harvesting of leaves, maintenance of plucking round, plucking and grading of leaves under different conditions.

Course Objectives:

After completion of this course, apprentice will be able to:

- Prepare tea blocks, pruning cycle and tipping level
- Perform Pruning, harvesting (Plucking), grading of tea leaves {Plucking} and Pluck under adverse condition
- Maintain Plucking round
- Pluck banji leaves[dormant leaves]

Section B: Institute Based Training @ 1 Day per Week for 78 Weeks (16 to 93 Weeks)/78 Days/13 Academic Weeks @ 40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Total
1.	Prepare tea Blocks	Tea block preparation <ul style="list-style-type: none"> ▪ Introduction of tea blocks ▪ Importance of tea blocks ▪ Division of blocks according to area. 	4	2	6
2.	Perform Training	Training <ul style="list-style-type: none"> ▪ Definition ▪ Relevancy of training on pruning and harvesting 	1	2	3
3.	Prepare Pruning cycle	Pruning cycle <ul style="list-style-type: none"> ▪ Definition ▪ Importance of pruning cycle ▪ Pruning cycle according to climate (4-year cycle, 5-year cycle, 6-year cycle) 	1	4	5
4.	Perform Pruning	Pruning performance <ul style="list-style-type: none"> ▪ Definition ▪ Main purposes of pruning ▪ Pruning time ▪ Types of pruning (Light, Medium and Hard) ▪ Types of skiffing <ul style="list-style-type: none"> ▪ Deep skiff ▪ Medium skiff ▪ Light skiff ▪ Level of skiff 	4	4	8
5.	Prepare tipping level	Tripping <ul style="list-style-type: none"> ▪ Definition ▪ Tipping according to prune and skiff ▪ Tipping level 	3	2	5

		<ul style="list-style-type: none"> ▪ Consequences of not maintaining tipping level. 			
6.	Perform harvest tea leaves {Plucking}	Plucking <ul style="list-style-type: none"> ▪ Introduction ▪ Age of tea leaf ▪ Mother leaf/maintenance foliage ▪ Role of maintenance foliage ▪ Types of plucking (Fine, Janam, Fish leaf and course plucking) ▪ Merits and demerits of machine plucking over hand plucking ▪ Do and don't while plucking 	2	4	6
7.	Maintain Plucking round	Plucking round Maintenance <ul style="list-style-type: none"> ▪ Introduction ▪ Leaf period ▪ Plucking round formula (2n-1) 	2	2	4
8.	Pluck banji leaves [dormant leaves]	Banji Leaves Plucking <ul style="list-style-type: none"> ▪ Introduction ▪ Growth of tea leaves ▪ Factor affecting growth (Temperature and humidity, Day length, Heredity and varieties, Soil fertility) ▪ Four flush of tea ▪ Banji period (Seasonal [interflush] dormancy and Winter dormancy) ▪ Removal of banji (Breaking back and Black plucking) 	4	4	8
9.	Pluck under adverse condition	Plucking under adverse condition <ul style="list-style-type: none"> ▪ Introduction ▪ Step up plucking ▪ Black plucking ▪ Hail stone damage ▪ Pest and diseases attack ▪ Plucking under drought condition 	2	2	4
10.	Perform grading of tea leaves	Tea leaves grading <ul style="list-style-type: none"> ▪ Introduction ▪ Types of grading (Weighment method and Bellow count method) ▪ Standard of Grading green leaf percentage. 	2	2	4
11.	Transport plucked leaves	Transportation <ul style="list-style-type: none"> ▪ Introduction ▪ Aeration and caring of plucked leaves while transporting. ▪ Precaution 	5	2	7
	Total		30	30	60

Reference books

1. Lee, C. H., Chen, H. S., & Gupta, S. D. (Eds.). (2021). Modern Practices in Tea Harvesting and Pruning. CRC Press.

Basic Applied Mathematics

Total: 75 hrs
Theory: 75 hrs
Practical : 0 hrs

Course Description:

The Basic Applied Mathematics course is designed to provide apprentice with basic practice and understanding of the mathematical concept and calculation. The course covers topics such as Number system, measurement and conversion, Percentage and Proportion, Graph and Data Representation, Geometry and Basic Financial Calculation.

Course Objectives:

After completion of this course, apprentices will be able to:

- Familiar with Number Systems and Basic Operations
- Perform Measurement and Conversion
- Calculate Percentages and Proportions
- Prepare Graphs and Conduct Data Representation
- Apply geometry in agricultural context
- Perform Basic financial calculation

Section A Institute Based Training (3.5 Months/90 Working Days or 1 to 15 Weeks) for 15 Academic Weeks @40 Hours/Week

S.N.	Content	Total
12.	Number system <ul style="list-style-type: none">▪ Natural numbers, whole numbers, integers, and rational numbers▪ Addition, subtraction, multiplication, and division of numbers	12
13.	Measurement and conversion <ul style="list-style-type: none">▪ Traditional measurement units (<i>Mana, Pathi, Muri</i>)▪ Land measurement and land unit conversion (M^2, Ropani, Hactre, <i>Dhur, Aana, kattha</i> Acre, <i>Bigha</i>)▪ Modern Units of measurement commonly used in agriculture (e.g., length, area, volume, weight)▪ Conversion between different units of measurement	14
14.	Percentage and Proportion <ul style="list-style-type: none">▪ Concept▪ Application in agriculture▪ Calculation methods	9
15.	Graphs and Data Representation <ul style="list-style-type: none">▪ Understanding and interpretation of graphs (e.g., line graphs, bar graphs)▪ Collection, organization, and presentation of data▪ Analyzing and drawing conclusions from agricultural data represented in graph	16

S.N.	Content	Total
16.	Geometry <ul style="list-style-type: none"> ▪ Basic geometric concepts (e.g., points, lines, angles, triangles, polygons) ▪ Calculating areas and perimeters of tea fields, industry and storage structures ▪ Introduction to three-dimensional geometry in agricultural setting 	10
17.	Basic financial calculation <ul style="list-style-type: none"> ▪ Understanding financial calculations in tea industry(e.g., interest, loans, wages to employee, investments) ▪ Simple and compound interest ▪ Budgeting and cost analysis 	14
Total		75

Agriculture Extension and Community Development

Total: 104 hrs
Theory: 39 hrs
Practical: 65 hrs

Course Description:

This course provides skills and knowledge related to basic extension and communication, community development, group formation, farmers training, farmers' field school, approaches of extension used in different time. This cover need assessment, communication skills and other social factors.

Course Objectives:

After completion of this course, apprentices will be able to:

- Explore the Nepalese community (ethnicity, caste, religion, language, culture)
- Explain extension and communication methods
- Conduct need assessment of farmers
- Assist to run farmers training
- Conduct simple field trial and communicate with farmers
- Assist for evaluation, follow-up and monitoring of farmers program
- Assist to leader farmer and form farmers group
- Able to run farmers field school.

Institute Based Training (3.5 Months/90 Working Days or 1 to 15 Weeks) for 15 Academic Weeks @40 Hours/Week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Explain the fundamentals of agriculture extension	Basic concepts of Agriculture extension <ul style="list-style-type: none"> ▪ Formal, informal and non- formal education ▪ Extension, extension education and agriculture extension ▪ History of agriculture extension in Nepal ▪ Objective and importance 	3	0	3
2.	Explain the involvement of social institutions in community /agriculture development.	Social institutions and community/ agriculture development <ul style="list-style-type: none"> ▪ Role of institutions in community development ▪ Religion culture social norms and values and their role in Community development and agriculture extension. 	1	7	8
3.	Explain extension approach of Nepal from past to now	Importance and scope <ul style="list-style-type: none"> ▪ Different kinds of extension approaches used in Nepal <ul style="list-style-type: none"> ▪ Conventional extension approach ▪ Training and Visit systems ▪ Tuki system ▪ Farming systems Research approach ▪ Group approach ▪ Pocket area approach ▪ Farmers field school ▪ Farmer to farmer Approach 	4	2	6

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		<ul style="list-style-type: none"> ▪ Devolution of Agriculture extension services to local bodies and its implication. 			
4.	Learn about the agriculture extension system in Nepal	<p>Agriculture Extension system of Nepal</p> <ul style="list-style-type: none"> ▪ Ministry for agriculture development at different federal levels ▪ Departments, directorates and sections at different tiers of government ▪ Government projects ▪ Non-governmental organizations- I/NGOs ▪ Community based organizations- Farmers Groups and Co-operatives ▪ Other types- Unions, Committees, User's Groups, Field Schools, etc. ▪ Private extension systems- Companies, Input suppliers, Contracting out, Consultancies, etc. ▪ Staffs, their hierarchies and roles at government institutions ▪ Staffs, their hierarchies and roles at non-government and private institutions 	3	3	6
5.	Demonstrate group formation.	<p>Farmer's group</p> <ul style="list-style-type: none"> ▪ Definition of group ▪ Philosophy of group formation ▪ Objectives of group formation ▪ Importance of group formation ▪ Group's transformation into Cooperatives ▪ Group and Cooperative Farming Approach 	2	2	4
6.	Explain Farmer to Farmer Extension (FtF) Approach.	<p>Farmer to Farmer Extension Approach</p> <ul style="list-style-type: none"> ▪ Basic elements of FtF ▪ Experienced leader farmer and their role in FtF ▪ FtF in practice and implementation of FtF by the government agencies ▪ Identification of experienced leader farmer 	2	4	6
7.	Explain steps of Farmers Field School (FFS).	<p>Steps of FFS</p> <ul style="list-style-type: none"> ▪ Principles, importance and objectives of FFS ▪ Running a farmer's field school ▪ Logistic management and other considerations 	2	4	6
8.	Explain the adoption process.	<p>Adoption process</p> <ul style="list-style-type: none"> ▪ Definition of adoption ▪ Steps of adoption process ▪ Factors affecting adoption process 	2	1	3

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		<ul style="list-style-type: none"> ▪ Motivation factor for adoption process 			
9.	Assist farmers to conduct Farmer led experiments (FLE).	Farmer Led experiments <ul style="list-style-type: none"> ▪ Objectives and importance of FLE ▪ Why FLE ▪ Layout of experimental plot ▪ Observation ▪ Data collection and record keeping ▪ Share results to farmers 	2	6	8
10.	Collect baseline information.	Baseline information <ul style="list-style-type: none"> ▪ Introduction and importance of baseline information ▪ Procedures of baseline information collection ▪ Developing a baseline information collection form 	2	6	8
11.	Plan and implement program	Program planning <ul style="list-style-type: none"> ▪ Introduction to program planning ▪ Steps of program planning ▪ Bottom-up approach and participatory planning ▪ Program implementation ▪ Participatory planning ▪ Village level planning process ▪ Planning based on the results and the resources available 	4	4	8
12.	Mobilize farmers group.	Farmer's group <ul style="list-style-type: none"> ▪ The "group approach" of extension ▪ Role of farmer's group <ul style="list-style-type: none"> ○ Technology transfer ○ Conduction of training ○ Management of common recourses ○ Empowerment ▪ Group characteristics (size, addressing diversity of gender, caste and ethnicity, group dynamics) ▪ Types of groups- based on objectives, member's sex, commodities, etc. ▪ Stages of group formation- forming, norming, storming and performing ▪ Structure of working committee ▪ Fund raising and management in an FG ▪ Lending loans to the members ▪ Learn the formats for keeping records of savings and credits ▪ Identification of needs and problems of group members ▪ Attitude of group member 	2	4	6

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		<ul style="list-style-type: none"> ▪ Conflict in group and its management 			
13.	Conduct meeting.	Group meeting <ul style="list-style-type: none"> ▪ Principles of running a meeting ▪ Agenda setting ▪ Allowing discussion ▪ Encourage members to participate in group discussions ▪ Moderating discussion ▪ Making decisions ▪ Keeping minutes and its authenticity ▪ Reporting minutes of meetings 	2	4	6
14.	Mobilize the farmers to use locally available resources.	Go Local <ul style="list-style-type: none"> ▪ Importance of using local resources ▪ Identification of local resources <ul style="list-style-type: none"> ➤ Local seeds ➤ Woods and bamboos ➤ Leaf mulching ➤ FYM ➤ Traditional knowledge ▪ Types of resources available to local groups which are properly registered e.g., forest user groups, drinking water schemes group. 	2	4	6
15.	Prepare plan for training.	Training Plan <ul style="list-style-type: none"> ▪ Objective setting ▪ Program planning ▪ Preparation of lesson plan ▪ Running practical and theory classes ▪ Evaluation criteria ▪ Use of audio-visual aids ▪ Sequential presentation of skill and knowledge 	2	4	6
16.	Conduct a field trip.	Field trip <ul style="list-style-type: none"> ▪ Plan a trip ▪ Fix places to visit ▪ Prepare a schedule for visit ▪ Plan for the expenses needed and the fund collection ▪ Making trip more fruitful 	2	6	8
17.	Develop physical and electronic visual aids.	Visual tools <ul style="list-style-type: none"> ▪ Poster ▪ Chart ▪ Pamphlets ▪ Graph ▪ Leaflets ▪ Folders & their uses ▪ Function & parts of Projector, mobile projector, overhead Projector ▪ Function and use of Multimedia 	2	4	6

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		Total	39	65	104

Reference Books:

1. Pandey, S. R. (2022). समुदाय विकासको प्रणाली: सिद्धान्त, विधि, र अनुप्रयोग (Community Development System: Principles, Methods, and Applications). Kathmandu, Nepal: Publisher.
2. Shrestha, A. R. (2020). समुदायिक विकासका आधारहरू (Foundations of Community Development). Kathmandu, Nepal: Publisher.
3. Smith, J. D., & Johnson, A. B. (2022). Extension and Community Development: Strategies for Sustainable Change. New York, NY: Publisher.
4. Brown, R. L., & Wilson, C. L. (2021). Community Development: Theory, Practice, and Change. Boston, MA: Publisher.

Tea Marketing and Intellectual Property Right

Total: 78 hrs
Theory: 30 hrs
Practical: 52 hrs

Course Description:

This course is designed to provide apprentices with the basic knowledge about marketing and its basics; intellectual property rights and its application in tea industry; and organic tea certification process.

Course Objectives:

After completion of this course, apprentices will be able to:

- Conduct tea marketing
- Handle marketing actors and marketing channels
- Apply value addition techniques and their application
- Familiar with intellectual property right and its significance to tea industry
- Conduct organic tea certification

Section A: Institute and field-based Training (15 Academic Weeks) 75 hours @ 5 hours per week

Tea Marketing and Intellectual Property right

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Fundamentals of Marketing	Introduction <ul style="list-style-type: none"> ▪ Introduction to Marketing <ul style="list-style-type: none"> ▪ Major tea markets of Nepali tea ▪ Demand and supply relation to market ▪ Marketing channel <ul style="list-style-type: none"> ▪ Producer ▪ Middleman ▪ Trader ▪ Consumer 	2	4	6
2.	Understand the market for organic tea in Nepal	Organic tea market <ul style="list-style-type: none"> ▪ Basics of organic agriculture <ul style="list-style-type: none"> ▪ Principles of organic agriculture ▪ Increasing demand of organic products ▪ Organic tea producers in Nepal <ul style="list-style-type: none"> ▪ Learn by examples ▪ Their contribution and earnings ▪ Problems faced by organic producer ▪ Yield related issues 	1	4	5
3.	Develop knowledge on importance and scope of Nepali organic tea.	Importance and scope <ul style="list-style-type: none"> ▪ Price value for organic tea compared to inorganic tea ▪ Orthodox tea ▪ handmade tea ▪ scope for organic production ▪ Scope for international market ▪ International recognition of Nepali tea-Ilam tea 	5	0	5

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
4.	Develop skill on value addition for marketing tea	Value addition <ul style="list-style-type: none"> ▪ Product development ▪ Product diversification- green tea, white tea, golden tea, oolong tea, handmade tea, black tea, needle tea, cosmetic products ▪ Branding and labeling ▪ Packaging (including tea bags) and packing ▪ Advertisement and tea exhibition ▪ Storing and transportation 	2	8	10
5.	Make strategy for marketing Nepal tea	Marketing strategy <ul style="list-style-type: none"> ▪ Calculate the cost of tea production ▪ Practice pricing strategy <ul style="list-style-type: none"> ➤ Price based on cost or production ➤ Price based on grading ➤ Price based on quality ➤ Price and subsidy relation ▪ Study the distribution channels 	2	5	7
6.	Make Promotional strategy for Nepali tea	Promotional strategy <ul style="list-style-type: none"> ▪ Study and practice promotional strategy- <ul style="list-style-type: none"> ➤ attractive labeling, ➤ tea bags ➤ Spice mixed tea, ➤ Nutrition aspects and other health benefits ➤ High altitude tea ➤ Organic tea 	2	3	5
7.	Learn about IPR and its practical application.	Intellectual Property Rights (IPR) <ul style="list-style-type: none"> ▪ Introduction to IPR ▪ Types of IPR with examples relevant to tea industry and Nepal <ul style="list-style-type: none"> ➤ copyright ➤ trademarks ➤ patents ➤ geographical indications ➤ plant varieties ➤ industrial designs 	2	4	6
8.	Learn about protecting IPR by laws.	Protection of Intellectual Property Rights (IPR) <ul style="list-style-type: none"> ▪ Protecting IPR through national law <ul style="list-style-type: none"> ➤ General idea about Law on patent and trademark, IPR ▪ National institution related to IPR (Ministry of Industry, Trade and Commerce) in Nepal 	2	3	5
9.	Understand about organic tea certification.	Organic Tea Certification Basics <ul style="list-style-type: none"> ▪ Why organic certification? ▪ Understand the international tea market and trade regulations ▪ National and international standard organic certification agencies in Nepal and their activities 	2	3	5

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
10.	Assist on organic tea certification.	Organic Tea Certification Process <ul style="list-style-type: none"> ▪ Different certification standards for different countries or unions. ▪ Certification formats- application procedure and forms ▪ Quality control and certification 	2	5	7
11.	Conduct ICS (Internal Control System)	Internal Control System <ul style="list-style-type: none"> ▪ Meaning of ICS ▪ Group formation/Group Certification ▪ Internal Standard (Nepal, EU, USDA, JAS) ▪ Farm Dairy ▪ Agreement ▪ Maps ▪ Coding ▪ Risk Analysis ▪ Documentation 	2	4	6
12.	Conduct Internal Inspection (II)	Internal Inspection <ul style="list-style-type: none"> ▪ Meaning of Internal Inspection ▪ Techniques of Internal inspection ▪ Preparation ▪ Checklist ▪ Control Point ▪ Production/Projection ▪ Documentation 	1	4	5
13.	Conduct Certification (Third Party)	Certification Process <ul style="list-style-type: none"> ▪ Introduction ▪ Communication to CB (Certification Body) ▪ Review ▪ External inspection ▪ Reporting ▪ NCs ▪ Certification (Rejection) 	1	5	6
Total			26	52	78

Reference books

- Books, annual books, booklets published by Tea and Coffee Development Board of Nepal, National Center for Fruit Development, Nepal.
- Intellectual Property Law and Practice in Nepal by Sujan M. Shrestha and Purushottam Ojha
- Marketing Management by Philip Kotler and Kevin Lane Keller
- Organic Tea: Cultivation, Production and Certification by Anand Chaudhary and Balram Panigrahi
- Tea: Cultivation to consumption by K.C. Willson and M.N. Clifford
- The Story of Tea: A Cultural History and Drinking Guide by Mary Lou Heiss and Robert J. Heiss

Tea Industry and Tourism

Total: 91 hrs
Theory: 26 hrs
Practical: 65 hrs

Course Description:

This course is designed to provide apprentices with the basic knowledge about tea industry including its role in developing agro-tourism in Nepal.

Course Objectives:

After completion of this course, apprentices will be able to gain knowledge and skills related to:

- The development of tea as an industry in Nepal.
- Major stakeholders for the development of tea industry in Nepal.
- Tea tourism and its sustainability.
- Hands-on training and experience the skills learnt.

Section A: Institute and field-based Training (15 Academic Weeks) 75 hours @ 5 hours per week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Introduce Nepali Tea Industry	Introduction <ul style="list-style-type: none"> ▪ Introduction to Nepali Tea industry <ul style="list-style-type: none"> ▪ History of tea cultivation in Nepal ▪ Culture of tea consumption in Nepal <ul style="list-style-type: none"> ▪ Tea drinking culture in Nepal ▪ Tea exchange and gifting culture ▪ Learn about tea production status in Nepal <ul style="list-style-type: none"> ▪ Tea production data ▪ Tea production areas in Nepal ▪ Tea producers and workers ▪ Types of tea produced in Nepal ▪ National and international markets ▪ Import-export status 	5	5	10
2.	Study Tea value chain	Tea value chain and sustainability <ul style="list-style-type: none"> ▪ Key players of tea industry value chain <ul style="list-style-type: none"> ▪ Input suppliers ▪ Producers ▪ Collector/Middlemen ▪ Factories ▪ Grading and packaging actors ▪ Traders ▪ Consumers 	3	15	18
3.	Study the sustainability of Tea Industry in Nepal	Sustainability of tea industry <ul style="list-style-type: none"> ▪ Government support and regulations ▪ Other stakeholders' involvement ▪ Social responsibility in the tea industry ▪ Ethical tea production ▪ Promotion of fair internal and international trade ▪ Consumer health ▪ Proper wages to tea workers and gender discrimination 	3	2	5

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		<ul style="list-style-type: none"> ▪ Fair price to the tea producers 			
4.	Introduce the tea tourism in Nepal.	Introduction to Tea tourism <ul style="list-style-type: none"> ▪ Introduction to tourism and tea tourism <ul style="list-style-type: none"> ▪ Tourism and tourist ▪ Domestic and international tourist ▪ Examples of tea tourism industry and its contribution in neighboring countries- India, Sri Lanka, China, etc. ▪ Overview of Agro tourism and Tea tourism in Nepal 	3	0	3
5.	Experience tea tourism in Nepal.	Tea tourism experience in Nepal <ul style="list-style-type: none"> ▪ Developing and marketing of tea tourism experiences in Nepal <ul style="list-style-type: none"> ▪ Tea tourism examples and destination in Nepal ▪ Tourist coming for hand picking tea, factory visit, observation of organic tea farming, high altitude tea etc. ▪ Tea tourism mixed with other activities in Nepal- horse riding, sky walk, local customs and photography, cycling, etc. ▪ Marketing through internal and international tourist ▪ Marketing through brand, geographical indication- Ilam tea for example 	3	2	5
6.	Make discussion on sustainability of tourism in tea sector.	Sustainable and responsible tea tourism practices in Nepal <ul style="list-style-type: none"> ▪ Pros and cons of tourism ▪ Cultural adulteration ▪ Spending habits of tourist ▪ Hospitability in tourism industry ▪ Local culture and local dishes ▪ Nature based tourism ▪ Eco-friendly, climate friendly, hand made products 	4	8	12
7.	Develop knowledge on tea processing	Tea processing and tea grades <ul style="list-style-type: none"> ▪ Overview of tea processing in Nepal ▪ Visit a factory and observe the tea processing technology ▪ Different quality and grades of Nepali tea <ul style="list-style-type: none"> ▪ CTC and orthodox tea ▪ Black tea, green tea, golden tea, tips tea, needle tea, hand tea ▪ High altitude tea ▪ Organic tea ▪ Tea bags 	3	2	5

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
8.	Learn by tasting and cupping the tea.	Tea tasting and cupping techniques <ul style="list-style-type: none"> ▪ Types of cups- glass wares, ceramics, steel, wood, etc. ▪ Tea selection ▪ Preparing of leaves and steeping in hot water ▪ Evaluation of flavour and aroma ▪ Evaluation of aftertaste 	0	10	10
9.	Teach practical skills	Work and experience <ul style="list-style-type: none"> ▪ hospitality skills ▪ Tea based homestays and hotels ▪ Customer service skills 	1	11	12
10.	Make the apprentice experience these skills	Do and Learn <ul style="list-style-type: none"> ▪ Hands-on training in production, processing and packaging of tea ▪ Practical experience by working in a (tea plantation, tea processing facility, tea tourism enterprise) 	1	10	11
Total			26	65	91

Reference books

- Books, annual books, booklets published by Tea and Coffee Development Board of Nepal, National Center for Fruit Development, Nepal.
- Intellectual Property Law and Practice in Nepal by Sujan M. Shrestha and Purushottam Ojha
- Marketing Management by Philip Kotler and Kevin Lane Keller
- Organic Tea: Cultivation, Production and Certification by Anand Chaudhary and Balram Panigrahi
- Tea: Cultivation to consumption by K.C. Willson and M.N. Clifford
- The Story of Tea: A Cultural History and Drinking Guide by Mary Lou Heiss and Robert J. Heiss

Tea Policies, Legislation & Supporting Schemes

Total: 91 hrs
Theory: 26 hrs
Practical: 52 hrs

Course Description:

This course is designed to provide apprentices with the basic knowledge about existing policies, laws, plans related to the tea industry and the support schemes provided by the Government sector for the development of this industry in Nepal.

Course Objectives:

After completion of this course, apprentices will be able to gain knowledge and skills related to:

- Tea promotion policy.
- Government plans and programs for the development of tea.
- Legal procedures for registering the tea production, processing and marketing firms and companies.
- Supporting schemes of the government for the development of tea sector.

Section A: Institute and field-based Training (15 Academic Weeks) 75 hours @ 5 hours per week

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
1.	Introduce the topics in brief with relevant examples.	Introduction <ul style="list-style-type: none"> ▪ Brief Introduction to the basics of legislation related to Nepal (Policy, Act, Regulation, Directive, Working Procedure, Periodic Plans, Strategies, Visions, Bilateral and multilateral treaties, parties of conventions) 	3	1	4
2.	Identify the responsibilities of the related stakeholders for the development of tea industry in Nepal.	State agencies and organizations <ul style="list-style-type: none"> ▪ Responsibilities and functioning of state, government and non-government agencies for the development of tea industry in Nepal <ul style="list-style-type: none"> ▪ Parliament ▪ Ministry related to Agriculture Development ▪ National Tea and Coffee Development Board (NTCDB) ▪ Nepal Agricultural Research Council (NARC)- Commercial Crop Division, National Commercial Agriculture Research Program ▪ Education sectors- Universities, CTEVT. ▪ District and federal level offices ▪ Tea Sector Associations ▪ Annual programs of the government ▪ Non-Governmental Organizations for the development of tea sector ▪ Co-operatives, Groups and Private Companies/ factories/ firms 	4	2	6
3.	Introduce major policies and legislations	Policies and legal provisions (Only tea related) <ul style="list-style-type: none"> ▪ Key policies and legislation related to tea production, processing, and trade 	4	8	12

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
	implemented for the development of Tea sector.	<ul style="list-style-type: none"> ▪ National Tea Policy 2057 ▪ Agriculture Development Strategy 2015-2035 ▪ National Tea and Coffee Development Board Act, 2049 ▪ National Export Strategy for tea ▪ Nepali Orthodox Tea Certification Trademark Implementation Directive ▪ Tea related section of current Nepal Trade Integration Strategy ▪ Tea Insurance Policy ▪ Regulations related to the tea labor ▪ Labor Act 2074 ▪ Working procedures of NTCDB ▪ Organic Tea production and certification related directives and procedures ▪ Organic and inorganic fertilizer supply related procedures and application process. 			
4.	Study government schemes and supports for the tea industry.	<p>Schemes and supports for the Tea Industry</p> <ul style="list-style-type: none"> ▪ Brief of government schemes and programs to support the tea industry in Nepal <ul style="list-style-type: none"> ▪ Study the budgets and major programs of recent 2 years related to tea sector ▪ Subsidy schemes for production ▪ Minimum support price ▪ Minimum wages to the tea labors ▪ Other supports ▪ Best examples of support by different tiers of government 	2	12	14
5.	Know about supports for research and export.	<p>Supports for research and export</p> <ul style="list-style-type: none"> ▪ Key programs and schemes related to organic tea production, research and development, and market access <ul style="list-style-type: none"> ▪ Support for research ▪ Support for organic certification ▪ Support for export of tea ▪ Other supports ▪ Traceability system on orthodox tea 	2	3	5
6.	Know the institutions that implements government budgets for the tea sector development.	<p>Implementing agencies</p> <ul style="list-style-type: none"> ▪ Offices that implement the supports and schemes <ul style="list-style-type: none"> ▪ NTCDB ▪ District level offices ▪ NARC- Commercial Crop Division, National Commercial Agriculture Research Program ▪ Local governments ▪ CTEVT 	2	3	5

S.N.	Task Statements	Content	Time (Hrs.)		
			T	P	Tot
		<ul style="list-style-type: none"> ▪ Projects 			
7.	Be able to help farmers with the application procedure.	Hands-on training for application <ul style="list-style-type: none"> ▪ Know how to apply for getting into the scheme <ul style="list-style-type: none"> ▪ Eligibility criteria ▪ Application procedures ▪ Formats for application ▪ Subsidy on Customs duty for Vehicles used in tea industry and application procedure ▪ Subsidy support for importing tea equipment for farming and processing ▪ Other schemes 	1	7	8
8.	Study the schemes for certification, IPR and trademarks	Certification and Labeling Schemes <ul style="list-style-type: none"> ▪ Short introduction to certification and labeling schemes for tea in Nepal ▪ Overview of trademark laws and regulations in Nepal ▪ Understanding the requirements for organic, fair trade, and other certifications ▪ Benefits and challenges of certification and labeling schemes for tea producers and traders ▪ Understanding intellectual property rights and their importance in the tea industry ▪ Steps to register and protect tea trademarks in Nepal and abroad 	2	12	14
9.	Help to increase authenticity	Authenticity through labels and trademarks <ul style="list-style-type: none"> ▪ Enrollment into the Certification and labeling schemes for the groups, companies and firms. ▪ Practical experience related with tea trademarks and intellectual property rights ▪ Direct and indirect benefit to be achieved through certification and labelling 	5	5	10
10.	Teach practical skills to the trainee	Apprenticeship Training and Work Experience <ul style="list-style-type: none"> ▪ Learning to apply for government schemes and programs at local level ▪ Learning to apply for government schemes and programs at provincial level ▪ Learning to apply for government schemes and programs at federal level 	1	12	13
Total			26	65	91

Reference books

- Tea and Coffee Development Board. (2014). Coffee: The Potentiality in Nepal.
- Tea and Coffee Development Board. (2016). Nepal Tea Handbook.
- Prevailing tea related laws published by the Law Commission of Nepal.
- Adhikari, N. P. (2015). Tea Plantation and Small Farmer Livelihood in Nepal. Tribhuvan University.

- Banskota, N. (2018). Nepal Tea Tasting Guide. Nepal Tea.
- Bhattarai, R. (2017). The Story of Ilam Tea: From the Hilly Terai of Eastern Nepal. Ramesh Bhattarai.
- Books, annual books, booklets published by Tea and Coffee Development Board of Nepal, National Center for Fruit Development, Nepal.
- Tea and Coffee Development Board. (2019). Nepal Tea: Emerging Trends and Opportunities.
- Chaudhary, A., & Panigrahi, B. (2017). Organic tea: Cultivation, production and certification. CRC Press.
- Gautam, D. K., & Bista, G. (2016). A Handbook on Nepali Tea: A Practical Guide for Tea Growers. Dhruba Kumar Gautam.
- Ghimire, B. R., & Chaudhary, R. P. (2012). Tea: Cultivation, Processing and Marketing in Nepal. Himal Books.
- Mayer, A. (2018). Nepal Tea: A Decade of Innovation, Sustainability and Quality. Mayer Natura.
- Pandey, B. H. (2017). Nepali Tea Entrepreneurs: Innovators, Leaders, and Pioneers. Himal Books.
- Saberi, H. (2010). Tea: A Global History. Reaktion Books.

Computer Application

Total: 78 hrs
Theory: 26 hrs
Practical: 52 hrs

Course Description:

This course intends to impart the knowledge and skills on basic computing including documents, spreadsheets and presentations slides by using computer application packages and communicate with digital mediums.

Course Objectives:

After completion of this course, apprentices will be able to:

- Acquaint concept of computer system computer peripheral, operating system and application software;
- Use different computer application packages;
- Prepare documents, spreadsheets, presentations slide and database management sheets.

Section A Institute Based Training (3.5 Months/90 Working Days or 1 to 15 Weeks) for 15 Academic Weeks @40 Hours/Wee **Computer Application**

S. No.	Task statement	Content	Time (hrs.)		
			Theory	Practical	Total
1.	Perform document typing	Word Processing Application <ul style="list-style-type: none"> ▪ Concept ▪ Toolbar / Menu ▪ Open and saving document and exit. ▪ Process of typing document ▪ Concept of font, size, paragraph, headings, Justification 	4	8	12
2.	Setup Page in Word Processing	Page in Word Processing <ul style="list-style-type: none"> ▪ Features and attributes of “Page Setup” Box ▪ Page margins, orientation and columns ▪ Use of Breaks, Line numbers and Hyphenation 	2	4	6
3.	Insert Object / picture / photos	Object, Picture and Photos <ul style="list-style-type: none"> ▪ Process of Inserting Object / Picture / Photo 	2	2	6
4.	Insert Header and Footer	Header and Footer		2	

		<ul style="list-style-type: none"> ▪ Difference between Header and Footer ▪ Application of different header and footer in different pages 			
5.	Insert Table	Table <ul style="list-style-type: none"> ▪ Concept of row and column ▪ Process to inserting table ▪ Table borders and shades 			
6.	Export to PDF	Portable Document Format <ul style="list-style-type: none"> ▪ Introduction ▪ Use and Benefits ▪ Process 	2	6	8
7.	Prepare master slide	Presentation Application <ul style="list-style-type: none"> ▪ Concept and Use ▪ Tools and Menu ▪ Introduction of Slides and Master Slides ▪ Use of Master Slide ▪ Process to prepare master slide including formatting and editing 	2	4	6
8.	Prepare slides	Side Preparation <ul style="list-style-type: none"> ▪ Process to insert Text, Pictures / Objects / Sound and Graphs and Charts 	2	4	6
9.	Animate the content of slide.	Side Animation <ul style="list-style-type: none"> ▪ Definition ▪ Application ▪ Difference between transition and animation 	2	4	6
10.	Perform On-screen Presentation	Screen Projection <ul style="list-style-type: none"> ▪ On screen projection ▪ Device Connection process 	2	4	6
11.	Connect Internet (Wired and Wireless)	Internet Connectivity <ul style="list-style-type: none"> ▪ Concept of internet ▪ IP Address ▪ Services over internet ▪ Wired Connection ▪ Wireless Connection 	2	4	6
12.	Sign-up email address	Email Sign-up Process <ul style="list-style-type: none"> ▪ Concept of Email ▪ SMTP and POP 	2	6	8

		<ul style="list-style-type: none"> ▪ Various email providers ▪ Sign – up process 			
13.	Sending Email	Email Conversation <ul style="list-style-type: none"> ▪ Concept of CC, BCC ▪ Format of Email (Email Address, subject, Body) ▪ Concept of Signature ▪ Auto repliers 	2	2	4
14.	Using Social Media	Use of Social Media <ul style="list-style-type: none"> ▪ Use ▪ Ethics ▪ Cybercrime ▪ Status update ▪ Social Media Marketing 	2	2	4
			26	52	78

Entrepreneurship Development

Course Nature: Theory + Practical

Theory: 30 hrs.

Practical: 48 hrs.

Total: 78 hrs.

Description: This course is designed to impart the knowledge and skills to deal with exploring, acquiring and developing entrepreneurial competencies, identification of suitable business idea and developing business plan.

- Objectives:**
- Conceptualize entrepreneurship and business
 - Explore entrepreneurial competencies
 - Analyze business ideas and viability
 - Prepare business plan

S.N.	Task Statement	Contents	Time Hours		
			T.	Pr.	Total
Unit 1: Introduction to Entrepreneurship and Business					
1.	Overview of Entrepreneurship Development and Business	<ul style="list-style-type: none"> • Concept of entrepreneurship, enterprise and business • Difference between enterprise and business • Difference between employment, self-employment and business • Challenges in entrepreneurship • Advantages and disadvantages of being entrepreneur • Stages (socialization, startup, acceleration, expansion and sustainability) of entrepreneurship development • History of enterprise in Nepal. • Types of enterprise based on the Industrial Enterprise Act, 2076 of Nepal 	3.0	-	3.0
Unit 2: Exploring and Developing Entrepreneurial Competencies					
2.	Conduct self-assessment	<ul style="list-style-type: none"> • Importance of self-assessment to be a successful entrepreneur. • “Who am I?” technique of self-assessment. • Components of Johari Window. • Johari Window analysis process. • Characteristics of successful entrepreneur 	1.0	3.0	4.0
3.	Analyze Risk	<ul style="list-style-type: none"> • Concept of risk • Types of risk (external/internal, low/medium/high) • Risk taking behavior • Risk minimizing techniques 	2.0	2.0	4.0

S.N.	Task Statement	Contents	Time Hours		
			T.	Pr.	Total
4.	Assess Decision-Making Attitude	<ul style="list-style-type: none"> • Definition • Concept of Decision-making attitude • Decision making Process • Dos and Don'ts while making decision 	2.0		2.0
5.	Overview of creativity and innovation in business	<ul style="list-style-type: none"> • Stages of creativity (preparation, concentration, incubation, illumination, evaluation and application) • Barrier of creativity • Way of developing creativity • Innovation in business (SCAMPER Model) 	2.0		2.0
Unit 3: Market and Marketing					
6.	Develop Marketing Strategy	<ul style="list-style-type: none"> • Definition of market and marketing • Concept of marketing cycle • 4 - PS (product, place, price and promotion) • Basic marketing strategies. • Factors to be considered while selecting marketing strategy. 	2.0		2.0
Unit 4: Business Identification and Selection					
7.	Overview of business identification and selection process	<ul style="list-style-type: none"> • Sources and method of generating business ideas. • Selection of viable business ideas (selection criteria) • Legal provisions for the selected business (registration, documents requirements, facilities/subsidies) 	2.0		2.0
8.	Conduct Market Survey	<ul style="list-style-type: none"> • Procedure of assessing market situation • Market estimation process 	2.0	6.0	8.0
9.	Conduct SWOT Analysis	<ul style="list-style-type: none"> • Four components of SWOT analysis matrix • Factors to be considered during SWOT analysis • SWOT analysis procedure 	1.0	4.0	5.0
Unit 5: Business Plan					
10.	Overview of Business Plan	<ul style="list-style-type: none"> • Concept of business plan • Importance of business plan • Factors to be considered while preparing business plan • Components of business plan 	1.0		1.0
11.	Prepare Marketing Plan	<ul style="list-style-type: none"> • Description of product or service • Targeted market and customers • Location of business establishment • Competitors analysis • Estimation of market demand • Estimation of market share • Measures for business promotion 	2.0	6.0	8.0

S.N.	Task Statement	Contents	Time Hours		
			T.	Pr.	Total
		<ul style="list-style-type: none"> • Procedure of preparing marketing plan 			
12.	Prepare Organizational and human resource plan	<ul style="list-style-type: none"> • Legal status of business • Management structure • Required human resource and cost • Roles and responsibility of staff 	2.0	6.0	8.0
13.	Prepare Business Operation Plan	<ul style="list-style-type: none"> • Process of product or service creation • Required fix assets • Level of capacity utilization • Depreciation & amortization • Estimation of office overhead and utilities • Procedure of preparing business operation plan 	2.0	6.0	8.0
14.	Prepare Financial Plan	<ul style="list-style-type: none"> • Concept of financial plan • Steps of financial plan • Working capital estimation • Pricing strategy • Profit/loss calculation • BEP and ROI analysis • Procedure of preparing business operation plan 	2.0	6.0	8.0
15.	Appraise Business Plan	<ul style="list-style-type: none"> • Return on investment • Breakeven analysis • Risk factors 	2.0	6.0	8.0
Unit 6: Book Keeping					
16.	Maintain basic book keeping	<ul style="list-style-type: none"> • Concept and need of book keeping • Methods and types of book keeping • Procedure to maintain day book and sales records 	2.0	3.0	5.0

Reference book:

- जोशी बिष्णु, (२०७६). उद्यमशीलता विकास. अनुभूति नेपाल प्रा.लि.
- Agrawal, G.R. (2015). *Entrepreneurship Development in Nepal*. M.K. Publishers & Distributors
- सिटिईभिटी. (२०७०). उद्यमशीलता, प्राविधिक शिक्षा तथा व्यावसायिक तालीम परिषद, डिप्लोमा तह, प्रा.एस.एल.सी तह, छोटो अवधिको पाठ्यक्रममा आधारित, प्रशिक्षकहरूका लागि निर्देशिका/प्रशिक्षण सामग्री
- Shrestha Er. Santosh Kumar, Bhattarai Er. Subash Kumar, Ghimire Mr. Subas, A Textbook of Entrepreneurship Development, Heritage Publishers & Distributors Pvt. Ltd., 2023
- Dhakal Sirjana, Entrepreneurship Development, G. L. Book House, 2080
- Poudyal Prof. Dr. Santosh Raj, Pradhan Dr. Gopal Man, Entrepreneurship and Enterprise Development, Advance Saraswoti Prakashan, 2020

Industrial Practice (Workplace Learning)

Program Description

Under the apprenticeship or the dual learning system of curricular program, the related industries are served as work place learning venues for apprentices. In addition, the related industries would have vital roles in providing platforms for learning occupational tasks, core skills and soft skills for the apprentices. Therefore, this curricular program is designed to acquire competencies by an apprentice through his/her engagement in hands-on practices (the real world of work experiences) as needed to related industries. It also helps the apprentices in enhancing employability, adaptability, confidentiality, independence and social and emotional intelligence.

For operating this curricular program, the technical schools or training institutes will make necessary arrangements to provide platforms for the industrial practices. Additionally, there will be a Tripartite training agreement among the apprentices, sponsoring industries and training institute. The terms and conditions of agreement will be implemented during the whole training period effectively based on the Apprenticeship Training Working Procedure, 2075 B.S.

This type of curricular program operates in two phases: training institutes or technical schools phase on the one hand and mostly sponsoring industries partly training institute phase on the other hand. The proposed apprentices have to engage for three and half months (15 academic weeks) theoretical and practical classes in the training institute. After completing the 15 weeks training from the training institute, the apprentices will be placed in tea farm, factories and marketing as the apprentices under the supervision of In-company Trainer, whereas industrial practice & related occupational tasks/competencies and skills will be learned. The nature of training in the industries will be practical and the duration will be of approximately 18 months (78 weeks/2600 hours). The apprentices will engage in the related sponsoring industries for 5 days in a week and they should come back in the training institute for rest of 1 day per week during the second phase of whole training period.

Moreover, apprentices will engage in different tea related field practice such as raising nursery, field establishment, training, pruning, canopy management, management of soil nutrient, insect, pest disease and shade. Processing technology of different types of tea, handling and operation of machinery, housekeeping, certification and marketing. The sponsoring industries or companies will provide industrial practice platforms to the agreed apprentices for the above-mentioned duration. Furthermore, the sponsoring industries could change industrial practice venues in different geographical locations on their volume of works and convenient.

Program Objectives

The main objective of this curricular program is to provide hands on practice platforms to experience the real world of works. However, the general objectives of the industrial practice program are to:

1. Ensure quality training and proper skills, work attitude and knowledge of apprentices;
2. Establish a national apprenticeship program through the participation of employers, workers and government and non-government agencies;
3. Apply acquired knowledge, skills and attitude in problem based exercises in real life industrial projects; Provide occupational tasks learning platforms in the form of work-based learning;
4. Make apprentices familiar with the future occupation/ job platforms;
5. Provide platforms for learning and experiencing professional, organizational, team building, analytical and personal life skills;

6. Make apprentices familiar with the day to day administrative / management activities applicable in their related occupation;
7. Establish the strong linkage between industries and institution;
8. Match the technical skills learned at the institute with the needs of the employer;
9. Ensure the relevant degree coursework and training programs conducted according to the expectations of the industry, to ensure the subject contents are relevant and up to date;
10. Provide opportunity for apprentice to acquire interpersonal skills and ability for team work through interaction with professionals in their field of study;
11. Enhance employability, adoptability, confidentiality, independency and social and emotional intelligence;
12. Provide an opportunity for apprentices to learn about the industry of their discipline and related environment;
13. Provide an opportunity for the industry to identify potential employees and to feedback comments on the pre-diploma program at large;
14. Provide opportunity to obtain knowledge and skills on of how to make optimal decisions to resolve work challenges;
15. Earn ethics in the industries;
16. Learn accepted safety practices in the industry;
17. Increase better chances for career mobility;
18. Ensure workforce development according to the company's needs; and
19. Ensure better employment opportunities for its graduates.

Learning Outcomes

After completion of industrial practice, apprentices will be able to:

1. Extend the boundaries of knowledge and skills through work place practice;
2. Develop significant commitment in the apprentices' profession/ specialization;
3. Integrate classroom theory and basic practical skills with workplace practice;
4. Develop greater clarity about academic and career goals;
5. Develop new or advanced skills;
6. Develop lifelong learning skills;
7. Gain understanding of administrative functions and company culture;
8. Appreciate the ethical basis of professional practice in relevant industry;
9. Display a capacity for critical reasoning and independent learning;
10. Exercise the role of the professional worker/supervisor confidently in the relevant industry;
11. Write formatted report explaining the work in industrial practice and describing the experience;
12. Assess the adequacy of industrial practice;
13. Explore options in career plans and goals; and
14. Make a gradual transition from academia to career

Industrial Placement Orientation Program

After having three parties training agreement among the apprentices, sponsoring industries and training institute, industrial placement orientation program will be organized for apprentices by the training providing institutes or technical schools in presence of sponsoring industries or companies representatives just before industry placements. The objectives of orientation of the program are as follows.

1. Orient apprentices regarding the agreement terms and conditions that will be implemented during the period of industrial practice;

2. Orient apprentices about highlights of the Apprenticeship Training Operation Working Procedure, 2075 B.S.;
3. Orient apprentices about daily learning and performing procedures;
4. Make sure that about work place safety and learnable environment;
5. Orient apprentices about industrial practice supervision and monitoring schedules that to be conducted from training providing institute;
6. Make familiar to apprentices about mandatory rules, regulation and code of conducts to be followed;
7. Orient apprentices about their attendance and daily diary/logbook fill-up.
8. Orient apprentices about industry based continuous assessments (at the interval of three months plan and program) criteria and marking scheme that to be executed by the sponsoring industries (In- company Trainer and Supervisor jointly);
9. Orient apprentices about to prepare Industry Practice end-off Report covering all subjects that they are offered in industrial practice;
10. Inform apprentices about final practical examination criteria and venue of the industrial practice program;
11. Inform the apprentice about industries rotation practice (if any);
12. Inform apprentices about Industry Practice end-off Report submission date;
13. Inform apprentices about final report submission date at institute; and
14. Inform apprentices about marking weightage of Industry Practice end-off Report preparation and presentation (Report should be presented in the presence of In-company Trainer or Supervisor and Trainers/ Instructors of training providing institute).

Complete Apprenticeship Plan

S. N.	Activities	Duration	When
1	Orientation to apprentices	Two days	Before placement
2	Report to the site	One day	Before placement
3	Actual work at site	65 weeks	During apprenticeship (Maximum 78 weeks)
4	Evaluation conducted by the sponsoring industries		Continuous
6	Evaluation conducted by the training institute		At least one time in every three months
7	Final evaluation		Last month of the apprenticeship program conducted by the industries
6	Final report preparation and Presentation	5 days	After completion of the apprenticeship

Industry Orientation Program

After arrival of apprentices at the allocated sponsoring industries, the industry will organize an orientation program for apprentices to share detail information about functions, infrastructures, organizational structure, construction works and working procedures. In addition, they will be oriented about established rules, regulation, codes of conducts of those building construction industries or companies. Similarly, the Agreement terms and conditions, Tripartite training agreement among apprentices, sponsoring industries and training institute; and the Apprenticeship Training Operation Working Procedure, 2075 B.S. will be reoriented and overviewed.

An orientation programs may focus on following areas:

1. Profile of the industry
2. Vision, mission, goals and objectives of industry

3. Layout of industry
4. Basic features of the industry
5. The service or delivery provided by industry
6. Organization structure of the industry
7. Departments, divisions, units structures and their functions
8. Special technology adapted
9. Safety concerns of the industry
10. General rules, regulations and code of conducts of the industry
11. Facilities being provided and to be provided by the companies
12. Introduction of In–company trainer and supervisors, site engineers, contractors, colleagues and owners
13. Working procedures and work schedule
14. Scope of related works
15. Industry practice rotation/venue changing

Guidelines for The Apprentices

Instructions for Apprentices:

1. Receive orientation for industrial practice.
2. Obtain curriculum.
3. Obtain official letter from sponsoring industries.
4. Maintain attendance.
5. Manage accommodation.
6. Finalize the daily/weekly tasks with your
 1. In-company Instructor or
 2. Supervisor
7. Practice / perform / occupational tasks.
8. Perform related administrative functions
9. Get help form the senior (s) / supervisor (s) to perform the tasks \develop skills as maximum as possible.
10. Receive logbook.
11. Fill logbook regularly.
12. Get signed by your supervisor regularly.
13. Seek & follow suggestion from seniors.
14. Show excellent job performance to influence your supervisor/instructor so that they could be willing to recommend to the employer to offer you the job after completion of industrial practice.
15. Follow established code of conducts of sponsoring industries.

General Behavior:

1. Maintain confidentiality of all work material.
2. Dress professionally and be well groomed.
3. Be polite and respectful.
4. Be sensitive and courteous to all your colleagues and clients.
5. Become acquainted with your colleagues from various departments and be appreciative of the services they provide.

Working Attitude and Behavior:

1. Show enthusiasm in the work assigned to you.
2. Give top priority in time, attention, and preparation to the work assigned by the company.
3. Be punctual for work.
4. Adhere to the working hours and working days as stated in the offer letter, and be willing to put in extra work hours if requested by your company.

5. Do not be absent from work unless you are sick, and you have obtained the medical certificate from the doctor.
6. Inform your Company Supervisor or Manager in the event of an unavoidable tardiness or absence as soon as possible and provide the medical certificate to your company when you return to work.
7. Prepare thoroughly and carefully before you meet your colleagues/superiors / clients.
8. Become acquainted with the various learning materials and resources available for your work.
9. Always have the initiative to explore solutions for the work assigned to you.
10. Clarify your doubts on the assigned work with your colleagues or company Supervisor after you have put in your best effort.
11. Take note of any advice given to you in your log book so that you do not need to ask your colleagues or company Supervisor again in the future.
12. Carry out your assigned duties and responsibilities responsibly and professionally.

Industry Practice Report

Format of Report:

A report needs to be submitted by all the apprentices on the basis of the following minimum guidelines at the end of their industrial practice.

- A hard copy of the report with simple binding.
- The font through-out the report must be of 12 size and Times New Roman.
- Cover page including name of Institute, industry, interns and report submission date.
- Approval page from the side of sponsoring industry.
- Acknowledgement
- Abstract
- Table of contents
- Chapter one: Introduction
 - Background of apprenticeship program
 - Introduction to industry, goal and organizational structure with role
 - Services of the construction industry/company
- Chapter two: Description of the construction industry/company
 - Industry/workshop layout
 - Departments/units with their functions
 - List of major tools and equipment with their functions
 - Material testing laboratories
- Chapter three: Practices on the construction industry/company
 - Basic and frequent practices
 - Special practices
 - Special technology found on industry/company
 - Major problems faced
- Chapter four: Conclusion and recommendation
 - Conclusion on attachment: practices, industry management and human behavior, problems and better terms.
 - Recommendation for industry: practices, industry management and human behavior, any other personnel opinion
- References if any
- Annexes: Logbook, drawings, photographs and so others.

Field Establishment

Total: 400 hrs

Course Description:

The field establishment of Tea Technology course is designed to provide apprentice with an in-depth practice and understanding of the processes involved in establishing a successful tea plantation. The course covers topics such as selection of plants materials, hardening of sapling, soil preparation, contour line construction, planting, and irrigation, shade management, caring of young tea plants and pruning techniques.

Course Objectives:

After completion of this course, apprentice will be able to:

- Select a healthy plant for field
- Maintain spacing, staking and digging a proper hole for tea plantation
- Prepare land for planting
- Prepare Drains
- Manage proper shade
- Plants tea on single hedge and double hedge
- Take care of young tea plants

Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

S.N.	Task Statements	Content	Total
1.	Select plant material	Plant selection. <ul style="list-style-type: none"> ▪ Methods <ul style="list-style-type: none"> ▪ Varieties. ▪ Characteristics of healthy plant. <ul style="list-style-type: none"> ▪ Size ▪ Age ▪ No of leaves ▪ Selection according to altitude 	40
2.	Perform hardening	<ul style="list-style-type: none"> ▪ Shade thinning ▪ Bud tipping 	30
3.	Prepare Land for tea transplantation	Land Preparation. <ul style="list-style-type: none"> ▪ Status of land ▪ Land leveling <ul style="list-style-type: none"> ▪ Slope % ▪ Soil erosion. ▪ Soil test <ul style="list-style-type: none"> ▪ pH ▪ OM ▪ Method 	20
4.	Establish drain and irrigation	Drain and Irrigation Establishment <ul style="list-style-type: none"> ▪ Types ▪ Size ▪ Method ▪ Water logging 	40
5.	Make A frame	A Frame <ul style="list-style-type: none"> ▪ Principle ▪ Purpose 	25

6.	Layout contour line using A frame	Contour line layout ▪ Method ▪ Purpose	30
7.	Prepare layout for plant spacing	Farm Layout ▪ Methods ▪ Type (Single and Double hedge)	30
8.	Prepare pit	Pit preparation ▪ Purpose ▪ Size ▪ Filling methods and material	35
9.	Perform planting.	Plantation of tea ▪ Precondition ▪ Method (Bheti) ▪ Time ▪ Mulching ▪ Precaution	50
10.	Manage shade	Shade Management ▪ Purpose ▪ Different types of shade ▪ Plants used for shading	40
11.	Frame formative prune	Frame Formative pruning ▪ Types of center out ➤ Decentering ➤ Thumb prune ➤ Lung prune ▪ Methods ➤ Center out ➤ First frame formative prune ➤ Pegging ➤ Final frame formative prune ▪ Characteristics of good frame	60
Total			400

Reference books

- Tea and Coffee Development Board. (2014). Coffee: The Potentiality in Nepal.
- Johnson, S. M. (2019). Nursery Management Techniques for Tea Plantation. Greenleaf Publishing.
- Patel, R. K., & Singh, P. K. (2020). Tea Nursery Practices: A Comprehensive Guide. Cambridge University Press.

Insect, Pest and Disease Management

Total: 200 hrs

Course Description:

The insect, pest and disease management course is designed to provide apprentice with an in-depth practice and understanding of the processes involved insect, pest and disease identification and management. This course also include different practices done in tea orchard for conservation of beneficial insect, pest and disease management techniques, judicious utilization of local resources and safe use other pesticide.

Course Objectives:

After completion of this course, apprentice will be able to:

- Identify and manage insect, pest and disease of tea
- Prepare pest and disease management schedule in tea
- Identify and manage common physiological disorders in tea

Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

S.N.	Task Statements	Content	Total
1.	Identify types of insect pests in tea	Pests <ul style="list-style-type: none"> ▪ Types of insect pest in tea <ul style="list-style-type: none"> ➤ Mites ➤ Sucking insects ➤ Leaf eating insects 	10
2.	Identify damage symptoms of common insect pests in tea	Damage Symptoms <ul style="list-style-type: none"> ▪ Damage symptoms of common insects in tea & their control 	20
3.	Identify common insect pest management techniques	Management Techniques <ul style="list-style-type: none"> ▪ Common insect pest management techniques <ul style="list-style-type: none"> ➤ Physical method ➤ Biological method ➤ Chemical method ➤ Cultural method 	20
4.	Prepare pest management schedule in tea	Pest management schedule <ul style="list-style-type: none"> ▪ Doses and pest management schedule <ul style="list-style-type: none"> ➤ Seasonal ➤ Growing stage 	20
5.	Apply insect pest management techniques in tea	Pest management techniques <ul style="list-style-type: none"> ▪ Introduction ▪ Types 	30
6.	Identify common tea diseases with their symptoms	Common tea diseases <ul style="list-style-type: none"> ▪ Concept of disease, signs, and symptoms ▪ Disease triangle ▪ Symptoms in different parts <ul style="list-style-type: none"> ➤ Leaf diseases ➤ Stem diseases ➤ Root diseases 	20
7.	Identify common disease management techniques	Disease management techniques <ul style="list-style-type: none"> ▪ common fungicides used in tea with their doses ▪ Storage / disposal of fungicide ▪ Handling fungicides ▪ Safe application of fungicides ▪ Biological ▪ Botanical ▪ Cultural 	20

S.N.	Task Statements	Content	Total
8.	Develop calendar of disease occurrence	Calendar of disease occurrence <ul style="list-style-type: none"> ▪ Calendar of disease occurrence and its components 	20
9.	Carry out disease control techniques in tea	Disease control techniques in tea <ul style="list-style-type: none"> ▪ Identifying disease control techniques in tea ▪ Apply disease control 	20
10.	Identify and manage common physiological disorders in tea	Physiological disorder <ul style="list-style-type: none"> ▪ Types ▪ Identification technique ▪ Principles and procedures for management 	20
Total			200

Reference books

- Smith, J. D. (2019). Insect Pest and Disease Management in Tea Plantations. Greenleaf Publishing.
- Modern Tea Cultivation and Processing Technology Manual - NTCDC

Training, Pruning and Harvesting

Total: 400 hrs

Course Description:

The Training, Pruning and Harvesting course is designed to provide apprentice with an in-depth practice and understanding of the processes and Principle involved in training, pruning and harvesting of tea plant including preparation of tea block and pruning cycle, performance of pruning, tipping and harvesting of leaves, maintenance of plucking round, plucking and grading of leaves under different conditions.

Course Objectives:

After completion of this course, apprentice will be able to:

- Prepare tea blocks, pruning cycle and tipping level
- Perform Pruning, harvesting (Plucking), grading of tea leaves {Plucking} and Pluck under adverse condition
- Maintain Plucking round
- Pluck banji leaves[dormant leaves]

Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

S.N.	Task Statements	Content	Total
1.	Prepare tea Blocks	Tea block preparation <ul style="list-style-type: none"> ▪ Division of blocks according to area. 	40
2.	Perform Training	Training <ul style="list-style-type: none"> ▪ Relevancy of training on pruning and harvesting 	30
3.	Prepare Pruning cycle	Pruning cycle <ul style="list-style-type: none"> ▪ Pruning cycle according to climate (4-year cycle, 5-year cycle, 6-year cycle) 	30
4.	Perform Pruning	Pruning performance <ul style="list-style-type: none"> ▪ Types of pruning (Light, Medium and Hard) ▪ Types of skiffing <ul style="list-style-type: none"> ▪ Deep skiff ▪ Medium skiff ▪ Light skiff ▪ Level of skiff 	30
5.	Prepare tipping level	Tripping <ul style="list-style-type: none"> ▪ Tipping according to prune and skiff ▪ Tipping level ▪ Consequences of not maintaining tipping level. 	30
6.	Perform harvest tea leaves {Plucking}	Pluckin <ul style="list-style-type: none"> ▪ Types of plucking (Fine, Janam, Fish leaf and course plucking) ▪ Merits and demerits of machine plucking over hand plucking ▪ Do and don't while plucking 	40
7.	Maintain Plucking round	Plucking round Maintenance <ul style="list-style-type: none"> ▪ Leaf period ▪ Plucking round formula (2n-1) 	40
8.	Pluck banji leaves [dormant leaves]	Banji Leaves Plucking <ul style="list-style-type: none"> ▪ Growth of tea leaves ▪ Factor affecting growth (Temperature and humidity, Day length, Heredity and varieties, Soil fertility) 	40

		<ul style="list-style-type: none"> ▪ Four flush of tea ▪ Banji period (Seasonal [interflush] dormancy and Winter dormancy) ▪ Removal of banji (Breaking back and Black plucking) 	
9.	Pluck under adverse condition	Plucking under adverse condition <ul style="list-style-type: none"> ▪ Step up plucking ▪ Black plucking ▪ Hail stone damage ▪ Pest and diseases attack ▪ Plucking under drought condition 	40
10	Perform grading of tea leaves	Tea leaves grading <ul style="list-style-type: none"> ▪ Types of grading (Weighment method and Bellow count method) ▪ Standard of Grading green leaf percentage. 	40
11	Transport plucked leaves	Transportation <ul style="list-style-type: none"> ▪ Aeration and caring of plucked leaves while transporting. ▪ Precaution 	40
	Total		400

Reference books

Lee, C. H., Chen, H. S., & Gupta, S. D. (Eds.). (2021). Modern Practices in Tea Harvesting and Pruning. CRC Press

Tea Machineries, Safety & House Keeping

Total: 440 hrs
Practical: 440 hrs

Course Description:

The Tea Machineries, Safety and House Keeping course is designed to provide apprentice with an in-depth practice and understanding of the processes and techniques used for handling and operation of tea related machineries. This course also involves different topic related to safety and housekeeping.

Course Objectives:

After completion of this course, apprentice will be able to:

- Handle and operate machine used in tea industry
- Apply safety procedures
- Perform house keeping

Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

S.N	Task Statements	Content	Total Hrs
			Practical
1.	Measure Electrical Parameter	Electrical parameter measurement <ul style="list-style-type: none"> ▪ Introduction ▪ Purpose 	30
2.	Introduce machines use in tea industry	Machine used in tea industry <ul style="list-style-type: none"> ▪ Introduction ▪ Types ▪ Use ▪ List of tools, equipment and machinery 	30
3.	Perform fault finding of mechanical fault	Fault finding of mechanical fault <ul style="list-style-type: none"> ▪ Introduction ▪ Purpose 	60
4.	Check Voltage Power Supply	Voltage Power Supply <ul style="list-style-type: none"> ▪ Meaning ▪ Importance of Voltage of Power Supply ▪ Electricity Safety requirement ▪ Point to be check ▪ Irregular Voltage power Supply ▪ Type of Voltage (220/440) 	18
5.	Troubleshoot Problems of processing machine	Troubleshoot of processing machine <ul style="list-style-type: none"> ▪ Meaning ▪ Importance of Troubleshooting in machine ▪ Working procedure of Machine ▪ Normal Sound of different machine ▪ Potential Common Problems encountered in machine 	30
6.	Apply Safety protocol and references or Specifications of machine	Safety protocol and specification of machine <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Method 	30
7.	Perform Basic Mechanical Maintenance	Basic mechanical Maintenance <ul style="list-style-type: none"> ▪ Introduction ▪ importance ▪ Common types of Problems encountered in the processing machine ▪ Type and quality of machines and their alternatives ▪ Machine maintenance Procedure and common spares parts 	40

S.N	Task Statements	Content	Total Hrs
			Practical
		<ul style="list-style-type: none"> ▪ Possible accidents and ways to minimize them 	
8.	Replace fan belt	Fan Belt replacement <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Types and size ▪ Replacement procedure 	10
9.	Operate withering Fan (Run the Fan)	Withering fan operation <ul style="list-style-type: none"> ▪ Introduction ▪ Size ▪ Electrical Parameter ▪ Size of trough ▪ Safety harder and precautions 	10
10.	Operate mecharation Machine	Mecharation machine operation <ul style="list-style-type: none"> ▪ Introduction ▪ Types <ul style="list-style-type: none"> ➤ Rotorvan ➤ Rolling ➤ CTC (Crush, Tear and Curl) ▪ Size ▪ Parts ▪ Electrical Parameter ▪ Methods ▪ Safety harder and precautions 	6
11.	Operate Dryer Machine (Run dryer Machine)	Operation of dryer machine <ul style="list-style-type: none"> ▪ Introduction ▪ Types <ul style="list-style-type: none"> ➤ VFBD (Vibrating Fluid Bed Dryer) ➤ Orthodox <ul style="list-style-type: none"> ○ Chain Dryer ○ Cabinet ○ Revolving ▪ Size ▪ Parts ▪ Electrical Parameter ▪ Methods ▪ Safety harder and precautions 	6
12.	Operate Sorting Machine	Operation sorting machine <ul style="list-style-type: none"> ▪ Introduction of Sorting Machine ▪ Type of Sorting machine ▪ Size of mesh. ▪ Capacity ▪ Power & Electricity ▪ Procedure of Maintenance 	10

S.N	Task Statements	Content	Total Hrs
			Practical
		<ul style="list-style-type: none"> ▪ Possible accidents and ways to minimize 	
13.	Operate Generator	Operation of Generator <ul style="list-style-type: none"> ▪ Introduction of Generator ▪ Type of Generator ▪ Capacity (KVA, HP) ▪ Procedure of fuel and oil feeding ▪ Procedure of Start and off ▪ Procedure of simple maintenance (Change Mobil and diesel filter, fan belt) ▪ Signage of indicator 	10
14.	Apply safety procedure	Safety Procedure <ul style="list-style-type: none"> ▪ Introduction to Workplace Safety ▪ Personal Protective Equipment (PPE) ▪ Hazard Communication ▪ Emergency Preparedness ▪ Machine Safety ▪ Chemical Safety ▪ Fire Safety ▪ Ergonomics ▪ Health and Wellness ▪ Continuous Improvement 	50
15.	Perform House Keeping	Introduction to House Keeping <ul style="list-style-type: none"> ▪ Definition ▪ Role ▪ responsibility of house keeping ▪ Cleaning Equipment ▪ Lay-out 	10
16.	Perform orientation:	Provide orientation on: <ul style="list-style-type: none"> ▪ Housekeeping ▪ Layout of Tea Factory ▪ Organization structure of HK ▪ Job Responsibilities ▪ SOPs 	12
17.	Maintain Grooming, Hygiene &Manner:	Maintain: <ul style="list-style-type: none"> ▪ Uniform ▪ Personal Hygiene ▪ Work Hygiene ▪ Perform Greeting ▪ Attitude/ Discipline 	10
18.	Identify of Cleaning Equipment, Agents & Chemical	Identify: <ul style="list-style-type: none"> ▪ Mechanical Cleaning Equipment 	14

S.N	Task Statements	Content	Total Hrs
			Practical
		<ul style="list-style-type: none"> ▪ Manual Cleaning Equipment ▪ Detergents ▪ Stain Remover ▪ Polishes ▪ Window Cleaner ▪ Acids & Alkali ▪ Abrasives ▪ Solvents Disinfectants 	
19.	Perform Housekeeping Attendants	Housekeeping attendants <ul style="list-style-type: none"> ▪ Perform Entire Cleaning <ul style="list-style-type: none"> ➤ Routine Cleaning ➤ Non Routine Cleaning ▪ Prepare Maintenance reports ▪ Set-up & prepare for work Perform Closing duties 	10
20.	Identify machinery status and Check machinery reports	Identification of machinery status <ul style="list-style-type: none"> ▪ Well functioned machine ▪ Problematic machine ▪ Not working machine 	12
21.	Perform Cleaning & Washing; (Floor, Furniture):	Cleaning and washing <ul style="list-style-type: none"> ▪ Handle Cleaning Equipment ▪ Handle Cleaning Agents ▪ Clean different type of floor: <ul style="list-style-type: none"> ➤ Wooden - Polishing/Buffering ➤ Stone - Sweeping/Scrubbing ➤ Parquet - Dry Mop/Polish/Buffering ➤ Marble Carpet - Vacuuming/Shampooing ➤ Tile- Mopping/Scrubbing/Polishing/Buffering. ▪ Clean different furniture: <ul style="list-style-type: none"> ➤ Wooden furniture ➤ Upholstered furniture ➤ Leather furniture ➤ Cane furniture ➤ Metal furniture <ul style="list-style-type: none"> ○ Wash walls/floors/path way ○ Clean Glass/Mirror/Windows 	32

S.N .	Task Statements	Content	Total Hrs
			Practical
Total			440

Tea Processing Technology – I (Orthodox and Specialty Tea)

Practical: 640 hrs

Course Description:

The Processing Technology- I course is designed to provide apprentice with an in-depth practice and understanding of the processes involved processing of orthodox and specialty tea. This course also include different work ethics must be adopted in work place.

Course Objectives:

After completion of this course, apprentice will be able to:

- Develop Work Plan
- Perform Grading, Weighing and Trough loading of Green Leaf
- Receive and Treat Green Leaf
- Checked Withered Leaf
- Set Rolling Program
- Check & Collect Fermented Leaf
- Perform Drying , Shifting, Sorting of DMT ,Packing and Labelling
- Maintain Records
- Supervise Staffs/Worker

Section C: Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

Consideration During Processing

S.N.	Task Statements	Content	Practical
			Hrs
1.	Respond Assignment	Responding assignment <ul style="list-style-type: none"> ▪ Importance of timely response ▪ Knowledge on time requirement of assignment ▪ Manner of interaction with others ▪ knowledge on types of work and urgency 	2
2.	Maintain Work Ethic	Work ethics <ul style="list-style-type: none"> ▪ Meaning and Important ▪ Knowledge on occupational ▪ Knowledge on code of conduct of organizational or SOP 	2
3.	Communicate with others about products and services	Communication <ul style="list-style-type: none"> ▪ Meaning and importance of effective communication ▪ Effective communication model ▪ Type of communication ▪ Means of communication ▪ Technique of effective communication 	9
4.	Coordinate with Team Members and Stakeholders	Coordination <ul style="list-style-type: none"> ▪ Meaning and importance coordination ▪ Means of coordination ▪ Technique of effective coordination 	5
5.	Make Decision at different situation of the occupation	Occupational decision-making <ul style="list-style-type: none"> ▪ Meaning and importance of decision making ▪ Simple decision making process 	8
6.	Solve Problems	Problem Solving	2

S.N.	Task Statements	Content	Practical
			Hrs
		<ul style="list-style-type: none"> ▪ Meaning and Importance of problems solving ▪ List of Potential Problems in the occupation ▪ General Problems solving techniques 	

Orthodox Black Tea

1.	Develop Work Plan	Operational Planning <ul style="list-style-type: none"> ▪ Meaning of Planning ▪ Importance of planning ▪ Different Planning tools ▪ Points to be considered while planning 	30
2.	Familiar with tea processing	Introduction to orthodox black tea processing <ul style="list-style-type: none"> ▪ Introduction ▪ Basic principle 	10
3.	Perform Grading of Green Leaves	Leaf grading <ul style="list-style-type: none"> ▪ Importance of Grading of Green leaf ▪ Point to be considered while grading of green leaf ▪ Different grading system of green leaf in tea industries ▪ Decision making process in tea leaf grading 	8
4.	Perform Weighing of Green Leaf	Weighing of green leaf <ul style="list-style-type: none"> ▪ Importance of Weighing of Green Leaf ▪ Different unit used 	7
5.	Receive Green Leaves	Green leaf receiving <ul style="list-style-type: none"> ▪ Why ,How, when to receive green leaves ▪ Importance of Receiving ▪ Grading of Green Leaf ▪ Separation process 	8
6.	Perform Trough Loading of Green Leaves	Trough loading of Green Leaf <ul style="list-style-type: none"> ▪ Meaning and Importance of trough loading ▪ Types ▪ Capacity of trough ▪ Round per minute (RPM) of fan in the trough 	14
7.	Treat Green Leaf	Green Leaf Treatment <ul style="list-style-type: none"> ▪ Introduction and Importance of treating by cold and hot air ▪ Climatic requirement ▪ Factors depending hot/cold air 	11
8.	Check Withered Leaf	Withered leaf examination <ul style="list-style-type: none"> ▪ Introduction and Importance ▪ Standard moisture content ▪ Factors affecting Moisture content ▪ Checking Procedure 	12
9.	Set Rolling Program	Rolling <ul style="list-style-type: none"> ▪ Meaning and importance of rolling Program ▪ Feeding ▪ Pressure ▪ Type of roller 	6

		<ul style="list-style-type: none"> ▪ RPM of Roller ▪ Timing 	
10.	Perform Shifting	Shifting <ul style="list-style-type: none"> ▪ Meaning and Importance of Shifting ▪ Types of Shifting ▪ Requirement ▪ Procedure 	10
11.	Check & Collect Fermented Leaf	Fermentation evaluation <ul style="list-style-type: none"> ▪ Definition of fermentation ▪ Describe flavor & Color ▪ Duration of fermentation ▪ Chemical change 	13
12.	Perform Drying	Drying <ul style="list-style-type: none"> ▪ Introduction of Dryer ▪ Feeding thickness ▪ Hot air (Volume, Temperature, Time) ▪ Capacity of Machine ▪ Standard Moisture Content 	10
13.	Perform Sorting of Dryer Mouth Tea (DMT)	DMT Sorting <ul style="list-style-type: none"> ▪ Meaning ▪ Importance ▪ Method ▪ Types of Grade <ul style="list-style-type: none"> ➤ Hand ➤ Machine <ul style="list-style-type: none"> ○ Feeding ○ Size ○ Checking ▪ Removal of foreign material ▪ Handling method of Dried tea 	10
14.	Perform Packing	Packing <ul style="list-style-type: none"> ▪ Meaning ▪ Importance ▪ Packet size ▪ Procedure ▪ Quantity and Sealing 	10
15.	Perform Labelling	Labelling <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Information included 	20
16.	Maintain Records	Record Keeping <ul style="list-style-type: none"> ▪ Meaning ▪ Importance ▪ Types <ul style="list-style-type: none"> ➤ Invoicing ➤ Maintenance ➤ Cleaning ➤ Farmers ➤ Stock, Sales and marketing ➤ Processing, Packing and Storage ➤ Receiving, Dispatch and Payment 	10

		➤ Fuel	
17.	Supervise Staffs/Worker	Staff Supervision <ul style="list-style-type: none"> ▪ Meaning and importance of Supervision ▪ Job Description ▪ Number of Staff, workers and their technical expertise ▪ type of activities to be perform and timing ▪ Responsibility, time and reporting process 	10
Total			199

Green Tea

S.N.	Task Statements	Content	Practical
			Hrs
1.	Introduce to Green Tea	Introduction to Green Tea <ul style="list-style-type: none"> ▪ Introduction ▪ Prerequisite <ul style="list-style-type: none"> ➤ Green colour is preserved or not change ➤ Input or output time 	12
2.	Perform De-enzyming	De-enzyming <ul style="list-style-type: none"> ▪ Definition ▪ Importance ▪ Types <ul style="list-style-type: none"> ➤ Steaming ➤ Roasting ➤ Blanching 	8
3.	Perform Cooling	Cooling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Types ▪ Precautions 	8
4.	Perform Rolling	Rolling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Precautions 	16
5.	Perform Drying	Drying <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Types ▪ Precautions 	10
6.	Perform Sorting	Sorting <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Types ▪ Precautions 	10

S.N.	Task Statements	Content	Practical
			Hrs
7.	Perform Packing	Packing <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	18
8.	Perform Labelling	Labelling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	16
Total			98

Golden Tea

S.N.	Task Statements	Content	Practical
			Hrs
1.	Introduce to Golden Tea	Introduction of Golden Tea <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Characteristics ▪ Required quality of Green leaf ▪ Appropriate Season 	12
2.	Perform withering	Withering of leaf <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Moisture content ▪ Precautions 	16
3.	Perform Rolling	Rolling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Precautions 	16
4.	Perform Fermentation	Fermentation <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Types ▪ Methods ▪ Duration ▪ Precautions 	14
5.	Perform Drying	Drying <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Types ▪ Precautions 	16

S.N.	Task Statements	Content	Practical
			Hrs
6.	Perform Hand Sorting	Hand Sorting <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	16
7.	Perform Packing	Packing <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	14
8.	Perform Labelling	Labelling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	18
Total			122

Oolong Tea

1.	Introduce Oolong Tea	Introduction of Oolong Tea <ul style="list-style-type: none"> ▪ Meaning and Importance of Oolong Tea ▪ Procedure to Process ▪ Advantage and Disadvantage of Oolong Tea ▪ Quality of Green leaf needed ▪ Appropriate Season for Processing oolong Tea ▪ Characteristics of Oolong Tea 	12
2.	Perform withering	Withering <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods <ul style="list-style-type: none"> ➤ Sun withering ➤ Shade withering ▪ Duration ▪ Moisture content ▪ Precautions 	18
3.	Perform De-enzyming	Enzyme deactivation <ul style="list-style-type: none"> ▪ Definition ▪ Importance ▪ Types 	14
4.	Perform Cooling	Cooling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Types ▪ Precautions 	8
5.	Perform Rolling	Rolling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration 	8

		<ul style="list-style-type: none"> ▪ Precautions 	
6.	Perform Fermentation	Fermentation Process <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Types ▪ Methods ▪ Duration ▪ Precautions 	10
7.	Perform Drying	Drying <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Types ▪ Precautions 	8
8.	Perform Hand Sorting	Hand Sorting <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	7
9.	Perform Packing	Packing <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	14
10.	Perform Labelling	Labelling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	8
Total			107

White Tea

S.N.	Task Statements	Content	Practical
			Hrs
1.	Introduce White Tea	Introduction to White Tea <ul style="list-style-type: none"> ▪ Meaning and Importance of White tea ▪ Procedure to Process ▪ Advantage and Disadvantage of White tea ▪ Quality of Green leaf needed ▪ Appropriate Season for Processing White tea ▪ Characteristics of White tea ▪ Type of different Speciality ea 	12
2.	Perform withering	Withering <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Moisture content ▪ Precautions 	12

S.N.	Task Statements	Content	Practical
			Hrs
3.	Perform Rolling	Rolling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Precautions 	10
4.	Perform Semi Fermentation	Semi-fermentation <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Types ▪ Methods ▪ Duration ▪ Precautions 	10
5.	Perform Drying	Drying <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Duration ▪ Types ▪ Precautions 	10
6.	Perform Hand Sorting	Hand sorting <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	10
7.	Perform Packing	Packing <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	10
8.	Perform Labelling	Labelling <ul style="list-style-type: none"> ▪ Introduction ▪ Important ▪ Methods ▪ Precautions 	12
Total			86

Reference books

1. Singh, ID. 2005. A complete Tea Culture and Manufacture, N.B Modern agency, India publication
2. Sinha MP.2009. World Tea Production and Manufacturing WISHWELL publication, New Delhi. India

Tea Processing Technology – II (CTC)

Practical: 240 hours

Course Description:

This course provides skill and knowledge regarding the processing of CTC Tea to Pre-Diploma Tea Technology course. It allows apprentices to process CTC tea.

Course Objectives:

After completion of this course, apprentice will be able to:

- Be familiarized with tea processing and work ethic
- Coordinate with team members and stakeholders
- Make decision and solve problems
- Develop WORK PLAN
- Perform grading, weighing, receiving, tough loading and treating of green leaves
- Checked withered leaf and fermented leaf
- Set Rotor van and CTC machine
- Perform shifting, drying, packing, perform and labelling
- Maintain records
- Supervise staffs/worker

Section C: Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

CTC Tea

S.N.	Task Statements	Content	Practical
			Hrs
1.	Familiar with tea processing	Introduction to CTC tea <ul style="list-style-type: none"> ▪ Introduction to orthodox black tea processing ▪ Basic principle 	12
2.	Develop Work Plan	Work plan development <ul style="list-style-type: none"> ▪ Meaning of Planning ▪ Importance of planning ▪ Different Planning tools ▪ Points to be considered while planning 	20
3.	Perform Grading of Green Leaves	Green leaf grading <ul style="list-style-type: none"> ▪ Importance of Grading of Green leaf ▪ Point to be considered while grading of green leaf ▪ Different grading system of green leaf in tea industries ▪ Decision making process in tea leaf grading 	14
4.	Perform Weighing of Green Leaf	Weighing of green leaf <ul style="list-style-type: none"> ▪ Importance of Weighing of Green Leaf ▪ Different unit used 	10
5.	Receive Green Leaf	Green leaf receiving <ul style="list-style-type: none"> ▪ Why ,How, when to receive green leaves ▪ Importance of Receiving ▪ Grade of Green Leaf ▪ Separation process 	6

S.N.	Task Statements	Content	Practical
			Hrs
6.	Perform Trough Loading of Green Leaf	Trough loading of green leaf <ul style="list-style-type: none"> ▪ Meaning and Importance of trough loading ▪ Types ▪ Capacity of trough ▪ Round per minute (RPM) of fan in the trough 	12
7.	Treat Green Leaf	Green leaf treating <ul style="list-style-type: none"> ▪ Introduction and Importance of treating by cold and hot air ▪ Climatic requirement ▪ Factors depending hot/cold air 	10
8.	Checked Withered Leaf	Withered leaf checking <ul style="list-style-type: none"> ▪ Introduction and Importance ▪ Standard moisture content ▪ Factors affecting Moisture content ▪ Checking Procedure 	15
9.	Set Rotor van and CTC machine	Setting of Set Rotor van and CTC machine <ul style="list-style-type: none"> ▪ Purpose and Function of Set Rotor Van ▪ Components and Working Mechanism of Set Rotor Van 	20
10.	Perform Shifting	Shifting <ul style="list-style-type: none"> ▪ Meaning and Importance of Shifting ▪ Types of Shifting ▪ Requirement ▪ Procedure 	20
11.	Check Fermented Leaf	Fermented leaf checking <ul style="list-style-type: none"> ▪ Definition of fermentation ▪ Describe flavour & Colour ▪ Duration of fermentation ▪ Importance of modulus ▪ Chemical changes on fermentation. ▪ Hygroscopic nature 	20
12.	Perform Drying	Drying <ul style="list-style-type: none"> ▪ Introduction of Dryer ▪ Feeding thickness ▪ Hot air <ul style="list-style-type: none"> ➤ Volume ➤ Temperature ➤ Time ▪ Capacity of Machine ▪ Standard Moisture Content ▪ Chemical changes while drying ▪ Importance 	10
13.	Perform Packing	Packing <ul style="list-style-type: none"> ▪ Meaning ▪ Importance ▪ Method ▪ Types of machine 	20

S.N.	Task Statements	Content	Practical
			Hrs
		<ul style="list-style-type: none"> ▪ Packet size ▪ Procedure ▪ Quantity and Sealing 	
14.	Perform Labelling	Labelling <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Information included 	10
15.	Maintain Records	Record maintenance <ul style="list-style-type: none"> ▪ Meaning ▪ Importance ▪ Types <ul style="list-style-type: none"> ➤ Maintenance ➤ Cleaning ➤ Farmers ➤ Stock, Sales and marketing ➤ Processing, Packing and Storage ➤ Receiving, Dispatch and Payment ➤ Fuel 	20
16.	Supervise Staffs/Worker	Supervision <ul style="list-style-type: none"> ▪ Meaning and importance of Supervision ▪ Job Description ▪ Number of Staff, workers and their technical expertise ▪ type of activities to be perform and timing ▪ Responsibility, time and reporting process 	21
Total			240

Reference books

1. Singh, ID. 2005. A complete Tea Culture and Manufacture, N.B Modern agency, India publication
2. Sinha MP.2009. World Tea Production and Manufacturing WISHWELL publication, New

Quality Management

Practical: 280 hrs

Course Description:

The Quality Management course is designed to provide apprentice with an in-depth practice and understanding of the processes involved in tea quality management practice. This course also include different practices done in quality management system such as different aspect of quality management from pre-harvest, harvest to processing chain, tea tasting, DMT analysis , Storage and supply chain management.

Course Objectives:

After completion of this course, apprentice will be able to:

- Introduce tea quality
- Familiarize with /Apply quality factors attribute of pre harvest operation
- Apply harvesting techniques for different quality tea
- Analyze Green leaf and DMT (Dryer Mouth Tea)
- Perform Grade analysis
- Take sample of Final Product
- Taste tea sample
- Apply tea testing protocol
- Store the processed tea
- Manage tea quality in tea supply chain

Section C: Industry Practice (93 Weeks Minus 28 Weeks) for 65 Academic Weeks @40 Hours/Week

S.N.	Task Statements	Content	Practical
			Hrs
1.	Introduce tea quality	Introduction <ul style="list-style-type: none"> ▪ Introduction ▪ Types ▪ Characteristics of quality tea 	24
2.	Familiarize with /Apply quality factors attribute of pre harvest operation	Pre harvest operation <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Attributes 	24
3.	Apply harvesting techniques for different quality tea	Harvesting techniques <ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Purpose ▪ Techniques 	28
4.	Analyse Green leaf	Green leaf analysis <ul style="list-style-type: none"> ▪ Standard reference of Quality ▪ Type ▪ Process/method ▪ Points to be considered 	28
5.	Analyse DMT (Dryer Mouth Tea)	DMT Analysis <ul style="list-style-type: none"> ▪ Standard reference ▪ Type ▪ Process/method ▪ Points to be considered ▪ Handling procedures 	28
6.	Perform Grade analysis	Grade analysis	28

S.N.	Task Statements	Content	Practical
			Hrs
		<ul style="list-style-type: none"> ▪ Introduction ▪ Importance ▪ Different size ▪ Points to be considered ▪ Type of Mesh use in the machine 	
7.	Take sample of Final Product	Sampling <ul style="list-style-type: none"> ▪ Introduction ▪ Purpose ▪ Methods <ul style="list-style-type: none"> ➤ Sample size ➤ Quantity 	26
8.	Taste tea sample	Tea Tasting <ul style="list-style-type: none"> ▪ Introduction ▪ Purpose ▪ Steps ▪ Type <ul style="list-style-type: none"> ➤ Appearance ➤ Infusion ➤ Liquor 	24
9.	Apply tea testing protocol	Tea tasting protocol <ul style="list-style-type: none"> ▪ Introduction ▪ Common Tea Testing Parameters and Techniques 	20
10.	Store the processed tea	Storage <ul style="list-style-type: none"> ▪ Introduction ▪ Purpose ▪ Method ▪ Packing materials 	20
11.	Manage tea quality in tea supply chain	Supply chain quality management <ul style="list-style-type: none"> ▪ Understanding the tea supply chain ▪ Managing supplier quality and performance ▪ Traceability and recall procedures 	30
		Total	280

Reference books

1. Patel, R. K., & Singh, P. K. (2020). Tea Quality Assurance: Principles and Practices. Cambridge University Press.

Annex 1: Weekly Report (Logbook)

To be filled by apprentices regularly

Week...

Month:

S. No.	Date	Description of work	Sign of Industry Supervisor
1.			
2.			
3.			
4.			
5.			
6.			

Name of Supervisor:

Sign of Supervisor:

Date:

Remarks by Supervisor:

Name of Internal Guide:

Sign of Internal Guide:

Weekly Summary

Duration From _____ To

Work/Task Assigned by the Supervisor: _____

Learning Outcome:

Remarks:

Name of Supervisor: _____

Signature of Supervisor: _____

Annex 2: Industry Practice Monitoring Tools

Monitoring Tools (For Industry/Company Purpose)

To be filled by the industrial Supervisor (In-company Trainer)/Roving Instructor/at the time of monitoring

Kindly refer to the mark scale provided below in assessing the performance of apprentices.

Mark Scale	Very Poor 0	Poor 1	Fair 2	Good 3	Very Good 4
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Evaluation Criteria	Score
1. Behavior and Attitude	32
1.1. Grooming/ Personal Appearance	.../4
1.2. Overall Attendance	.../4
1.3. Punctuality	.../4
1.4. Compliance to company Policies	.../4
1.5. Interest in work	.../4
1.6. Reliability and Accountability	.../4
1.7. Ability to cope	.../4
1.8. Acceptance of constructive criticisms and feedback	.../4
2. Knowledge	8
2.1. Business knowledge/ General knowledge	.../4
2.2. Work ethics/ Professionalism	.../4
3. Skills	36
3.1. Problem-Solving	.../4
3.2. Interaction with the work environment (e.g. Supervisor, colleagues)	.../4
3.3. Appropriate interaction with clients/ External Parties	.../4
3.4. Oral Communication Skills	.../4
3.5. Written Communication Skills	.../4
3.6. Leadership	.../4
3.7. Team Work	.../4
3.8. Technical Skills (e.g. computer software, etc.)	.../4
3.9. Creative Thinking	.../4
4. Performance	24
4.1. Quality of work performed	.../4
4.2. Ability to prioritize multitasks	.../4
4.3. Initiative to learn	.../4
4.4. Ability to work independently	.../4
4.5. Commitment to work	.../4
4.6. Value-added contribution	.../4
Total Marks Obtained	.../100
Comments (if any):	
Name of Supervisor:	

Designation:	
Tel/ Mobile No:	
Signature:	
Date:	
Comments/Feedback/ Remarks From Internal Guide	
Name of Internal Guide:	
Sign of Internal Guide:	
Date filed:	

Monitoring Tools (For Training Institute/CTEVT Purpose)

To be filled by the Instructor /Training Coordinator/ /Principal/CTEVT Official at the time of monitoring.

Kindly refer to the mark scale provided below in assessing the performance of apprentices

Mark Scale	Very Poor	Poor	Fair	Good	Very Good
	0	1	2	3	4

Evaluation Criteria	Score
1. Behavior and Attitude	32
1.1. Grooming/ Personal Appearance	.../4
1.2. Overall Attendance	.../4
1.3. Punctuality	.../4
1.4. Compliance to company Policies	.../4
1.5. Interest in work	.../4
1.6. Reliability and Accountability	.../4
1.7. Ability to cope	.../4
1.8. Acceptance of constructive criticisms and feedback	.. /4
2. Knowledge	8
2.1. Business knowledge/ General knowledge	.../4
2.2. Work ethics/ Professionalism	.../4
3. Skills	36
3.1. Problem-Solving	.../4
3.2. Interaction with the work environment (e.g. Supervisor, colleagues)	.../4
3.3. Appropriate interaction with clients/ External Parties	.../4
3.4. Oral Communication Skills	.../4
3.5. Written Communication Skills	.../4
3.6. Leadership	.../4
3.7. Team Work	.../4
3.8. Technical Skills (e.g. computer software, etc.)	.../4
3.9. Creative Thinking	.../4
4. Performance	24
4.1. Quality of work performed	.../4
4.2. Ability to prioritize multitasks	.../4
4.3. Initiative to learn	.../4
4.4. Ability to work independently	.../4
4.5. Commitment to work	
4.6. Value-added contribution	.../4
Total Marks Obtained	/100

Comments (if any):
Name of Monitoring Official:

Designation:
Tel/ Mobile No:
Signature:
Date:
Comments/Feedback/from Training Coordinator/Principal:
Name of Training Coordinator/Principal:
Sign of Training Coordinator/Principal:
Date filed:

Acknowledgements

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S. No.	Name	Organization	Contact No.
1	Dhruba Adhikari	Shree Jaibik Chiya Utpaadan Cooperative, Illam	9852680801
2	Khagendra Bista	National Tea and Coffee development board	9814961390
3	Dinesh Rasaili	Himalayan Shrangila Tea Pvt.ltd	9816957258
4	Ramchandra Nepal	Tea Technician, Freelancer	9814032663
5	Roshesh Rai	Ratnakumar Bantawa Polytechnic Institute	9849908751
6	Shusanta Khadka	Ratnakumar Bantawa Polytechnic Institute	9842407039
7	Ravikiran Adhikari	Department of Agriculture	9814173733
8	Narayan Poudel	Prime Minister Agriculture Modernization Project	98576223445
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10	Anup Neupane	Council for Technical Education and Vocational Training (CTEVT)	9851190824
11	Hari Poudel	Council for Technical Education and Vocational Training (CTEVT)	9841677570
12	Suruchi Tripathi	Department of Agriculture	
13	Chandra Puri	National Tea and Coffee development board	9857036415
14	Deepak Khanal	National Tea and Coffee development board	9851005296
15	Gaurab Leuitel	National Tea and Coffee development board	9849151659
16	Suzan Paudel	Nepal Agriculture Research Council (NAARC)	9843778871
17	Tayama Rai	National Tea and Coffee development board	
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19	Rabin Rai	Central Tea Cooperative Federation Ltd. Nepal	

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Council for Technical Education and Vocational Training (CTEVT)

Madhyapur Thimi-17, Sanothimi, Bhaktapur, Nepal
P.O.Box No. 3546, Kathmandu, Tel#6630408, 6630769, 6631458,

Web: <http://www.ctevt.org.np>

Email: curriculum@ctevt.org.np, info@ctevt.org.np