

## Syllabus of Coffee Plantation and Quality Control Assistant

Course Name :	Coffee Plantation and Quality Control Assistant
Sector	Agriculture
Course Code	AGR/2023/CPQC/233
Level	3
Occupation	Coffee Plant Grower
Job Description	Coffee Plantation and Quality Control Assistant support farming operations, conduct quality assessments and ensure the overall quality and sustainability of coffee production. They assist in planting, cultivating and harvesting coffee plants, ensuring proper care and growth. They may also be involved in soil preparation, irrigation, pest control, and general farm maintenance.
Course Duration	450 Hrs (T-180 Hrs and P-270 Hrs)
Trainee Entry Qualification	Grade 10 OR Grade 8 with two year of (NTC/ NAC) after 8 <sup>th</sup> OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
Trainer Qualification	Graduate with 5 years' experience in coffee plantation

### Structure of Course:

Module No	Module Name	Outcome	Theory (Hrs)	Practical (Hrs)	Total (Hrs)
1	Introduction of Coffee plant and different types of coffee varieties	Explain coffee plant and its varieties (Arabica, canephora, liberica, excels, crossbreeding)	10	20	30
2	Meteorology and Soil Management	Describe meteorological conditions and soil conditions for Coffee Plantation	10	20	30
3	Role of shade tree plantation and fruit tree intercropping	Explain the role of shade tree plantation and fruit tree intercropping	10	20	30
4	Soil preparation and soil manufacturing	Explain the soil life for coffee growth and soil manufacturing process	10	20	30

5	Manure manufacturing & Pest management	Illustrate method of Preparation of manure using wet kitchen waste and Pest management with home prepared bio organic pest repellents	10	20	30
6	Coffee Plant Agronomy-	Illustrate method of field practices, nursery practices, land survey, water table survey commonly used in coffee plantation	25	35	60
7	Planting management, Good Harvesting Practices (GHP), Post harvesting practices	Apply Planting management technique, Good Harvesting Practices (GHP), Post harvesting practices in coffee plantation	25	35	60
8	Pruning, multi stemming, grafting, cupping and tasting	Outline Coffee bush pruning, multi stemming, grafting, cupping and tasting	10	20	30
9	Procedures of Coffee extraction	Illustrate the various process of coffee extraction	10	20	30
10	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	0	60	60
11	Employability Skill	As per guided curriculum	60	0	60
<b>Total</b>			<b>180</b>	<b>270</b>	<b>450</b>

## **SYLLABUS:**

### **Module No 1: Introduction of Coffee plant and different types of coffee varieties**

**Outcome:** Explain coffee plant and its varieties (Arabica, canephora, liberica, excels, crossbreeding)

#### **Theory content:**

1.1 Explain different types of coffee plant and its varieties ( Arabica, canephora, liberica, excelsa, crossbreeding )

1.2 Outline Importance of Coffee plantation, Global scenario, Indian scenario, Scenario of West Bengal in this sector.

1.3 Discuss History and economics of coffee as a globalized commodity

#### **Practical content:**

1.1 Identify different types of coffee plants varieties.

1.2 Demonstrate Proper identification methodology of coffee plants.

#### **Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

## **Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual.

## **Module No 2 : Meteorology and Soil Management**

**Outcome:** Describe meteorological conditions and soil conditions for Coffee Plantation

### **Theory content :**

- 2.1 Identify the coffee planting location through compass and soil testing.
- 2.2 Illustrate Role of variables, global climate change, carbon sequestration, precipitation pattern in coffee planting location.
- 2.3 Explain Physical and chemical properties of soil.
- 2.4 Outline soil degradation and conservation method.
- 2.5 Describe method water conservation in coffee plant.
- 2.6 Discuss on Nutrient management and organic matter management in coffee plant.
- 2.7 Examine Soil conditions and waste land management.

### **Practical content:**

- 2.1 Demonstrate of Physical and chemical properties of soil-by-soil testing.
- 2.2 Demonstrate water conservation method.
- 2.3 Demonstrate method of preparation of organic compost and nutrient for coffee plantation.

### **Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

## **Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Kodal

Belcha, Standard Sieves-Sieve diameter: 200 mm [Mesh size – 0.075 mm, 0.1 mm, 0.25 mm, 0.5 mm, 1 mm, 2 mm, 5 mm, 10 mm, and 20 mm, with pan and lid.], Digital Sieve Shaker, Balance & scale [Capacity: (1) 200 g/0.001 g., (2) 3000g/0.01 g.;, (3) 20 kg/1 g], Digital Display Constant Temperature Convection Oven, Standard Proctor Compactor & Modified Proctor Compactor, Sand Replacement Test Sets (Galvanized Steel), Sand Cone Test Sets, Consolidation and Permeability United Apparatus, Relative Density Apparatus, Portable Mixer (Universal), Large pulverizing machine, Aluminum can, Enamel tray, Wire Saw, Scraper, spatula, and Shovel or Scoop, Graduated flask and stirrer, Thermometers, Hydrometer, Desiccators, Caliper, Soil Pycnometer, Mortar and Pestle, Soil sampling device

### **Module No 3: Role of shade tree plantation and fruit tree intercropping**

**Outcome:** Explain the role of shade tree plantation and fruit tree intercropping

**Theory content:**

3.1 Illustrate the role and importance of shade tree plantation and fruit tree intercropping.

**Practical content :**

3.1 Demonstrate method of shade tree plantation and fruit tree intercropping

**Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

**Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Kodal Belcha, sickle, Khurpi, Watering can, knife, Grafting tools, Axe, Pruning knife, Polypots, Plastic sheet Mother beds, Sunken beds, 50% agro nets.

### **Module No 4: Soil preparation and soil manufacturing**

**Outcome:** Explain the soil life for coffee growth and soil manufacturing process

**Theory content:**

4.1 Explain the soil life for coffee growth.

4.2 Explore method of soil preparation.

**Practical content:**

4.1 Highlight the technique of soil preparation for coffee plantation.

**Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

**Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Kodal Belcha, sickle, Khurpi, Watering can, knife, Grafting tools, Axe, Pruning knife, Polypots, Plastic sheet

## **Module No 5: Manure manufacturing & Pest management**

**Outcome:** Illustrate method of Preparation of manure using wet kitchen waste and Pest management with home prepared bio-organic pest repellents

### **Theory content:**

- 5.1 Explain the preparation of manure,
- 5.2 Discuss formation of mulching soil pit using wet kitchen waste
- 5.3 Elaborate method of Pest management with home prepared bio organic pest repellants
- 5.4 Explain Disease profile and management,
- 5.5 Outline major leaf disease and their management
- 5.6 Explain major root and stem disease and their management.
- 5.7 Illustrate shade tree disease and integrated disease management.
- 5.8 Identify beneficial microbes for pest management.
- 5.9 Identify beneficial microbes for crop production.
- 5.10 Investigate major insect pests of coffee plant and minor insect pests of coffee plant.
- 5.11 Elaborate method of pest management in seed berries and shade trees,
- 5.12 Explain non-chemical methods of insect management,
- 5.13 Classify insecticides and their modes of action (spraying machines, techniques and equipment)
- 5.14 Outline the statutory precaution in pesticide application and insecticide regulations.

### **Practical content :**

- 5.1 Demonstrate method of manure preparation.
- 5.2 Examine major leaf disease, major root and stem disease.
- 5.3 Identify major insect pests and minor insect pests of coffee plant.
- 5.4 Demonstrate method of pest management in seed berries and shade trees
- 5.5 Demonstrate method of non-chemical methods of insect management
- 5.6 Depict the process of safety in pesticide application and insecticide regulations.

**Classroom Aids:** Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

## **Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Kodal

Belcha, sickle, Khurpi, Watering can, knife, Grafting tools, Axe, Pruning knife, Polypots, Plastic sheet, spraying machines.

## **Module No 6 Coffee Plant Agronomy-**

**Outcome:** Illustrate method of field practices, nursery practices, land survey, water table survey commonly used in coffee plantation

### **Theory - `**

6.1 Outline field practices commonly used in coffee plantation, nursery soil, bed preparation, sleeve preparation,

6.2 Explain propagation of Coffee Plant in nursery.

6.3 Elaborate common nursery practices including topping, weeding, plant protection, shifting, shade nursery, microclimatic considerations, types of shade trees, shade tree species.

6.4 Outline Method of planting in field, land survey, water table survey,

6.5 Describe types of field operations like ploughing, harrowing, rehabilitary period, soil amendments etc., staking and pit digging, drainage, replantation, extension planting and soil rehabilitation, manuring in young Coffee Plant.

### **Practical content:**

**6.1** Demonstrate method of field practices, nursery practices in coffee plantation.

6.2 Demonstrate land survey, water table survey practises commonly used in coffee plantation.

6.3 Apply types of field operations in coffee plantation like ploughing, harrowing, rehabilitary period, soil amendments etc., staking and pit digging, drainage, replantation, extension planting and soil rehabilitation, manuring in young Coffee Plant.

### **Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

## **Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual., Kodal, Belcha, sickle, Khurpi, Watering can, knife, Grafting tools, Axe, Pruning knife, Polypots, Plastic sheet,

## **Module No 7: Planting management, Good Harvesting Practices (GHP), Post harvesting practices.**

**Outcome:** Apply Planting management technique, Good Harvesting Practices (GHP), Post harvesting practices in coffee plantation

### **Theory –**

7.1 Explain method of Good Agricultural practices (GAP) in planting like Sowing, Planting, Irrigation, Weeding, Fertilizer (organic), Pesticides (organic) application.

7.2 Explore GHP concept, Species wise good harvesting practices.

7.3 Elaborate Coffee harvesting and post-harvest processing of coffee (Concept, utility, Cleaning, Drying, Grading, Packaging, Storage)

### **Practical-**

7.1 Apply Good Agricultural practices (GAP) in nursery,

7.2 Demonstrate Preparation of Nursery bed under GAP by using of Quality planting material,

7.3 Demonstrate Best nursery practices, and species wise nursery practices.

7.4 Demonstrate Good Agricultural practices (GAP) apply in planting.

7.5 Demonstrate Good Harvesting practices (GHP) apply in planting.

7.6 Demonstrate Post harvesting practices in coffee plantation.

### **Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

### **Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual., Kodal, Belcha, sickle, Khurpi, Watering can, knife, Grafting tools, Axe, Pruning knife, Polypots, Plastic sheet,

## **Module No 8: Pruning, multi stemming, grafting, cupping and tasting**

**Outcome:** Outline Coffee bush pruning, multi stemming, grafting, cupping and tasting

### **Theory content:**

8.1 Explain Coffee bush pruning, multi stemming, grafting, cupping and tasting

### **Practical content:**

8.2 Demonstrate Coffee bush pruning, multi stemming, grafting, cupping and tasting

**Classroom Aids:** Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

**Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Gardening Hand held, Forks (Cultivator Tongs), Gardening Shears / Sissors , Hand held trowels, Transplanter hand held digging, Weeding Rake, Bow Saw (For Matured Coffee Stem Prunning ), Long Neck Bent Sickle, Backpack pressure Sprayer.

**Module No 9: Procedures of Coffee extraction**

**Outcome:** Illustrate the various process of coffee extraction

**Theory content:**

9.1 Explain various process of coffee extraction.

**Practical content:**

9.2 Demonstrate various process of coffee extraction

**Classroom Aids:**

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

**Tools, Equipment and Other Requirements**

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual., Tray drier, grinder, Boiling bath, Filtering funnel, Pack sealing machine, Weighing Balance (Digital) -120 gm capacity, Laboratory Weighing Balance (Digital) – 20 kg capacity

**Module No. 10: OJT**

**Outcome:** Work in real job situation with special emphasis on basic safety and hazards in this domain

**Practical Content:**

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours.**)

**Module No. 11: Employability Skills (60 Hrs)**

**Key Learning Outcomes**

**Introduction to Employability Skills**

Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries



2. List different learning and employability related GOI and private portals and their usage

### **Constitutional values - Citizenship**

Duration: 1.5 Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices

### **Becoming a Professional in the 21st Century**

Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

### **Basic English Skills**

Duration: 10 Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

### **Career Development & Goal Setting**

Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

### **Communication Skills**

Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

### **Diversity & Inclusion**

Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

### **Financial and Legal Literacy**

Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

### **Essential Digital Skills**

Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features,

safely and securely

23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

### **Entrepreneurship**

Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

### **Customer Service**

Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

### **Getting Ready for apprenticeship & Jobs**

Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

### **Learning Outcome – Assessment Criteria**

<b>Module No</b>	<b>Outcome</b>	<b>Assessment Criteria</b>
1	Explain coffee plant and its varieties (Arabica, canephora, liberica, excels, crossbreeding)	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"><li>• Identify different types of coffee plants varieties.</li><li>• Understand Global scenario, Indian scenario, Scenario of West Bengal in Coffee Plantation sector</li></ul>
2	Describe meteorological conditions and soil conditions for Coffee Plantation	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"><li>• Identify the coffee planting location through compass and soil testing.</li><li>• Acquire knowledge about Physical and chemical properties of soil.</li><li>• Perform the method of water conservation in coffee plant.</li><li>• Execute the processes involved in Nutrient management and organic matter management in coffee plant.</li></ul>
3	Explain the role of shade tree plantation and fruit tree intercropping	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"><li>• Exhibit a clear understanding of importance of shade tree plantation and fruit tree intercropping.</li><li>• Known the most beneficial plant species for coffee plant</li></ul>
4	Explain the soil life for coffee growth and soil manufacturing	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"><li>• Provide a clear and coherent explanation of the soil life for</li></ul>

Module No	Outcome	Assessment Criteria
	process	coffee growth <ul style="list-style-type: none"> <li>Conduct a method of soil preparation</li> </ul>
5	Illustrate method of Preparation of manure using wet kitchen waste and Pest management with home prepared bio-organic pest repellents	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"> <li>perform manure preparation</li> <li>Examine major leaf disease, major root and stem disease</li> <li>Identify major insect pests and minor insect pests of coffee plant</li> <li>Demonstrate method of pest management in seed baries and shade trees</li> <li>Demonstrate method of non-chemical methods of insect management</li> <li>Explain the process of safety in pesticide application and insecticide regulations</li> </ul>
6	Illustrate method of field practices, nursery practices, land survey, water table survey commonly used in coffee plantation	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"> <li>Demonstrate method of field practices, nursery practices in coffee plantation.</li> <li>perform land survey, water table survey practises commonly used in coffee plantation</li> <li>Apply types of field operations in coffee plantation like ploughing, harrowing, rehabilitory period, soil amendmets etc., staking and pit digging, drainage, replantation, extension planting and soil rehabilitation, manuring in young Coffee Plant.</li> </ul>
7	Apply Planting management technique, Good Harvesting Practices (GHP), Post harvesting practices in coffee plantation	<b>After completion of this module students will be able to:</b> <ul style="list-style-type: none"> <li>Understand Good Agricultural practices (GAP) in nursery,</li> <li>Demonstrate Preparation of Nursery bed under GAP by using of Quality planting material ,</li> <li>Demonstrate Best nursery practices, and species wise nursery practices</li> <li>Apply Good Agricultural practices (GAP) in planting</li> <li>Apply Good Harvesting practices (GHP) in planting</li> <li>Utilize Post harvesting practices in coffee plantation.</li> </ul>
8	Outline Coffee bush pruning, multi stemming, grafting, cupping and tasting	<b>After completion of this module students will be able to:</b> Demonstrate Coffee bush pruning, multi stemming, grafting, cupping and tasting
9	Illustrate the various process of coffee extraction	<b>After completion of this module students will be able to:</b> Perform various process of coffee extraction
10	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT)	Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 60 Hours.)
11	Employability Skill	As per guided curriculum

**List of tools, Equipment and materials needed for 30 trainees (Practical)**

<b>SI No</b>	<b>Items Name</b>	<b>Specification</b>	<b>Qty</b>
1	Gardening Hand held Forks (Cultivator Tongs)	3 headed rake gardening forks.	10 pcs
2	Gardening Shears / Scissors	Sagetors	10 pcs
3	Handheld trowels	Handheld spades	5pcs
4	Transplanter handheld digging	Trowel hand spade	10 pcs
5	Weeding Rake	V'cut Angled Bent rod	10 pcs
6	Bow Saw (For Matured Coffee Stem Pruning )	Saw	2 pcs
7	Long Neck Bent Sickle	Brush cutting	5pcs
8	Backpack pressure Sprayer	Automatic Spray Machine	2pcs
9	Kodal	Kodal	03
10	Belcha	Belcha	03
11	sickle	sickle	03
12	Khurpi	Khurpi	03
13	Watering can	Watering can	03
14	knife	knife	03
15	Grafting tools	Grafting tools	03
16	Axe	Axe	03
17	Pruning knife	Pruning knife	03
18	Polypots	Polypots	06
19	Plastic sheet	Plastic sheet	50 metre
20	Mother beds	Mother beds	02

SI No	Items Name	Specification	Qty
21	Sunken beds	Sunken beds	02
22	50% agro nets	50% agro nets	50 meter
23	Tray drier	Tray drier	01
24	grinder	grinder	01
25	Boiling bath	Boiling bath	02
26	Filtering funnel	Filtering funnel	04
27	Pack sealing machine	Pack sealing machine	02
28	Weighing Balance (Digital) -120 gm capacity	Weighing Balance (Digital) -120 gm capacity	02
29	Laboratory Weighing Balance (Digital) – 20 kg capacity	Laboratory Weighing Balance (Digital) – 20 kg capacity	02
30	Standard Sieves-Sieve diameter: 200 mm [Mesh size – 0.075 mm, 0.1 mm, 0.25 mm, 0.5 mm, 1 mm, 2 mm, 5 mm, 10 mm, and 20 mm, with pan and lid.], Digital Sieve Shaker	Standard Sieves-Sieve diameter: 200 mm	02
31	Balance & scale [Capacity: (1) 200 g/0.001 g,, (2) 3000g/0.01 g,, (3) 20 kg/1 g]	[Mesh size – 0.075 mm, 0.1 mm, 0.25 mm, 0.5 mm, 1 mm, 2 mm, 5 mm, 10 mm, and 20 mm, with pan and lid.], Digital Sieve Shaker	03
32	Digital Display Constant Temperature Convection Oven,	Digital Display Constant Temperature Convection Oven,	01
33	Standard Proctor Compactor & Modified Proctor Compactor,	Standard Proctor Compactor & Modified Proctor Compactor,	01
34	Sand Replacement Test Sets (Galvanized Steel),	Sand Replacement Test Sets (Galvanized Steel),	01
35	Sand Cone Test Sets	Sand Cone Test Sets	02
36	Consolidation and Permeability United Apparatus	Consolidation and Permeability United Apparatus	01
37	Relative Density Apparatus	Relative Density Apparatus	01
38	Portable Mixer (Universal)	Portable Mixer (Universal)	01
39	Large pulverizing machine	Large pulverizing machine	01
40	Aluminum can	Aluminum can	12

SI No	Items Name	Specification	Qty
41	Enamel tray	Enamel tray	12
42	Wire Saw	Wire Saw	12
43	Scraper, spatula, and Shovel or Scoop	Scraper, spatula, and Shovel or Scoop	12
44	Graduated flask and stirrer	Graduated flask and stirrer	12
45	Thermometers	Thermometers	6
46	Hydrometer	Hydrometer	6
47	Desiccators	Desiccators	3
48	Caliper	Caliper	3
49	Soil Pycnometer	Soil Pycnometer	02
50	Mortar and Pestle	Mortar and Pestle	06
51	Soil sampling device	Soil sampling device	06

### Marks Distribution

Outcome	Outcome Code	Total Th Marks	Total Pr. Marks
Explain coffee plant and its varieties (Arabica, canephora, liberica, excels, crossbreeding)	AGR/0261/OC1	10	60
Describe meteorological conditions and soil conditions for Coffee Plantation	AGR/0261/OC2	10	60
Explain the role of shade tree plantation and fruit tree intercropping	AGR/0261/OC3	10	60
Explain the soil life for coffee growth and soil manufacturing process	AGR/0261/OC4	10	60
Illustrate method of Preparation of manure using wet kitchen waste and Pest management with home prepared bio organic pest repellents	AGR/0261/OC5	20	70
Illustrate method of field practices, nursery practices, land survey, water table survey commonly used in coffee plantation	AGR/0261/OC6	30	110

Apply Planting management technique, Good Harvesting Practices (GHP), Post harvesting practices in coffee plantation	AGR/0261/OC7	30	110
Outline Coffee bush pruning, multi stemming, grafting, cupping and tasting	AGR/0261/OC8	10	60
Illustrate the various process of coffee extraction	AGR/0261/OC9	20	60
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	AGR/0261/OC10	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0