



National Curriculum Level-4 in Agricultural Machinery Technology



National Curriculum Level-4 in Agricultural Machinery Technology

“Agricultural Machinery Technician”



National Vocational and Technical Training Commission (NAVTTTC),

Government of Pakistan



National Curriculum Level-4 in Agricultural Machinery Technology



ACKNOWLEDGEMENTS

National Vocational and Technical Training Commission (NAVTTTC) extends its gratitude and appreciation to representatives of business, industry, academia, government agencies, provincial TEVTAs, sector skill councils and trade associations who spared time and extended their expertise for the development of National Vocational Qualification for the trade of **Agricultural Machinery Technology**. This work would not have been possible without the technical support of the above personnel.

NAVTTTC initiated development of CBT&A based qualifications for 200 traditional / hi-tech trades under the Prime **Minister's Hunarmand Pakistan Program**, focusing on Development & Standardization of 200 Technical & Vocational Education & Training (TVET) Qualifications. NAVTTTC efforts have received full support from the Ministry of Federal Education and Professional Training which highly facilitated progress under this initiative.

It may not be out of place to mention here that all the experts of Industry, Academia and TVET experts of TEVTAs, BTEs and PVTC work diligently for making this qualification worthy and error free for which all credit goes to them. However, NAVTTTC accepts the responsibility of all the errors and omissions still prevailing in the Qualification document.

It is also noteworthy that development of Skill Standards is a dynamic and ongoing process, and the developed skill standards needs periodic review and updating owing to the constant technological advancements, development in scientific knowledge, and growing experience of implementation at the grass root level as well as the demand of industry. NAVTTTC will ensure to keep the qualifications abreast with the changing demands of both national and international job markets.

Executive Director (NAVTTTC)



National Curriculum Level-4 in Agricultural Machinery Technology



Table of Contents

Introduction.....	6
1. Definition/Description of training program (Agricultural Machinery Technician).....	6
2. Purpose of the training program:.....	6
3. Overall objectives of training program:	6
4. Competencies to be gained after completion of course:	8
5. Possible available job opportunities, available immediately and later in the future:	9
6. Trainee entry level:.....	9
7. Minimum qualification of trainer:	10
8. Recommended trainer: trainee ratio	10
9. Medium of instruction i.e. language of instruction:	10
10. Duration of the course (Total time, Theory & Practical time):.....	11
11. Sequence of modules:	11
Summary template-overview of the curriculum:.....	13
Module: 0716-MVS&A-1. Conduct Field survey	16



National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0211-AVT&MP-2. Perform Shaper, Slotter Machining Operations	18
Module: 0716-MVS&A-3. Perform welding and soldering process on the given work piece	24
Module: 0211-AVT&MP-4. Maintain Fuel Supply System	29
Module: 0716-MVS&A-5. Maintain Brake system.....	33
Module: 0211-AVT&MP-6. Maintain Lubrication System	36
Module: 0716-MVS&A-7. Maintain Steering System	38
Module: 0211-AVT&MP-8. Maintain Electrical System.....	40
Module- 0716-MVS&A-9-Maintain Grain Grader	44
Module: 0211-AVT&MP-10. Maintain Sprayer.....	47
Module: 0716-MVS&A-11. Maintain land preparation implements.....	50
Module: 0211-AVT&MP-12. Maintain Sowing and Planting Equipments	59
Module: 0716-MVS&A-13. Operate / Maintain Mowers and Forage Harvester.....	66
Module: 0211-AVT&MP-14. Operate / Maintain Reaper.....	68
Module: 0716-MVS&A-15. Operate / Maintain Digger (Root crops).....	71
Module: 0211-AVT&MP-16. Operate Plant Protection (PP) Implements.....	73
0716-MVS&A-24.: Apply specialist interpersonal and counseling interview skills	75
0716-MVS&A-26: Develop workplace documents	83
0716-MVS&A-17: Develop workplace policy and procedures for sustainability.....	89
Develop workplace policy and procedures for sustainability.	93
Module: Apply specialist interpersonal and counseling interview skills	101
0716-MVS&A-27 Prepare and implement negotiation	108
0716-MVS&-20 Manage personal work priorities and professional development.....	114
0716-MVS&A-19. Manage recruitment selection and induction processes	118
0716-MVS&A-21 Manage workforce planning	123



National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS-A-22 Undertake project work	127
0716-MVS&A-25 Work safely in an office environment	132
Module: Develop workplace documents	135
0716-MVS&A-29 Organize schedules	141
0716-MVS&A-28 Maintain professionalism in the workplace.....	143
0716-MVS&A-18 Manage meetings with customers	147



National Curriculum Level-4 in Agricultural Machinery Technology



Introduction

1. Definition/Description of training program (Agricultural Machinery Technician)

Agriculture is an important sector of Pakistan's economy. This sector directly supports the country's population and accounts for 26 percent of gross domestic product (GDP). Agricultural machinery technician work with modern machinery. They assemble, adjust, operate, repair, maintain and test agricultural machinery. This machinery includes land preparation, tilling, sowing & planting, irrigating, spraying, harvesting, drying and equipment handling. They often supervise skilled mechanics and other workers who keep machines and systems operating at maximum efficiency.

2. Purpose of the training program:

The purpose of this qualification is to set the high professional standards for the Agricultural Machine Technician. The specific objectives of developing these qualifications are as under:

- Improve the professional competence of the trainees
- Provide opportunities for recognition of the skills attained through formal or informal pathways
- Improve the quality and effectiveness of the training and assessment for Agricultural Technological sector
- Enabling / helping / facilitating the existing workforce to indulge themselves in new technologies and methods

3. Overall objectives of training program:

The main objectives of the National Competency Standards Level-4 in Agricultural Machinery Technology

“Agricultural Machinery Technician” are as follows:

- Conduct Field survey
- Perform Shaper, slotter Machining Operations
- Perform welding and soldering process on the given work piece



National Curriculum Level-4 in Agricultural Machinery Technology



- Maintain Fuel Supply System
- Maintain Brake system
- Maintain Lubrication System
- Maintain Steering System
- Maintain Electrical System
- Maintain Grain Grader
- Maintain sprayer
- Maintain land preparation implements
- Maintain sowing and planting implements
- Operate / Maintain Mowers and Forage Harvester
- Operate / Maintain Reaper
- Operate / Maintain Digger
- Operate land protection (PP) implements
- Apply specialist interpersonal and counselling interview skills
- Develop workplace documents
- Develop workplace policy and procedures for sustainability
- Identify and communicate trends in career development
- Implement negotiation
- Manage personal work priorities and professional development
- Manage recruitment selection and induction processes
- Manage workforce planning
- Undertake project work



National Curriculum Level-4 in Agricultural Machinery Technology



- Work safely in an office environment
- Organize schedules
- Maintain professionalism in the workplace
- Manage meetings

4. Competencies to be gained after completion of course:

At the end of the course, the trainee has attained the following core competencies:

- Conduct Field survey
- Perform Shaper, slotter Machining Operations
- Perform welding and soldering process on the given work piece
- Maintain Fuel Supply System
- Maintain Brake system
- Maintain Lubrication System
- Maintain Steering System
- Maintain Electrical System
- Maintain Grain Grader
- Maintain sprayer
- Maintain land preparation implements
- Maintain sowing and planting implements
- Operate / Maintain Mowers and Forage Harvester
- Operate / Maintain Reaper
- Operate / Maintain Digger
- Operate land protection (PP) implements



National Curriculum Level-4 in Agricultural Machinery Technology



5. Possible available job opportunities, available immediately and later in the future:

Possible Career paths

- Agricultural Machinery Helper
- Agricultural Machinery Operator
- Agricultural Machinery Technician
- Agricultural Machinery Mechanic

6. Trainee entry level:

- The entry level for National Vocational Certificate Level 4 in Agricultural Machinery Technology “Agricultural Machinery Technician” is given below:

Title	Entry requirements
<ul style="list-style-type: none">• National Vocational Certificate Level 4 in Agricultural Machinery Technology “Agricultural Machinery Technician”	<ul style="list-style-type: none">• Entry for assessment for this qualification is open. However, entry into formal training institutes, based on this qualification is a candidate having National Vocational Certificate Level 3 in Agricultural Machinery Technology “Agricultural Machinery Operator”



National Curriculum Level-4 in Agricultural Machinery Technology



7. Minimum qualification of trainer:

- A. Must be a holder of DAE/Level 5 Diploma in Auto and Farm Machinery/ Agricultural Machinery Technology with at least 3 years relevant experience

OR

- B. BSc/BE Agricultural Engineering

8. Recommended trainer: trainee ratio

The recommended maximum trainer: trainee ratio for this program is 1 trainer for 25 trainees.

9. Medium of instruction i.e. language of instruction:

Instructions will be in Urdu/ English/ Local language.



National Curriculum Level-4 in Agricultural Machinery Technology



10. Duration of the course (Total time, Theory & Practical time):

The distribution of contact hours is given below:

Total	-	1200 hours
Theory	-	228 hours (19%)
Practical	-	972 hours (81%)

Proposed Course Duration-12 Months

11. Sequence of modules:

1. Conduct Field survey
2. Perform Shaper, slotter Machining Operations
3. Perform welding and soldering process on the given work piece
4. Maintain Fuel Supply System
5. Maintain Brake system
6. Maintain Lubrication System
7. Maintain Steering System
8. Maintain Electrical System
9. Maintain Grain Grader
10. Maintain sprayer
11. Maintain land preparation implements
12. Maintain sowing and planting implements
13. Operate / Maintain Mowers and Forage Harvester
14. Operate / Maintain Reaper
15. Operate / Maintain Digger



National Curriculum Level-4 in Agricultural Machinery Technology



16. Operate land protection (PP) implements
17. Apply specialist interpersonal and counselling interview skills
18. Develop workplace documents
19. Develop workplace policy and procedures for sustainability
20. Identify and communicate trends in career development
21. Implement negotiation
22. Manage personal work priorities and professional development
23. Manage recruitment selection and induction processes
24. Manage workforce planning
25. Undertake project work
26. Work safely in an office environment
27. Organize schedules
28. Maintain professionalism in the workplace



National Curriculum Level-4 in Agricultural Machinery Technology



Summary template-overview of the curriculum:

Following is the structure of the course:

Sr No	Competency Standards	NVQF Level	Category	Estimated Contact Hours			Cr Hr
				Th	Pr	Total	
Level-4 (Agricultural Machinery Technician)							
1.	Conduct Field survey	4	Technical	20	54	74	7.4
2.	Perform Shaper, Slotter Machining Operations	4	Technical	10	42	52	5.2
3.	Perform welding and soldering process on the given work piece	4	Technical	10	54	64	6.4
4.	Maintain Fuel Supply System	4	Technical	10	57	67	6.7
5.	Maintain Brake system	4	Technical	10	36	46	4.6
6.	Maintain Lubrication System	4	Technical	8	30	38	3.8
7.	Maintain Steering System	4	Technical	10	39	49	4.9
8.	Maintain Electrical System	4	Technical	10	36	46	4.6
9.	Maintain Grain Grader	4	Technical	6	21	27	2.7
10.	Maintain sprayer	4	Technical	8	30	38	3.8



National Curriculum Level-4 in Agricultural Machinery Technology



11.	Maintain land preparation implements	4	Technical	8	60	68	6.8
12.	Maintain sowing and planting implements	4	Technical	10	54	64	6.4
13.	Operate / Maintain Mowers and Forage Harvester	4	Technical	8	39	47	4.7
14.	Operate / Maintain Reaper	4	Technical	8	39	47	4.7
15.	Operate / Maintain Digger	4	Technical	5	27	32	3.2
16.	Operate land protection (PP) implements	4	Technical	9	42	51	5.1
17.	Apply specialist interpersonal and counseling interview skills	4	Generic	6	24	30	3
18.	Develop workplace documents	4	Generic	6	24	30	3
19.	Develop workplace policy and procedures for sustainability	4	Generic	6	24	30	3
20.	Identify and communicate trends in career development	4	Generic	6	24	30	3
21.	Implement negotiation	4	Generic	6	24	30	3
22.	Manage personal work priorities and professional development	4	Generic	6	24	30	3
23.	Manage recruitment selection and induction processes	4	Generic	6	24	30	3



National Curriculum Level-4 in Agricultural Machinery Technology



24.	Manage workforce planning	4	Generic	6	24	30	3
25.	Undertake project work	4	Generic	6	24	30	3
26.	Work safely in an office environment	4	Generic	6	24	30	3
27.	Organize schedules	4	Generic	6	24	30	3
28.	Maintain professionalism in the workplace	4	Generic	6	24	30	3
29.	Manage meetings	4	Generic	6	24	30	3
	Total			228	972	1200	120
	Percentage			19	81		



National Curriculum Level-4 in Agricultural Machinery Technology



LU2. Conduct Land Survey	Trainee will be able to: <ul style="list-style-type: none"> • Conduct a reconnaissance survey • Conduct a topographic survey • Estimate survey cut-fill ratio • Develop cut-fill map • Prepare a map of the survey field • Implement of a survey plan • Formation of survey map 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Explain the cut fill ratio of different soils <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Conduct Topographic survey of minimum three stations 	Theory-6Hrs Practical-21Hrs Total-27Hrs	<ul style="list-style-type: none"> • Theodolite • Staff rod • Measuring tape • Range poles 	Training Workshop Field Visit
LU3. Estimate survey cost	Trainee will be able to: <ul style="list-style-type: none"> • Estimate Cost variables • Estimate survey operation time • Estimate survey operation cost 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Explain the earth shrinkage factor <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Calculate the survey operation cost and time 	Theory-06 Hrs Practical-21Hrs Total-27Hrs	<ul style="list-style-type: none"> • Calculator • Notepad 	Training Workshop Field Visit



Objective: After the completion of this module, the Trainee will be able to Perform Shaper, Slotter Machining Operations

Duration: 52 Hours

Theory: 10 Hours

Practice: 42 Hours

Credit Hours:5.2

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Produce a squared shape work piece	Trainee will be able to: <ul style="list-style-type: none"> Identify the safety hazards related the shaping operations in order to avoid injury/accident. Select a point cutting tool and set the machine as per requirements. Mount a cutting tool and the workpiece in the machine. Check the quality of the component at suitable intervals. Shut down the machine ina safe position after the completion ofwork. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the working principle of a shaper machine Describe the tools which are used to make square shape pieces <u>Practical Activity:</u> <ol style="list-style-type: none"> Make a square shape piece Make socket extensions of 6 inches 	Theory-1.5 Practical-6 Total-7.5	<ul style="list-style-type: none"> L-key Cutting tools Clamping device Work pieces Cutting oil Micrometer Vernier caliper Goggles Gloves Safety shoes Setsquare Shaper 	Class Room Lab/ Field Visit



National Curriculum Level-4 in Agricultural Machinery Technology



LU2. Produce V shaped work piece	Trainee will be able to: <ul style="list-style-type: none"> Identify the safety hazards related to the shaping operations to avoid any injury/accident. Dial the machine vice according to the job requirement. Select point cutting tool and set machine according to job requirements. Mount cutting tool and work piece in the machine. Check the quality of the component at suitable intervals. Shut down the machine in a safe position after finishing the work 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the tools which are used to make V shape pieces <u>Practical Activity:</u> <ol style="list-style-type: none"> Make a square shape piece Make socket extensions of 6 inches 	Theory-1.5 Hrs Practical-6 Hrs Total-7.5 Hrs	<ul style="list-style-type: none"> L-key Cutting tools Clamping device Work pieces Cutting oil Micrometer Vernier caliper Goggles Gloves Safety shoes Setsquare Shaper 	Class Room Lab/ Field Visit



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU3.</p> <p>Machine the Rack Gear</p>	<ul style="list-style-type: none"> Identify safety hazards related to shaping operations and take appropriate steps to avoid any injury or accident. Dial the machine vice according to job requirements. Select point cutting tool and set machine according to job requirements. Mount cutting tool and work piece in the machine. Set the job/Tool Movement According to specified speed. Check quality of the component at suitable intervals. Shut down the machine in safe position after finishing the work 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> What is rack gear? Why rack gears use in machines? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Make the tool as per job requirement 	<p>Theory-1.5Hrs</p> <p>Practical-6 Hrs</p> <p>Total-7.5Hrs</p>	<ul style="list-style-type: none"> L-key Cutting tools Clamping device Work pieces Cutting oil Micrometer Vernier caliper Goggles Gloves Safety shoes Setsquare 	<p>Class Room</p> <p>Lab/ Field Visit</p>
<p>LU4.</p> <p>Machine the slots</p>	<ul style="list-style-type: none"> Identify safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident. 	<p>Knowledge based questions</p> <p><u>Theory</u></p>	<p>Theory-1.5 Hrs</p> <p>Practical-6 Hrs</p> <p>Total-7.5 Hrs</p>	<ul style="list-style-type: none"> L-key Cutting tools Clamping device 	<p>Class Room</p> <p>Lab/ Field Visit</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Dial the machine vice according to job requirement. Select point cutting tool and set machine according to job requirements. Mount cutting tool and work piece in the machine. Check quality of the component at suitable intervals. Shut down the machine in safe position after finishing the work. 	<ul style="list-style-type: none"> Explain different types of tools used in slot making <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Make slots using a shaper machine What type of tool is used to make a key slot 		<ul style="list-style-type: none"> Work pieces Cutting oil Micrometer Vernier caliper Goggles Gloves Safety shoes Setsquare 	
<p>LU5.</p> <p>Machine the irregular Surfaces</p>	<ul style="list-style-type: none"> Identify safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident. Dial the machine vice according to job requirement. Select point cutting tool and set machine according to job requirements. Mount cutting tool and work piece in the machine. Use Different feed and speed of cutting and 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Explain the handling of plain surfaces <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Clamp the given job to make a plain surfaces 	<p>Theory-1.5 Hrs</p> <p>Practical-6 Hrs</p> <p>Total-7.5 Hrs</p>	<ul style="list-style-type: none"> L-key Spanner Cutting oil Goggles Gloves Safety shoes Setsquare Kerosene oil Sockets Lubricant Stenner wash Compressor 	



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> different points according to given drawing. • Check quality of the component at suitable intervals. • Shut down the machine in safe position after finishing the work. 				
LU6. Machine External Keyways	<ul style="list-style-type: none"> • Identify safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident. • Dial the machine vice according to job requirements. • Select point cutting tool and set machine according to job requirements. • Mount cutting tool and work piece in the machine. • Check quality of the component at suitable intervals. • Shut down the machine in safe position after finishing the work. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Differentiate between key and catter • Explain types of keys <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Mark keyway on the shaft as per drawing 	Theory-1.5 Hrs Practical-6 Hrs Total-7.5 Hrs	<ul style="list-style-type: none"> • L-key • Cutting tools • Clamping device • Work pieces • Cutting oil • Micrometer • Vernier caliper • Goggles • Gloves • Safety shoes • Setsquare 	



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU7.</p> <p>Machine internal Keyways</p>	<ul style="list-style-type: none"> Identify safety hazards related with shaping operations and take appropriate steps to avoid any injury or accident. Dial the machine vice according to job requirement. Select point cutting tool and set machine according to job requirements. Mount cutting tool and work piece in the machine. Check quality of the component at suitable intervals. Shut down the machine in safe position after finishing the work. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Differentiate between key and catter Explain types of keys Describe suitable tool selection for special job <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Mark keyway in the hub/pulley as per drawing 	<p>Theory-1Hrs</p> <p>Practical-6 Hrs</p> <p>Total-7Hrs</p>	<ul style="list-style-type: none"> L-key Cutting tools Clamping device Work pieces Cutting oil Micrometer Vernier caliper Depth gauge Goggles Gloves Safety shoes Setsquare 	
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National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0716-MVS&A-3. Perform welding and soldering process on the given work piece

Objective: After this module candidate will be able to make joint for the given job with Welding and soldering as required by following the standardized procedure

Duration: 64 Hours

Theory: 10 Hours

Practice: 54 Hours

Credit Hours: 6.4

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Perform operations related to Shielded Metal Arc Welding (SMAW)	Trainee will be able to: <ul style="list-style-type: none">• Apply specific safety precautions associated with welding job/process• Arrange the electrode as per welding procedure specification (WPS) / instruction sheet• Arrange pre-heating equipment as per welding procedure specification (WPS) / instruction sheet• Adjust electrical parameters as per welding procedure specification (WPS) / instruction sheet• Perform welding as per welding procedure	Knowledge based questions Theory <ul style="list-style-type: none">• Explain Basic workshop welding and soldering tools Practical Activity: 1. Demonstrate the adjustment of electrical parameters as per welding procedure specification	 Theory-02 Hrs Practical- 12Hrs Total-14Hrs	<ul style="list-style-type: none">• Safety Goggles• Safety Gloves• Safety Shield• Safety shoes• Leather Apron• Electric arc welding transformer• Welding rod	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



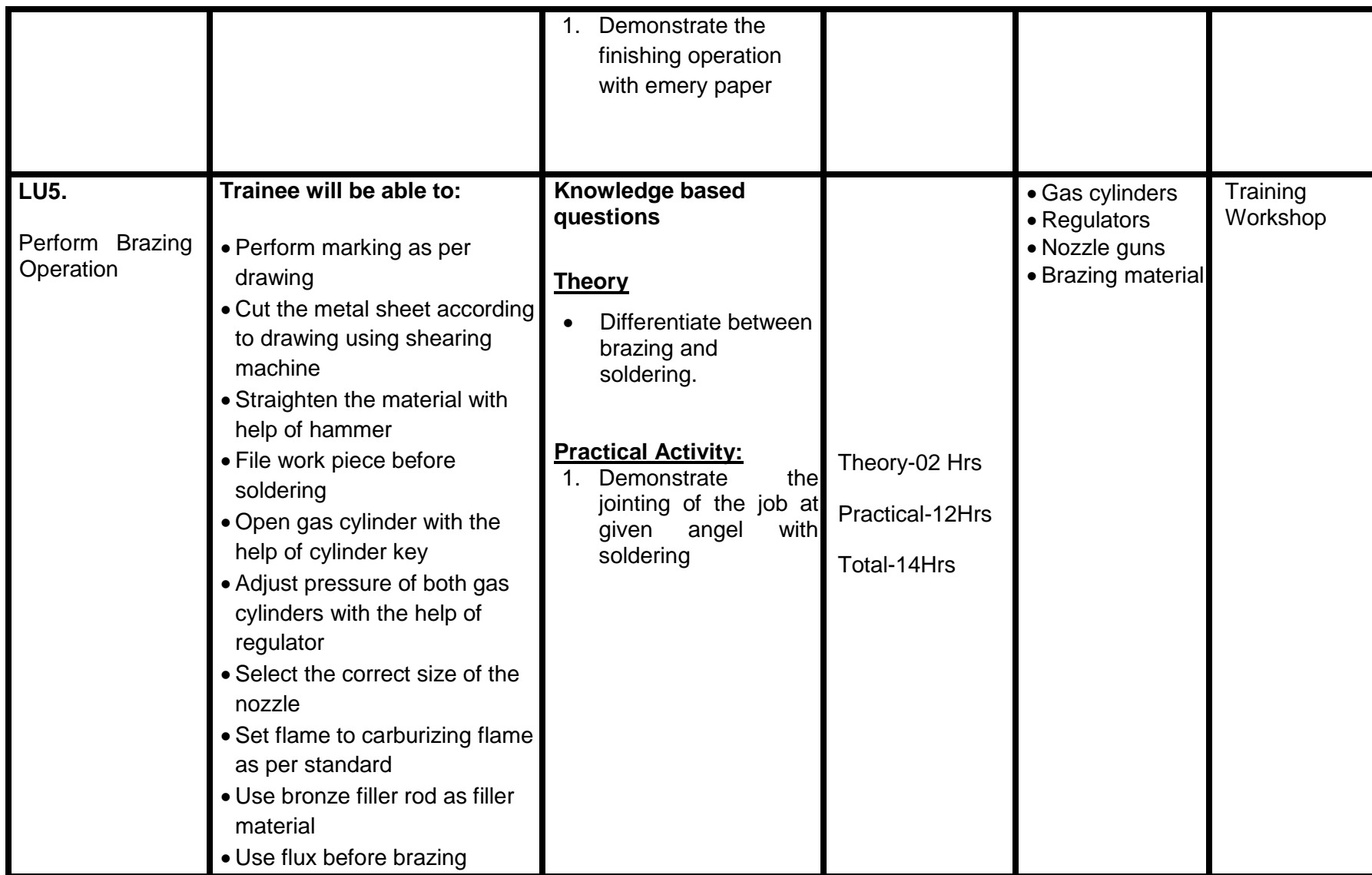
	<ul style="list-style-type: none"> • specification (WPS) / instruction sheet Pre heat the job, if required ✓ Apply jigs and fixtures ✓ Perform welding operation ✓ Inter-pass cleaning ✓ Inter-pass inspection ✓ Maintain inter-pass temperature 				
LU2. Perform post welding operations	Trainee will be able to: <ul style="list-style-type: none"> • Apply post weld cleaning of the job following the process ✓ Removal of slag ✓ Removal of jigs and fixtures ✓ Removal of spatters • Perform visual inspection and rectify any visual imperfections of weld area • Perform post-heating of the job as per WPS/ instruction sheet, if required • Apply specific safety precautions associated with welding job/process 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • What are specific safety precautions associated with post welding process <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Demonstrate the post-heating of the job as per welding procedure specification 	Theory-02 Hrs Practical-12Hrs Total-14Hrs	<ul style="list-style-type: none"> • Safety Goggles • Safety Gloves • Safety shoes • Leather Apron • Chipping Hammer • Grinder • Wire brush 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



LU3. Perform Soldering	Trainee will be able to: <ul style="list-style-type: none"> • Select the solder gun according to job • Prepare the solder gun • Clean the surface of job • prepare the surface by Rubbing • Check the solder gun for proper heat • Apply the solder paste on surface of job 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • What is purpose of solder paste? <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Demonstrate the solder paste on surface of job 	Theory-02 Hrs Practical-09 Hrs Total-11 Hrs	<ul style="list-style-type: none"> • Solder gun • Solder wire • Solder paste • De-soldering sucker 	Training Workshop
LU4. Perform post soldering operations	Trainee will be able to: <ul style="list-style-type: none"> • Clean the surface of soldering area • Perform finishing with emery paper • Store the solder gun proper place 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • What is function of emery paper <u>Practical Activity:</u>	Theory-02 Hrs Practical-09 Hrs Total-11 Hrs	<ul style="list-style-type: none"> • Emery paper • Cleaning brush 	Training Workshop





National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Perform brazing as per standard				
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National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0211-AVT&MP-4. Maintain Fuel Supply System

Objective: After the completion of this module, the Trainee will be able to maintain fuel system of Prime Mover

Duration: 67 Hours

Theory: 10 Hours

Practice: 57 Hours

Credit Hours: 6.7

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Clean the Fuel tank	Trainee will be able to: <ul style="list-style-type: none"> Remove the earth lead of Battery. Clean the mounting bolts of fuel tank. Remove the connections of fuel gauge. Drain the fuel tank. Remove the fuel pipe. Remove the fuel tank from Prime Mover. Dry the fuel tank with air gun. Install the Fuel tank in Prime Mover. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe how to clean the fuel tank Describe the appropriate cleaning material for fuel tank <u>Practical Activity:</u> <ol style="list-style-type: none"> Clean the fuel tank 	Theory-1.5Hrs Practical-6 Hrs Total-7.5Hrs	<ul style="list-style-type: none"> Safety goggles Safety mask Safety Shoes Spanner Washing gun Air compressor Pressure Water 	Class Room Lab/ Field Visit
LU2. Replace the fuel pump	Trainee will be able to: <ul style="list-style-type: none"> Close the fuel supply with valve. Remove both pipes of fuel pump. 	Knowledge based questions <u>Theory</u>	Theory-1.5 Hrs Practical-9Hrs Total-10.5 Hrs	<ul style="list-style-type: none"> Spanner Sockets Joints Olive Torque ranch 	Class Room Lab/ Field Visit



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Cover the opening ends of fuel pump. • Remove the nuts of fuel pump. • Remove the fuel pump from Prime Mover. • Install the Fuel pump in Prime Mover. 	<ul style="list-style-type: none"> • Describe the procedure for fuel pump replacement. • How many high pressure pipes are used in four cylinder engine? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace high pressure pipes in four-cylinder engine. 			
LU3. Service the carburetor	<ul style="list-style-type: none"> • Remove the air intake & fuel supply from carburetor. • Remove the carburetor from engine. • Dismantle the carburetor. • Remove the folate and needle valve. • Remove the main jet and idling adjuster. • Service the parts of carburetor • Assemble the carburetor. • Install the Carburetor. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the idling speed adjustment <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the fuel jets 	Theory-1Hrs Practical-9Hrs Total-10Hrs	<ul style="list-style-type: none"> • Screwdriver • Jets • Fluid • Spanner • Plier • Nuts • Bolts 	Class Room Lab



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU4.</p> <p>Service Fuel injection Pump</p>	<ul style="list-style-type: none"> Remove the intake air connector and air intake. Remove the timing cover. Place the first piston at top of compression. Inline the timing point with pulley and pointer Place the valves of fourth cylinder on overlap position. Remove the injection pipes. Adjust the compression of valves by rotating crank shaft. Loosen the union bolt and nuts of pump. Remove the injection pump. Adjust the retard/Advance timing of pump. Install the injection pump with Prime Mover. Tight the nuts of Fuel pump 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Describe the parts of fuel injection pumps <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Replace the defective parts of fuel injection pump 	<p>Theory-2Hrs</p> <p>Practical-9Hrs</p> <p>Total-11Hrs</p>	<ul style="list-style-type: none"> Repair kit Joint kit Sealing washers Filters Metering valves Liner Blades Pistons Shoe Rollers Head and roter 	<p>Class Room</p> <p>Lab</p>
<p>LU5.</p> <p>Remove the air locking from fuel filter</p>	<ul style="list-style-type: none"> Tight the connections of fuel supply line Remove the bleed screw from filter. Operate the lift pump for air removing. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Describe the function of lift pump 	<p>Theory-1.5 Hrs</p> <p>Practical-6Hrs</p> <p>Total-7.5 Hrs</p>	<ul style="list-style-type: none"> Spanners Oil Tray Sealing washers 	<p>Class Room</p> <p>Lab</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Place and tighten the bleed screw by pressing the pump plunger. 	<u>Practical Activity:</u> 1. Remove the air locking from fuel line			
LU6. Remove the airlocking from injection pump	<ul style="list-style-type: none"> Open the bleed valve of injection pump. Operate the fuel lift pump. Remove the fuel injectors from engine. Crank the engine for air removing through injectors. Tighten the bleed screw and line nuts. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Explain from which part air release in injection pump <u>Practical Activity:</u> 1. Inspect the bleeding screw	Theory-1.5 Hrs Practical-9Hrs Total-10.5 Hrs	<ul style="list-style-type: none"> Spanner Oil Tray Sealing washers 	
LU7. Replace the fuel injectors	<ul style="list-style-type: none"> Clean the injectors. Separate leak of lines and return lines from each injector. Remove the fuel pipes from injection pump. Remove the injectors by opening their nuts and using puller. Place copper seat washer Place the dust seal/gasket on injector body. Install the injector on seat. Install leak off and high-pressure fuel pipes. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the parts of fuel injector <u>Practical Activity:</u> 1. Adjust the injector pressure	Theory-1Hrs Practical-9Hrs Total-10Hrs	<ul style="list-style-type: none"> Sliding hammer Copper washers Spanner Sockets with handles 	Class Room Lab



National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0716-MVS&A-5. Maintain Brake system

Objective: After this module candidate will be able to service Brake system of Prime Mover

Duration: 46 Hours

Theory: 10 Hours

Practice: 36 Hours

Credit Hours: 4.6

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Rebuild/ replace brake master cylinder of vehicle	Trainee will be able to: <ul style="list-style-type: none"> • Release the Brake fluid • Remove the brake paddle • Remove the brake Pipes • Remove the nuts & bolts of Master cylinder • Remove the master cylinder • Clean the surface with scraper • Insert the seal on Cylinder • Install the Master cylinder 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the working principle of Hydraulic Brake system <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Inspect and Diagnose the faults of Brake 	Theory-02 Hrs Practical- 09Hrs Total-11Hrs	<ul style="list-style-type: none"> • Tool kit • Brake oil • Cotton waste • Master cylinder repair kit 	Training Workshop
LU2. Replace wheel of cylinders vehicle	Trainee will be able to: <ul style="list-style-type: none"> • Release and restore the brake fluid • Remove the pipe and nuts/bolts from cylinder 	Knowledge based questions <u>Theory</u>	Theory-02 Hrs Practical-09 Hrs Total-11Hrs	<ul style="list-style-type: none"> • Tool kit • Brake oil • Cotton waste • Wheel cylinder repair kit 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Remove the Wheel Cylinder • Replace the seals of wheel cylinder • Install the both male & female cylinder as per service manual 	<ul style="list-style-type: none"> • Differentiate between male and female cylinder <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Demonstrate the placement of wheel cylinder 			
LU3. Bleed the brake	Trainee will be able to: <ul style="list-style-type: none"> • Place the Prime Mover on plain surface • Operate the brake paddle • Open the brake nipple • Bleed the brake • Tight the brake nipple • Top up the brake fluid 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the problems associated with brake air locking. <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Demonstrate the Bleed the brake to remove air locking 	Theory-02 Hrs Practical-06Hrs Total-08Hrs	<ul style="list-style-type: none"> • Tool kit • Brake oil • Cotton waste 	Training Workshop
LU4. Service parking brake system of vehicle	Trainee will be able to: <ul style="list-style-type: none"> • Jack up the wheels • Tight the brake adjuster up-to wheel locking • Unscrew the adjuster 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • State the function of parking brake system. 	Theory-02 Hrs Practical-06Hrs Total-08Hrs	<ul style="list-style-type: none"> • Tool kit • Hydraulic Jack 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



		<u>Practical Activity:</u> 1. Demonstrate the brake adjustment up-to wheel locking			
LU5. Service the brake	Trainee will be able to: <ul style="list-style-type: none"> • Park the Prime Mover on level surface • Remove the brake shoe • Service the Brake shoe • Adjust the brake shoe • Install the brake shoe • Conduct road test of vehicle to verify repair 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • What is the function of brake shoe? <u>Practical Activity:</u> 1. Demonstrate the adjustment of brake shoe.	Theory-02 Hrs Practical-06Hrs Total-8Hrs	<ul style="list-style-type: none"> • Tool kit • Emery paper • Cotton waste 	Training Workshop

Module: 0211-AVT&MP-6. Maintain Lubrication System

Objective: After the completion of this module, the Trainee will be able to Maintain Lubrication System

Duration: 38 Hours

Theory: 08 Hours

Practice: 30 Hours

Credit Hours:3.8

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required s	Learning Place
LU1. Replace the engine oil	Trainee will be able to: <ul style="list-style-type: none"> • Warm the engine to ambient temperature. • Select the proper tools for opening the Filter. • Remove the drain plug. • Remove the Oil filter • Install new oil filter. • Place the drain Plug. • Top up the Oil level. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the fitting procedure of oil filter sealing rings <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Replace drain plug ring 	Theory-3 Hrs Practical-9Hrs Total-12Hrs	<ul style="list-style-type: none"> • Oil Filter • Lubricant • Spanner • Filter Clamp • Funnel • Tray 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU2.</p> <p>Replace the oil pump</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Drain the oil by opening the drain plug. • Remove the engine sump. • Remove the timing cover of engine. • Remove the oil pipes of oil pump. • Remove the idler gear of oil pump. • Remove the oil pump. • Install new oil pump. • Assemble the engine cover and sump. • Top up the engine oil level. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the purpose of pressure relief valve <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the oil pipe of oil pump 	<p>Theory-2 Hrs</p> <p>Practical-9Hrs</p> <p>Total-11Hrs</p>	<ul style="list-style-type: none"> • Oil pump • Sump joints • Sealant • Sockets • Lubricant • Jack • Gloves • Goggles • Safety shoes • Spanner 	<p>Training Workshop</p>
<p>LU3.</p> <p>Replace balancer unit</p>	<ul style="list-style-type: none"> • Remove the Engine sump • Remove the balancer unit. • Remove the idler gear. • Remove the oil pump drive shaft. • Remove the oil pump mounting bolts. • Install the oil pump. • Assemble the balancer unit. • Assemble the Engine sump. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the balancer fitting sequence. <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Adjust the balancer weight position 	<p>Theory-3 Hrs</p> <p>Practical-12Hrs</p> <p>Total-15Hrs</p>	<ul style="list-style-type: none"> • Jack • Spanner • Sockets • Torque ranch • Sump Joints • Lubricants • Balancer unit • Oil pump 	<p>Training workshop</p>



Objective: After this module candidate will be able to maintain steering system of tractor

Duration: 49 Hours

Theory: 10 Hours

Practice: 39 Hours

Credit Hours: 4.9

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Service the steering assembly	Trainee will be able to: <ul style="list-style-type: none"> • Place the tractor on level surface • Remove the ball joints • Unscrew the nuts and bolts to separate from transmission • Remove the arms • Remove the side plate • Disassemble the steering column • Clean and lubricate the components • Assemble the steering column • Install the Steering side plate and arms 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Explain the functions of the steering assembly <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Replace side plate and arms 	 Theory-04 Hrs Practical- 15Hrs Total-19 Hrs	<ul style="list-style-type: none"> • Spanner set • Hydraulic Jack • Circlip plier • Scriber • Hammer 	 Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



LU2. Service Hydraulic steering	Trainee will be able to: <ul style="list-style-type: none"> • Place the tractor on level surface • Remove the reservoir • Remove the hydraulic oil filter • Clean the hydraulic oil filter with kerosene oil • Install oil filter • Install the reservoir 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the Principal of hydraulic system <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Replace the hydraulic oil filter. 	Theory-03 Hrs Practical-12Hrs Total-15Hrs	<ul style="list-style-type: none"> • Spanner set • Hydraulic Jack • Circlip plier • Scriber • Filter • Steering oil 	Training Workshop
LU3. Service the Steering Cylinder	Trainee will be able to: <ul style="list-style-type: none"> • Jack-up the tractor • Remove the ball joints • Remove the cup • Remove the piston • Place the seal kit appropriately • Assemble the steering cylinder 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • What is function of piston? <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Replace the Steering cylinder piston 	Theory-03 Hrs Practical-12Hrs Total-15Hrs	<ul style="list-style-type: none"> • Spanner set • Hydraulic Jack • Circlip plier • Scriber • Steering cylinder 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0211-AVT&MP-8. Maintain Electrical System

Objective: After the completion of this module, the Trainee will be able to Maintain Electrical System

Duration: 60Hours

Theory: 15 Hours

Practice: 45 Hours

Credit Hours:6

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Maintain fuel gauge	Trainee will be able to: <ul style="list-style-type: none"> Inspect fuel sending unit. Inspect instrument panel unit. Check the continuity between instrument panel unit and sending unit. Replace fuel sending unit. Replace instrument panel unit. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the three points of fuel gauge <u>Practical Activity:</u> <ol style="list-style-type: none"> Make connection of fuel gauge 	Theory-2Hrs Practical-6 Hrs Total-8Hrs	<ul style="list-style-type: none"> Fuel sender Thimbles Nuts Bolts Clamp Fuel guage 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



LU2. Maintain temperature gauge	Trainee will be able to: <ul style="list-style-type: none"> • Check the continuity between both units. • Replace the instrument panel unit. • Replace the temperature sensor. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the function of temperature gauge • <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Make connection of temperature gauge 	Theory-2Hrs Practical-6Hrs Total-8Hrs	<ul style="list-style-type: none"> • Temperature transmitter • Harness cables • thimbles • temperature guage • wire cutter • plier 	Training Workshop
LU3. Maintain oil pressure indicator	<ul style="list-style-type: none"> • Check the continuity between both units. • Replace the instrument panel unit. • Replace the pressure gauge. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the pressure at which turning off the indicator light • <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Replace the oil pressure switch 	Theory-2Hrs Practical-6 Hrs Total-8Hrs	<ul style="list-style-type: none"> • Oil pressure switch • Bulbs • Harness thimbles • Fuses • Plier • Fuse puller 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



LU4. Maintain head light circuit	<ul style="list-style-type: none"> Check the continuity between head light and switch. Replace the head light bulb or tube. Replace the head light fuse. Replace the head light switch. Replace the head light relay. Adjust or aiming the head light. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Explain the head light circuit <u>Practical Activity:</u> <ol style="list-style-type: none"> Replace the bulbs and tubes of headlights 	Theory-2Hrs Practical-9Hrs Total-11Hrs	<ul style="list-style-type: none"> Bulbs Tubes Harness cable thimbles Switch Plier Insulation tape Wire cutter Multimeter 	Training workshop
LU5. Maintain indicator circuit	<ul style="list-style-type: none"> Check the continuity between indicator light and switch. Replace the indicator light bulb. Replace the indicator light fuse. Replace the indicator light switch. Replace the flasher of indicator light. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Explain the working of blinker unit <u>Practical Activity:</u> <ol style="list-style-type: none"> Replace blinker unit 	Theory-3Hrs Practical-6Hrs Total-9Hrs	<ul style="list-style-type: none"> Switch Harness cables thimbles Bulbs Relay Blinker unit Insulation tape plier 	Training workshop
LU6. Maintain horn circuit	<ul style="list-style-type: none"> Check the continuity between horn and switch. Adjust the horn sound. Replace the horn system fuse. Replace the horn. Replace horn switch. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the connection of horn 	Theory-2Hrs Practical-6 Hrs Total-8Hrs	<ul style="list-style-type: none"> Horn switch Horn Fuse Harness cables thimbles Insulation tape 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



		<u>Practical Activity:</u> 1. Adjust the sound of horn		<ul style="list-style-type: none"> Plier 	
LU7. Maintain Brake light circuit	<ul style="list-style-type: none"> Check the continuity between brake pedal switch and Brake Light. Replace brake light circuit fuse. Adjust the brake pedal switch. Replace the brake pedal switch. Replace the brake pedal light bulb. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Explain the function of break switch <u>Practical Activity:</u> 1. Adjust the break switch	Theory-2Hrs Practical-6 Hrs Total-8Hrs	<ul style="list-style-type: none"> Switch Earth wire Bulbs Harness cables Thimbles Insulation tape Plier 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



Module- 0716-MVS&A-9-Maintain Grain Grader

Objective: After this module candidate will be able to manage and maintain different types of graders.

Duration: 27 Hours

Theory: 06 Hours

Practice: 21 Hours

Credit Hours: 2.7

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Identify Graders Types	Trainee will be able to: <ul style="list-style-type: none">• Identify Grain Graders• Identify Vegetable Grader.• Identify Fruit Grader.	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none">• Describe the working principle of various Graders <u>Practical Activity:</u> <ol style="list-style-type: none">1. identify various Grader problems	 Theory-02Hrs Practical- 03Hrs Total-05Hrs	<ul style="list-style-type: none">• Different graders	Training Workshop
LU2. Maintain Grain Grader	Trainee will be able to: <ul style="list-style-type: none">• Inspect major components of Grain Grader.• Adjust air pressure of grain Grader blower• Change appropriate sieves for different grains	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none">• Describe the maintenance	 Theory-01 Hrs Practical-06Hrs Total-07Hrs	<ul style="list-style-type: none">• Adjustable wrench• Combination spanner set• Combination plier• Hammer	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Clean sieves of grain grader • Adjust belts of grain grader • Adjust tilt angle of grain grader • Adjust feeding of grain graders • Replace balls/brushes of grain graders. 	<p>procedure of grain graders</p> <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Adjust angle of grain grader 		<ul style="list-style-type: none"> • PPEs 	
<p>LU3.</p> <p>Maintain vegetable Graders</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Inspect major components of vegetable grader. • Adjust feeding of vegetable grader. • Adjust chain/belt conveyer of vegetable grader. • Service of different parts of vegetable grader. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the importance of vegetable grading <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Adjust feeding system of vegetable grader. 	<p>Theory-02 Hrs</p> <p>Practical-06Hrs</p> <p>Total-08Hrs</p>	<ul style="list-style-type: none"> • Adjustable wrench • spanner set • Combination plier • Nose plier • Hammer • PPEs 	<p>Training Workshop</p>
<p>LU4.</p> <p>Maintain Fruit Grader</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Inspect major components of fruit grader. • Adjust feeding of fruit grader. 	<p>Knowledge based questions</p> <p><u>Theory</u></p>	<p>Theory-01Hrs</p> <p>Practical-06Hrs</p> <p>Total-07Hrs</p>	<ul style="list-style-type: none"> • Adjustable wrench • Combination spanner set • Combination plier 	<p>Training Workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Adjust chain/belt conveyer of fruit grader.• Service of different parts of fruit grader	<ul style="list-style-type: none">• Explain different systems of fruit grader <p><u>Practical Activity:</u></p> <ol style="list-style-type: none">1. Replace the belt conveyer of fruit grader.		<ul style="list-style-type: none">• Hammer• PPEs	
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National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0211-AVT&MP-10. Maintain Sprayer

Objective: After the completion of this module, the Trainee will be able to Maintain sprayers

Duration: 38 Hours

Theory: 08 Hours

Practice: 30 Hours

Credit Hours:3.8

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Maintain Knapsack sprayer	Trainee will be able to: <ul style="list-style-type: none"> Identify the main frame, water tank, hose pipe and nozzles. Check the seals of pump. Check working pressure of knapsack. Check the charging status of battery. Charge the battery. 	Knowledge based questions Theory <ul style="list-style-type: none"> Describe the parts of knapsack sprayer Describe the types and usage of different nozzles Practical Activity: <ol style="list-style-type: none"> Replace nozzle of knapsack sprayer Calibrate the knapsack sprayer Replace the pump of knapsack sprayer 	Theory-4 Hrs Practical-9Hrs Total-13Hrs	<ul style="list-style-type: none"> Nozzles Pipe Seals Stainer Safety goggles Safety mask Safety Shoes Spray collecting bag Knapsack sprayer 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU2.</p> <p>Maintain tractor mounted boom sprayer</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Check 3-point linkage system. • Check the drive shaft. • Check the main frame with water tank. • Remove the nuts and mounting bolts. • Assemble tank with suitable mounting. • Remove filter service with pressure water. • Remove Power take off (PTO) shaft from pump. • Remove pump mounting bolts from frame. • Remove pump. • Open the regulating valve. • Remove pumping piston and diaphragm. • Remove drive shaft French and bearing. • Remove drive shaft and connecting rod. • Clean with kerosene oil. • Assemble pump with recommended torque. • Top-up the pump with lubricant. • Check and adjust pressure 2 to 3 bar. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the working mechanism of tractor mounted boom sprayer <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Adjust rated PTORPM by fixing the engine speed 2. Calibrate the boom sprayer 	<p>Theory-2Hrs</p> <p>Practical-15Hrs</p> <p>Total-17Hrs</p>	<ul style="list-style-type: none"> • 3-point linkage • Category ball • Nuts • Bolts • Nozzles • Regulators • PTO shaft • Valves • Safety goggles • Safety mask • Safety Shoes • Tractor • Boom Sprayer • Lock pins 	<p>Training Workshop</p>
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National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU3.</p> <p>Clean Boom Assembly</p>	<ul style="list-style-type: none"> • Remove high pressure pipe. • Remove nozzles. • Clean nozzle with clean water. • Assemble boom assembly with frame of sprayer. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the causes of nozzle choking • <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Adjust the spray angle <ul style="list-style-type: none"> • 	<p>Theory-2Hrs</p> <p>Practical-6Hrs</p> <p>Total-8Hrs</p>	<ul style="list-style-type: none"> • Cleaning brushes • Pins and needles • Pipe clamps • Safety goggles • Safety mask • Safety Shoes • Boom Sprayer 	<p>Training Workshop</p>
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Objective: After this module candidate will be able to manage and maintain different types of land preparation implements

Duration: 68 Hours

Theory: 8 Hours

Practice: 60 Hours

Credit Hours: 6.8

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Inspect cultivator	Trainee will be able to: <ul style="list-style-type: none"> Inspect cultivator components (main frame, springs, tines, shovels etc.) Inspect attachment of cultivator with 3-point linkage system of tractor Check alignment of tines Check the size of tines Observe the tillage penetration Replace shovels at wear and tear 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the function of cultivator springs <u>Practical Activity:</u> <ol style="list-style-type: none"> Enlist the different parts of cultivator 	Theory-0.5 Hrs Practical- 3Hrs Total-3.5 Hrs	<ul style="list-style-type: none"> Cultivator Springs Tines Wrench Pins Grease Nuts Bolts Kerosene oil 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU2.</p> <p>Replace Blades (tine's tips) of cultivator</p>	<ul style="list-style-type: none"> • Select Spanner and special tools (spring installer) • Clean components from dust, mud and residue • Uplift cultivator on stand 1-2 feet from ground surface • Remove the nuts and bolts • Remove blades • Assemble blades with required torque 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describes reasons for the breakage of blades <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the tine tips 	<p>Theory-0.25Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.25Hrs</p>	<ul style="list-style-type: none"> • Cultivator • Tine's tips • Screw Wrench • Grease • Nuts • Bolts • Kerosene oil 	<p>Training Workshop</p>
<p>LU3.</p> <p>Replace tines</p>	<ul style="list-style-type: none"> • Select Spanner and special tools (spring installer) • Clean components from dust, mud and residue • Uplift cultivator on stand 1-2 feet from ground surface • Remove the nuts and bolts • Remove tine assembly from frame • Remove tine spring with SST • Remove tines pins • Replace tines • Assemble tines with springs 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the function of tine guide and springs <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the tines. 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.5Hrs</p>	<ul style="list-style-type: none"> • Cultivator • Tines • Wrench • Grease • Nuts • Bolts • Kerosene oil 	<p>Training workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU4. Inspect Rotavator</p>	<ul style="list-style-type: none"> • Clean components from dust, mud, and residue • Inspect rotavator components (mainframe with a metal cover sheet, pipes, blades, bearing, gearbox, cross shaft) • Inspect rotavator attachment with PTO shaft • Check wear and tear of blades, bearings, and both gearbox 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the types and their usage of rotavator <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Enlist the different parts of rotator 	<p>Theory-0.25 Hrs Practical- 3Hrs Total-3.25 Hrs</p>	<ul style="list-style-type: none"> • Rotavator 	<p>Training Workshop</p>
<p>LU5. Service rotavator</p>	<ul style="list-style-type: none"> • Uplift rotavator on stand 1-2 feet from the ground surface • Change oil single-speed gearbox • Change oil multi-speed gearbox • Remove clutch nuts and bolts • Remove clutch springs • Remove friction disk (clutch plate) • Assemble clutch Assembly with the required torque 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the function of clutch of gearbox <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the cutter of rotavator. 	<p>Theory-0.5 Hrs Practical- 3Hrs Total-3.5Hrs</p>	<ul style="list-style-type: none"> • Tractor • Bearings • Blades • Rotavator • Grease • Cotton waste • Screw Wrench • O rings and seals • Gear oil • Kerosene oil 	<p>Training Workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU6.</p> <p>Replace single speed gearbox of Rotavator</p>	<ul style="list-style-type: none"> • Remove nuts and bolts mainframe to the gearbox • Remove gearbox • Remove nuts and bolts drive pinion • Remove crown wheel and bearings • Clean with Kerosene oil • Replace oil seals • Assemble with special tools • Top-up lubricant level 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • What is a use oil seal and o rings? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace oil seals of gear box. 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.5Hrs</p>	<ul style="list-style-type: none"> • Rotavator • Single speed Gear box • Lubricants • Kerosene oil 	<p>Training Workshop</p>
<p>LU7.</p> <p>Replace multi-speed gear of Rotavator</p>	<ul style="list-style-type: none"> • Uplift rotavator on stand 1-2 feet from the ground surface • Drain gearbox oil • Remove gearbox cover • Remove idler gear • Remove drive and driven gear • Clean with Kerosene oil • Replace oil seal • Assemble gears cover with nuts and bolts with required torque • Top-up lubricant level 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the function of drive and driven gears? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace gears set for different speeds 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.5Hrs</p>	<ul style="list-style-type: none"> • Rotavator • Gear box • Screw wrench • Screw driver • Lubricants • Cotton waste • Kerosene oil 	<p>Trainng workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU8.</p> <p>Replace blades</p>	<ul style="list-style-type: none"> • Uplift rotavator on stand 1-2 feet from the ground surface • Remove nuts and bolts of blades • Remove blades • Assemble blades in sequence from left to right • Tight nut and bolts with the required torque • Assemble depth control bracket 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the recommended pattern for blade fitting in a rotavator <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the rotavator blade. 	<p>Theory-0.5 Hrs</p> <p>Practical- 6Hrs</p> <p>Total-6.5 Hrs</p>	<ul style="list-style-type: none"> • Rotavator • Blades • Wrench • Cotton waste • hammer • Lubricants • Kerosene oil 	<p>Training workshop</p>
<p>LU9.</p> <p>Inspect Reversible Mouldboard (RMB) Plough</p>	<ul style="list-style-type: none"> • Clean components from dust, mud, and residue • Inspect RMB plough components (share, mould board, land side, frog, tail pieces, marker etc.) • Inspect attachment of RMB plough with 3-point linkage system of tractor. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the usage of Reversible Mould board (RMB) Plough? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Enlist the different parts of RMB 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total- 3.5 Hrs</p>	<ul style="list-style-type: none"> • RMB plough 	<p>Training Workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU10.</p> <p>Maintain rotating mechanism of RMB</p>	<ul style="list-style-type: none"> • Select spanner, punch, hammer, torque wrench, brass rod and grease gun • Remove high-pressure pipes • Remove hydraulic jack • Remove center pin from A-frame to the mainframe • Clean bush and shaft with Kerosene oil • Assemble locking device and center pin • Lubricate locking device and center pin 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the rotating mechanism of Reversible Mouldboard (RMB) Plough? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Change the direction of RMB. 	<p>Theory-0.5 Hrs</p> <p>Practical- 6Hrs</p> <p>Total-6.5 Hrs</p>	<ul style="list-style-type: none"> • RMB plough • Tractor • Grease • Grease gun • Kerosene oil 	<p>Training Workshop</p>
<p>LU11.</p> <p>Replace components</p>	<ul style="list-style-type: none"> • Uplift MB plough on stand 1-2 feet from the ground surface • Remove nuts and bolts • Remove mould board, landside, frog, and share • Assemble mould board, landside, frog, and share • Tighten nut and bolts with the required torque 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the tilt and shear angle of cutting blade <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the cutting tip of the blades 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.5Hrs</p>	<ul style="list-style-type: none"> • MB Plough • Blades • Spanner set • Nuts and bolts cotton waste • Torque wrench 	<p>Training workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU12.</p> <p>Inspect chisel plough</p>	<ul style="list-style-type: none"> • Clean components from dust, mud, and residue • Inspect chisel plough components (A-frame, tines, share, tines, pin) • Check wear and tear of tines 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe the function of chisel plough <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Enlist the parts of chisel plough. 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.5Hrs</p>	<ul style="list-style-type: none"> • Chisel Plough 	<p>Training workshop</p>
<p>LU13.</p> <p>Replace share of Chisel plough</p>	<ul style="list-style-type: none"> • Uplift chisel plough on stand 1-2 feet from the ground surface • Remove hairpin and pin • Remove tines from A-frame • Remove share from tine • Assemble share with tine 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • What is difference between lock pin and connecting pin? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the share of chisel plough. 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total-3.5Hrs</p>	<ul style="list-style-type: none"> • Chisel plough • Screw wrench • Nuts & bolts • Kerosene oil • cotton waste 	<p>Training Workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU14.</p> <p>Inspect Disc plough</p>	<ul style="list-style-type: none"> • Identify disc plough • Clean components from dust, mud, and residue • Inspect disc plough components (mainframe, hub, discs, and marking wheel). • Check wear and tear of discs. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • What is use of disc plough? <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Enlist the components of disc plough. 	<p>Theory-0.5 Hrs</p> <p>Practical- 3Hrs</p> <p>Total- 3.5Hrs</p>	<ul style="list-style-type: none"> • Disc plough • Grease • Nuts • Bolts • Kerosene oil 	<p>Training workshop</p>
<p>LU15.</p> <p>Replace disc and hub bearings</p>	<ul style="list-style-type: none"> • Select spanners and torque ranch and grease • Uplift disc plough on stand 1-2 feet from the ground surface • Remove nuts and bolts from disc to hub • Remove nuts and bolts from mainframe to hub • Remove hub bearing • Clean with kerosene oil • Assemble bearing in the hub with required torque • Assemble hub on main frame • Attach hub with frame • Assemble disc with hub with required torque 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • What is the difference between disc plough and disc harrow <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Replace the disc hub bearing 	<p>Theory-0.5 Hrs</p> <p>Practical- 6 Hrs</p> <p>Total- 6.5Hrs</p>	<ul style="list-style-type: none"> • Disc plough • Wrench • Bearings • Grease • Nuts • Bolts • Lubricants • Kerosene oil 	<p>Training workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Fill Grease on both hubs • Align discs to each other 				
LU16. Inspect Disc harrows	<ul style="list-style-type: none"> • Clean components from dust, mud, and residue • Inspect disc harrow components (mainframe, drawbar, front gang carrier, rare gang carrier, and frame assembly, offset bar, axle, discs). • Check wear and tear of discs. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe different types of disc harrow and their usage <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Enlist the components of Disc Harrow. 	Theory-0.5 Hrs Practical- 3 Hrs Total-3.5 Hrs	Disc harrow	Training workshop
LU17. Replace gang assembly	<ul style="list-style-type: none"> • Uplift disc harrow on stand 1-2 feet from the ground surface • Remove A-frame pins • Remove offset bar • Remove gang assembly • Uplift gang assembly • Remove nuts and bolts from hub to frame from both sides • Remove axle shaft nut and bearings 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • State the function of gang assembly? <u>Practical Activity:</u>	Theory-0.5 Hrs Practical- 3 Hrs Total- 3.5 Hrs	<ul style="list-style-type: none"> • Grease • Disc harrow • Gang assembly • Spanner set • Nuts • Bolts • Kerosene oil 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Clean bearings with kerosene oil• Replace both seals• Assemble hub• Remove gang axle nut• Assemble both gang assembly• Attach gang assembly with mainframe and A-frame/drawbar	1. Replace the gang assembly.			
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Module: 0211-AVT&MP-12. Maintain Sowing and Planting Equipments

Objective: After the completion of this module, the Trainee will be able to Maintain the sowing equipment during the time of sowing.

Duration: 64 Hours

Theory: 10 Hours

Practice: 54 Hours

Credit Hours: 6.4

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
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National Curriculum Level-4 in Agricultural Machinery Technology



LU1. Inspect seed cum fertilizer drill	Trainee will be able to: <ul style="list-style-type: none"> • Clean components from dust, mud, and residue • Inspect the components of seed drill (mainframe, furrow opener, covering device, metering unit, clutch, seed delivery unit, seed, and fertilizer box, 3-point hitch point, etc.). • Identify various fertilizers. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe the parts of seed drill <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Adjust the marking wheel 	Theory-1 Hrs Practical-3Hrs Total-4Hrs	<ul style="list-style-type: none"> • Seed drills • calibration tubes 	Training Workshop
LU2. Calibrate seed drill	Trainee will be able to: <ul style="list-style-type: none"> • Calibrate seed drill as follows. • Fix calibration area for seed metering. • Measure the circumference of the seed metering wheel. • Multiply the measured circumference of wheel with 10. • Collect and weigh the dropped seed from each seed tube. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • What is the purpose of seed drill calibration? • State the benefits of seed drill calibration <u>Practical Activity:</u> <ol style="list-style-type: none"> 1. Adjust per acre required seed and fertilizer rate 	Theory-1.5Hrs Practical-9 Hrs Total-10.5Hrs	<ul style="list-style-type: none"> • Seed • Fertilizer • Measuring tape • Trays • Seed drill 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Calculate total dropped seed in measured area. Calculate the seed rate for one acre on the basis of measured area: = $\frac{\text{Dropped seed (Kg)} * \text{One acre (m}^2\text{)}}{\text{measured Area (m}^2\text{)}}$ 				
LU3. Operate seed drill	<ul style="list-style-type: none"> Adjust the seed drill with the 3-point linkage. Run the seed drill at recommended RPM to drop the measured quantity of seed at desired depth. Ensure uniform seed dropping in all seed tubes. Ensure continuous seed dropping in all furrows. Note the calibration data on sheet for future usage. 	Knowledge based questions Theory <ul style="list-style-type: none"> Describe the appropriate field conditions for the usage of seed drill Practical Activity: <ol style="list-style-type: none"> Hitch and Level the drill 	Theory-1.5Hrs Practical-6 Hrs Total-7.5Hrs	<ul style="list-style-type: none"> Seed drill Tractor Seed and fertilizer 	Field
LU4. Replace Blades of Seed Drill	<ul style="list-style-type: none"> Select Spanner and required tools. Clean components from dust, mud, and residue Uplift cultivator on stand 1-2 feet from ground surface Open seed box Open fertilizer box Remove the nuts and bolts. Remove blades. 	Knowledge based questions Theory <ul style="list-style-type: none"> What is the function of furrow opener Practical Activity:	Theory-1 Hrs Practical-6 Hrs Total-7 Hrs	<ul style="list-style-type: none"> Spanner Hammer Plier set Screw driver set Grease Cotton waste 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Remove both tubes. Assemble blades with required torque 	<ol style="list-style-type: none"> Replace the meeting mechanism and blades of seed drill 			
LU5. Identify Potato planter	<ul style="list-style-type: none"> Identify the components of potato planter (ridger assembly, seed hopper, fertilizer box, seed treatment tank) Clean potato planter components from dust, mud, and residue. Check wear and tear of furrow opener 	Knowledge based questions Theory <ul style="list-style-type: none"> Describe the difference between planter and seed drill Practical Activity: <ol style="list-style-type: none"> Enlist the components of potato planter 	Theory-1 Hrs Practical-3Hrs Total-4Hrs	<ul style="list-style-type: none"> Potato planter 	Training Workshop
LU6. Maintain potato planter-seed hopper	<ul style="list-style-type: none"> Select spanners, screwdriver, L-key, hammer, grease gun. Place the planter at levelled surface. Remove nuts and bolts of the seed hopper. Remove nuts and bolts of fertilizer box. Remove nuts and bolts of seed treatment box. Uplift planter on stand 1-2 feet from the ground surface 	Knowledge based questions Theory <ul style="list-style-type: none"> Describe working mechanism of potato planter seed hopper Practical Activity: <ol style="list-style-type: none"> Adjust the chain tension 	Theory-1 Hrs Practical-9 Hrs Total-10 Hrs	<ul style="list-style-type: none"> Spanner Screwdriver L-key grease gun cleaning brush hammer Nuts Bolts 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Remove furrow opener nuts and bolts. Assemble furrow opener. Tight nut and bolts with the required torque remove conveyor drive shaft bearings. Remove cup conveyor belt. Assembled cup conveyor belt. Assemble both bearings on hopper with require torque. 	2. Adjust the fertilizer ratio during potato plantation			
LU7. Maintain potato planter-fertilizer box	<ul style="list-style-type: none"> Select spanners, screwdriver, L-key, hammer, grease gun. Place at a smooth and clean surface Remove nuts and bolts of fertilizer box. Uplift planter on stand 1-2 feet from the ground surface Remove fertilizer drop assembly. Remove drop gear and tubes. Assemble drop gear and tubes. Assemble fertilizer drop assembly with require torque. 	Knowledge based questions Theory <ul style="list-style-type: none"> Describe the metering mechanism of fertilizer box Practical Activity: <ol style="list-style-type: none"> Replace the drop gears 	Theory-1 Hrs Practical-6 Hrs Total-7 Hrs	<ul style="list-style-type: none"> Potato planter Spanner Screwdriver grease gun cleaning brush hammer Nuts Bolts Stand 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU8.</p> <p>Identify potato digger</p>	<ul style="list-style-type: none"> Identify the components of potato digger (digging shovel, conveyer chain, PTO shaft) Clean components from dust, mud, and residue. Check wear and tear of potato digger 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Describe the components of potato digger Describe the working mechanism of potato digger <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Perform oil replacement Greasing the components of digger 	<p>Theory-1 Hrs</p> <p>Practical-3 Hrs</p> <p>Total-4Hrs</p>	<ul style="list-style-type: none"> Potato digger 	<p>Training Workshop</p>
<p>LU9.</p> <p>Maintain Potato digger</p>	<ul style="list-style-type: none"> Remove nuts and bolts of shovels. Assemble shovel nut bolts with required torque. Remove conveyor chain drive gearbox. Remove nuts and bolts of drive gearbox. Remove chain laying drive wheel. Clean with kerosene oil Remove conveyer chain. Remove laying drive wheel. Remove shaft and bearings. Clean with kerosene oil 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> State the recommended conveyer chain number <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> Replace the bearings of potato digger 	<p>Theory-1 Hrs</p> <p>Practical-9 Hrs</p> <p>Total-10 Hrs</p>	<ul style="list-style-type: none"> Spanner Screwdriver grease gun cleaning brush hammer Nuts Bolts Stand bearing 	<p>Training Workshop</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Assemble shaft and laying drive wheel.• Assemble conveyor chain drive gearbox.• Lubricate/ grease fill.				
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National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0716-MVS&A-13. Operate / Maintain Mowers and Forage Harvester

Objective: After this module, candidate will be able to select appropriate, adjust and operate Mowers and Forage Harvester

Duration: 47 Hours

Theory: 08 Hours

Practice: 39 Hours

Credit Hours: 4.7

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Select appropriate Mower / Forage Harvester	Trainee will be able to: <ul style="list-style-type: none"> Identify types of Mowers with respect to their function Identify parts of Mower Sickle bar assembly. Identify Parts of Forage Harvester Select the suitable Mower Select the suitable Forage Harvester 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describes types of mowers with their function <u>Practical Activity:</u> <ol style="list-style-type: none"> Enlist major components of forage harvester 	Theory-02 Hrs Practical- 09Hrs Total-11Hrs	<ul style="list-style-type: none"> Forage harvester Lawn mower 	Training workshop
LU2. Operate Mower	Trainee will be able to: <ul style="list-style-type: none"> Operate Sickle bar Mower Adjust mower cutter bar assembly Lead Adjust Guard Alignment of cutter bar 	Knowledge based questions <u>Theory</u>	Theory-04Hrs Practical-15 Hrs Total-19Hrs	<ul style="list-style-type: none"> Mower harvester 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Perform Tilt adjustment of mower • Operate Sickle bar type side mower • Select and Maintain forward speed of Mower 	<ul style="list-style-type: none"> • Draw the parts of cutter bar assembly with neat sketch <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Set the cutter bar assembly 			
LU3. Operate Forage Harvester	Trainee will be able to: <ul style="list-style-type: none"> • Inspect the forage harvester for ready operation • Start the forage harvester • Inspect the control panel and adjust if required • Adjust the header of forage harvester • Operate the forage harvester(Field Visit) • Select and Maintain forward speed of Forage Harvester 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describes the mechanism of forage harvester <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Adjust the header of forage harvester 	Theory-02Hrs Practical-15 Hrs Total-17Hrs	<ul style="list-style-type: none"> • Forage harvester 	Training workshop



Objective: After the completion of this module, the Trainee will be to select adjust, Maintain and operate Reaper.

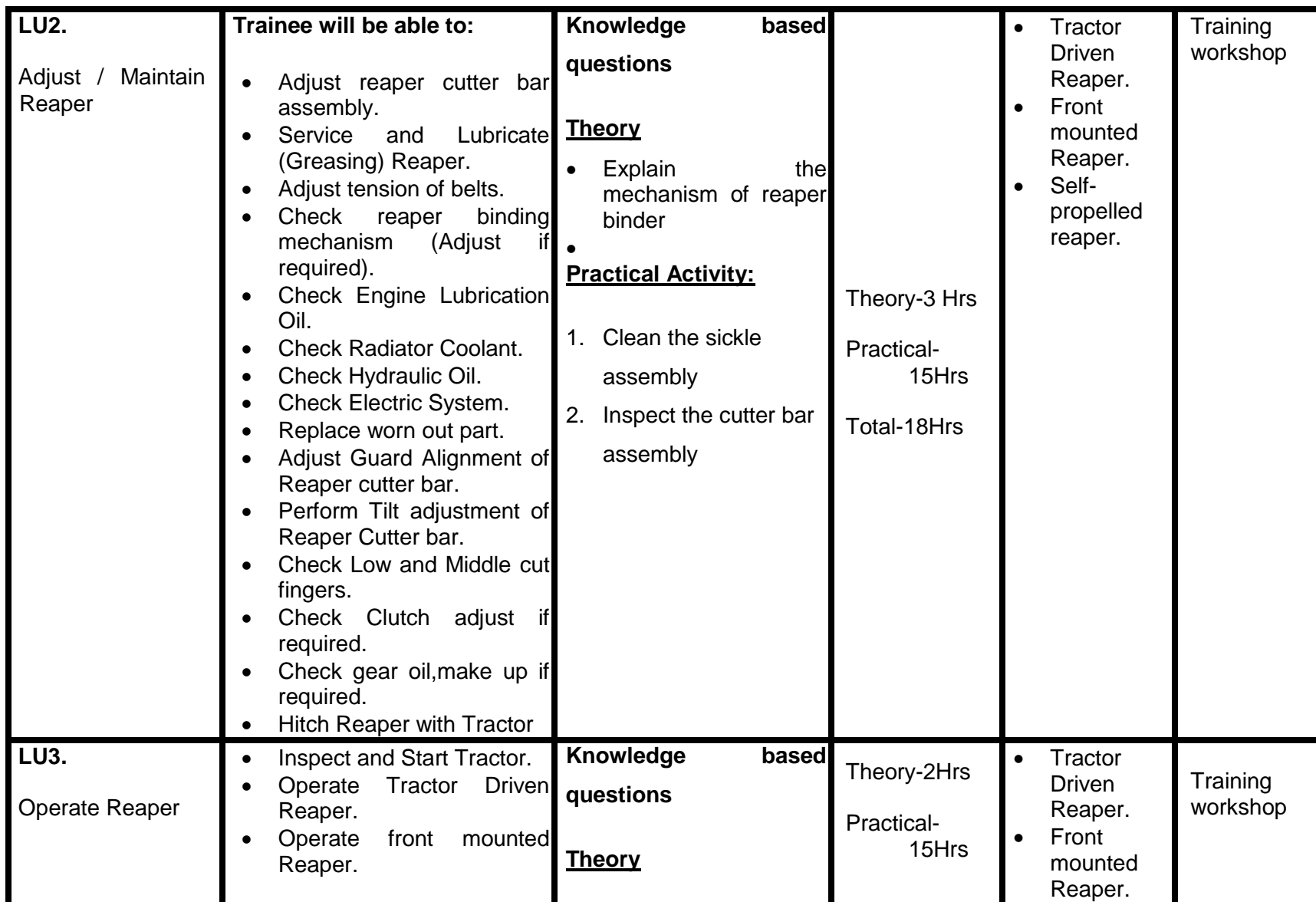
Duration: 47 Hours

Theory: 8 Hours

Practice: 39 Hours

Credit Hours:4.7

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National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">Start self-propelled reaper.Operate Self Propelled Reaper.	<ul style="list-style-type: none">State the RPM speed for self-propelled reaper <p><u>Practical Activity:</u></p> <ol style="list-style-type: none">Adjustment the ground speed of self-propelled reaper	Total-17Hrs	<ul style="list-style-type: none">Self-propelled reaper.	
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National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0716-MVS&A-15. Operate / Maintain Digger (Root crops)

Objective: After this module, candidate will be able to select, adjust, Maintain and operate Digger.

Duration: 32 Hours

Theory: 05 Hours

Practice: 27 Hours

Credit Hours: 3.2

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Inspect Digger	Trainee will be able to: <ul style="list-style-type: none"> • Select appropriate tools for adjustment • Check the adjustment of Roller , Belts and Chains • Generate Inspection of Digging Shovel • Enlist types of Digger 	Knowledge based questions Theory <ul style="list-style-type: none"> • Describe the purpose and benefits of digger Practical Activity: <ol style="list-style-type: none"> 1. Enlist the parts of digger. 	Theory-02 Hrs Practical- 09Hrs Total-11Hrs	<ul style="list-style-type: none"> • Different digger 	Training workshop
LU2. Operate Digger	Trainee will be able to: <ul style="list-style-type: none"> • Inspect the control panel and adjust if required • Adjust the hitching attachment of digger • Adjust the depth of digging shovel 	Knowledge based questions Theory <ul style="list-style-type: none"> • Describe the mechanism of Digger 	Theory-02 Hrs Practical-09Hrs Total-11Hrs	<ul style="list-style-type: none"> • Tool kit • Gloves • Tractor • Digger • Steel foot 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



		<u>Practical Activity:</u> 1. Hitch the digger with tractor and adjust working depth of shovel.			
LU3. Maintain Digger	Trainee will be able to: <ul style="list-style-type: none"> • Select and Maintain forward speed of tractor • Lubricate all lubricants point • Service the digger 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe maintenance elements of digger <u>Practical Activity:</u> 1. Greasing the point of digger	Theory-01 Hrs Practical-09 Hrs Total-10Hrs	<ul style="list-style-type: none"> • Gloves • Digger • Grease gun • Grease • Cotton waste 	Training workshop



National Curriculum Level-4 in Agricultural Machinery Technology



Module: 0211-AVT&MP-16. Operate Plant Protection (PP) Implements

Objective: After the completion of this module, the Trainee will be to select adjust, Maintain and operate Reaper.

Duration: 51 Hours

Theory: 09 Hours

Practice: 42 Hours

Credit Hours:5.1

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Identify plant protection equipment (PP)	Trainee will be able to: <ul style="list-style-type: none"> Identify indicators PP (herbicides, fungicides, insecticides, etc.) Identify PP equipment (hand sprayers, knapsack sprayers, boom sprayers, dusters, etc.) Inspect plant protection equipment. Identify the nozzles. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the sign and symbols of plant protection <u>Practical Activity:</u> <ol style="list-style-type: none"> Enlist different implements used in plant protection 	Theory-3 Hrs Practical-12Hrs Total-15Hrs	<ul style="list-style-type: none"> Safety goggles Safety mask Safety Shoes Hand sprayer Knapsack sprayer Boom sprayer Dusters broadcaster 	Training Workshop Field
LU2. Operate PP equipment	Trainee will be able to: <ul style="list-style-type: none"> Inspect pest scouting as per requirement. Calibrate plant protection equipment. Estimate the water chemical ratio. 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the pest scouting techniques 	Theory-3 Hrs Practical-21Hrs Total-24Hrs	<ul style="list-style-type: none"> Magnifying glass Hand sprayer Knapsack sprayer Boom sprayer 	Field Visit



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Use of plant protection equipment. • Uses of nozzles according to indicators. • Estimate operation cost. 	<u>Practical Activity:</u> 1. Operate the plant protection equipment		<ul style="list-style-type: none"> • Dusters 	
LU3. Maintenance PP equipment	<ul style="list-style-type: none"> • Find problems of PP equipment. • Maintain knapsack sprayers. • Maintain Boom sprayers • Maintain Dusters 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe working mechanism of dusters <u>Practical Activity:</u> 1. Replacement of diaphragm of boom sprayer pump	Theory-3 Hrs Practical-09Hrs Total-12Hrs	<ul style="list-style-type: none"> • Hand sprayer • Knapsack sprayer • Boom sprayer • Dusters • Nozzles 	Training Workshop



National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-24.: Apply specialist interpersonal and counseling interview skills

Objective: After the completion of this module, the Trainee will be able to use advanced and specialized communication skills in the client-counselor relationship. This unit applies to individuals whose job role involves working with clients on personal and psychological issues within established policies, procedures and guidelines.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Communicate effectively	Trainee will be able to: <ul style="list-style-type: none"> Identify communication barriers and use strategies to overcome these barriers in the client-counselor relationship Facilitate the client-counselor relationship through selection and use of micro skills Integrate the principles of effective 	Knowledge based questions Theory <ul style="list-style-type: none"> Legal and ethical considerations for communication in counseling practice, and how these are applied 	Theory- 1Hrs Practical-Hrs Total-1Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>communication into work practices</p> <ul style="list-style-type: none">• Observe and respond to non-verbal communication cues• Consider and respond to the impacts of different communication techniques on the client-counselor relationship in the context of individual clients• Integrate case note taking with minimum distraction	<p>in individual practice:</p> <ul style="list-style-type: none">• codes of conduct/practice• discrimination• duty of care• human rights• practitioner/client boundaries• privacy, confidentiality and disclosure• rights and responsibilities of workers, employers and clients• work role boundaries responsibilities			
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National Curriculum Level-4 in Agricultural Machinery Technology



		<p>and limitations of the counselor role</p> <ul style="list-style-type: none">• work health and safety <p>Principles of person-centered practice</p> <p>Communication techniques and micro-skills including:</p> <ul style="list-style-type: none">• attending behaviorsactive listening, reflection of content feeling, summarizing• questioning skills open, closed, simple and compound questions• client observation skills• noting and reflecting skills			
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National Curriculum Level-4 in Agricultural Machinery Technology



		<ul style="list-style-type: none">• providing client feedback <p>Specialized counseling communication techniques, and how they are used, including:</p> <ul style="list-style-type: none">• challenging• reframing• focusing <p>K8: components of the communication process including:</p> <ul style="list-style-type: none">• encoder• decoder <p>Obstacles to the counseling process</p> <p>Self-evaluation practices, including:</p> <ul style="list-style-type: none">• how to recognize own biases			
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National Curriculum Level-4 in Agricultural Machinery Technology



		<ul style="list-style-type: none"> • Impact of own values on the counseling relationship. 			
LU2. Use specialized counseling interviewing skills	Trainee will be able to: <ul style="list-style-type: none"> • Select and use communication skills according to the sequence of a counseling interview • Identify points at which specialized counseling interviewing skills are appropriate for inclusion • Use specialized counseling communication techniques based on their impacts and potential to enhance client development and growth • Identify and respond appropriately to strong client emotional reactions 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Key objectives of counseling interview • Stages of a counseling interview • Potential impacts of using different communication skills and techniques in counseling contexts 	Theory- 2Hrs Practical-Hrs Total-2 Hrs	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU3. Evaluate own communication</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Reflect on and evaluate own communication with clients • Recognize the effect of own values and beliefs on communication with clients • Identify and respond to the need for development of own skills and knowledge 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <p>Impacts of trauma and stress on the communication process, including on:</p> <ul style="list-style-type: none"> • concentration and attention • memory • use of verbal and written language • use of body language • challenging within the counseling session <p>Observational techniques including:</p> <ul style="list-style-type: none"> • facial expressions 	<p>Theory- 2Hrs</p> <p>Practical-Hrs</p> <p>Total-2 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>
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		<ul style="list-style-type: none"> • non-verbal behavior • posture • silence <p>Ways in which different people absorb information, including:</p> <ul style="list-style-type: none"> • visual • auditory • kinesthetic <p>K10: communication barriers and resolution strategies, including:</p> <ul style="list-style-type: none"> • environmental • physical • individual perceptions • cultural issues • language • age issues • disability <p>K9: primary factors that impact on the communication process including:</p> <ul style="list-style-type: none"> • context • participants • rules 			
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		<ul style="list-style-type: none">• messages• noise• feedback			
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0716-MVS&A-26: Develop workplace documents

Objective: After the completion of this module, the Trainee will be able to interpret written information for workplace purposes as well as planning, drafting and reviewing a basic document before writing the final version. The focus is on the content and structure of written materials and not on the use of computer technology.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Interpret written information	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Read workplace materials to identify the subject and key information for using or reporting to others. Read procedural manuals and codes of practice to locate specific information to carry out work functions in accordance with policy and standards. Read a range of written materials to locate and select required 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Explain the reading and writing procedures at a level to cope with a range of workplace materials 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>information for summaries, short reports and responses to requests.</p> <ul style="list-style-type: none">• Identify the cultural context and prior knowledge required to interpret workplace information and obtain assistance when required.• Determine audience and purpose for the document.• Seek assistance with interpretation of complex materials in accordance with organizational procedures.	<ul style="list-style-type: none">• Explain the integration of information from a number of sources in order to generate meaning• Describe the ways to write and sequence paragraphs according to the required purpose of written material• Explain the response to diversity, including gender and disability• Describe the problem-solving			
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		skills to determine document design and production processes			
LU2. Develop written materials	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Identify and comply with established requirements for a range of written materials in accordance with organizational procedures & standard templates. Determine format and structure. Establish key points for inclusion. Identify organizational requirements Establish method of communication Establish means of communication 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Describe the preparation of general information and papers according to target audience 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



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<p>LU3.Draft document</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Develop draft document to communicate key points • Obtain and include any required additional information • Prepare written information in an accurate, concise and unambiguous manner that meets intended audience and organizational requirements. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Explain the environmental policies such as those relating to paper use/wastage/recycling • Elaborate the ways of proofreading and editing documents to ensure clarity of meaning and conformity to organizational requirements • Elaborate spelling, punctuation and grammar for workplace documents at an experienced level 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>
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<p>LU4. Review document</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Check draft for suitability of tone for audience, purpose, format and communication style • Check draft for readability, grammar, spelling, sentence and paragraph construction and correct any inaccuracies or gaps in content. • Check draft for sequencing and structure • Check draft to ensure it meets organizational requirements • Ensure draft is proofread, where appropriate, by supervisor or colleague 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Ergonomic requirements devised for office work • Written material through selection and use of words, grammatical structures, headings and punctuation appropriate to the purpose 	<p>Theory-1 Hrs Practical-Hrs Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>
<p>LU5. Write final document</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Make and proofread necessary changes • Ensure document is sent to intended recipient within required time frames 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Resources to assist in document 	<p>Theory-1 Hrs Practical-Hrs Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• File copy of document in accordance with organizational policies and procedures	<p>production, such as dictionary, thesaurus, templates, style sheets</p> <ul style="list-style-type: none">• Ways to produce business letters, memos, job applications, resumes, meeting agendas and minutes <p>Format letters into a standard and window faced envelope.</p>		<ul style="list-style-type: none">•Multimedia projector	
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-17: Develop workplace policy and procedures for sustainability.

Objective: After the completion of this module, the Trainee will be able to develop and implement a workplace sustainability policy and to modify the policy to suit changed circumstances. It applies to individuals with managerial responsibilities who undertake work developing approaches to create, monitor and improve strategies and policies within workplaces and engage with a range of relevant stakeholders and specialists.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Develop workplace sustainability policy	Trainee will be able to: <ul style="list-style-type: none">Define scope of sustainability policyGather information from a range of sources to plan and develop policyIdentify and consult stakeholders as a key component of the policy development processInclude appropriate strategies in policy at all stages of work for minimizing resource use, reducing toxic material and hazardous chemical use and	Knowledge based questions Theory <ul style="list-style-type: none">Outline the environmental or sustainability legislation, regulations and codes of practice applicable to the organizationidentify internal and	Theory-2Hrs Practical-Hrs Total-2Hrs	<ul style="list-style-type: none">InternetMS OfficeSmartphoneLaptop/ComputerSmartphonePrinterWhite boardProjector screenMultimedia projector	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>employing life cycle management approaches</p> <ul style="list-style-type: none"> • Make recommendations for policy options based on likely effectiveness, timeframes and cost • Develop policy that reflects the organization's commitment to sustainability as an integral part of business planning and as a business opportunity • Agree to appropriate methods of implementation, outcomes and performance indicators 	<p>external sources of information and</p> <ul style="list-style-type: none"> • Explanation of plan and development of the organization sustainability policy 			
<p>LU2. Communicate workplace sustainability policy</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Promote workplace sustainability policy, including its expected outcome, to key stakeholders. • Inform those involved in implementing the policy about expected outcomes, activities to be undertaken and assigned responsibilities. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Outline organizational systems and procedures that relate to sustainability 	<p>Theory-1 Hrs Practical-Hrs Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



LU3. Implement workplace sustainability policy	Trainee will be able to: <ul style="list-style-type: none"> Develop and communicate procedures to help implement workplace sustainability policy Implement strategies for continuous improvement in resource efficiency Establish and assign responsibility for recording systems to track continuous improvements in sustainability approaches 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Outline typical barriers to implementing policies and procedures in an organization and possible strategies to address them. 	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room
LU4. Review workplace sustainability policy implementation	Trainee will be able to: <ul style="list-style-type: none"> Review workplace sustainability policy implementation. Investigate successes or otherwise of policy. 	Knowledge based questions <u>Theory</u>	Theory-1Hrs Practical-Hrs Total-1Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Monitor records to identify trends that may require remedial action and use to promote continuous improvement of performance.• Modify policy and or procedures as required to ensure improvements are made	<ul style="list-style-type: none">• Explain workplace policy development processes and practices		<ul style="list-style-type: none">•Projector screen•Multimedia projector	
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National Curriculum Level-4 in Agricultural Machinery Technology



Develop workplace policy and procedures for sustainability.

Objective: After the completion of this module, the Trainee will be able to develop and implement a workplace sustainability policy and to modify the policy to suit changed circumstances. It applies to individuals with managerial responsibilities who undertake work developing approaches to create, monitor and improve strategies and policies within workplaces and engage with a range of relevant stakeholders and specialists.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Develop workplace sustainability policy	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Define scope of sustainability policy Gather information from a range of sources to plan and develop policy Identify and consult stakeholders as a key component of the policy development process Include appropriate strategies in policy at all stages of work for minimizing resource use, reducing toxic material and hazardous chemical use and 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline the environmental or sustainability legislation, regulations and codes of practice applicable to the organization identify internal and 	<p>Theory-2Hrs</p> <p>Practical-Hrs</p> <p>Total-2Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>employing life cycle management approaches</p> <ul style="list-style-type: none"> • Make recommendations for policy options based on likely effectiveness, timeframes and cost • Develop policy that reflects the organization's commitment to sustainability as an integral part of business planning and as a business opportunity • Agree to appropriate methods of implementation, outcomes and performance indicators 	<p>external sources of information and</p> <ul style="list-style-type: none"> • Explanation of plan and development of the organization sustainability policy 			
<p>LU2. Communicate workplace sustainability policy</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Promote workplace sustainability policy, including its expected outcome, to key stakeholders. • Inform those involved in implementing the policy about expected outcomes, activities to be undertaken and assigned responsibilities. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Outline organizational systems and procedures that relate to sustainability 	<p>Theory-1 Hrs Practical-Hrs Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



LU3. Implement workplace sustainability policy	Trainee will be able to: <ul style="list-style-type: none"> Develop and communicate procedures to help implement workplace sustainability policy Implement strategies for continuous improvement in resource efficiency Establish and assign responsibility for recording systems to track continuous improvements in sustainability approaches 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Outline typical barriers to implementing policies and procedures in an organization and possible strategies to address them. 	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room
LU4. Review workplace sustainability policy implementation	Trainee will be able to: <ul style="list-style-type: none"> Review workplace sustainability policy implementation. Investigate successes or otherwise of policy. 	Knowledge based questions <u>Theory</u>	Theory-1Hrs Practical-Hrs Total-1Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Monitor records to identify trends that may require remedial action and use to promote continuous improvement of performance.• Modify policy and or procedures as required to ensure improvements are made	<ul style="list-style-type: none">• Explain workplace policy development processes and practices		<ul style="list-style-type: none">•Projector screen•Multimedia projector	
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-23 Identify and communicate trends in career development

Objective: After the completion of this module, the Trainee will be able to conduct research to identify and communicate career trends. It establishes the need to interact professionally with others in assessing career needs, to effectively assist clients identify competencies they require for a career and employability in a given context. It also examines how to maintain quality of career development services and professional practice. It applies to individuals seeking to identify and communicate trends in career development.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Research and confirm career trends	Trainee will be able to: <ul style="list-style-type: none">Apply knowledge of changing organizational structures, lifespan of careers and methods of conducting work search, recruitment and selection processesAnalyze changing worker and employer issues, rights and responsibilities in context of changing work practices	Knowledge based questions Theory <ul style="list-style-type: none">Explain client care and counseling techniques and processes in the context of career development services	Theory-3Hrs Practical-Hrs Total-3Hrs	<ul style="list-style-type: none">•Internet•MS Office•Smartphone•Laptop/Computer•Smartphone•Printer•White board•Projector screen•Multimedia projector	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Examine importance of quality careers development services • Maintain all research, documentation, sources and references (electronic or physical) to a high degree of currency and relevance • Analyze implications of relevant policy, legislation, professional codes of practice and national standards relating to worker and employer issues • Research changes and trends in theory of career development counseling and practice • Confirm clusters, levels and combinations of transferable employability skills and preferences that may open employment options spanning more than one occupation or career pathway 	<ul style="list-style-type: none"> • Describe diversity and its potential effects on career choices • Outline relevant policy, legislation, codes of practice and standards relevant to career development • Explain recruitment and selection processes in the context of career development services 			
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National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU2. Assess and confirm ongoing career development needs of target group</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Analyze history and records in assessing needs of target group Assess success of previous career development services and techniques used for individual or target group Deploy other means to investigate appropriate care and counseling approaches as required Maintain privacy, security of all data, research, personal records according to relevant policy, legislation, professional codes of practice & national standards Establish existing work-life balance requirements, issues and needs 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline human psychological development and needs in relation to careers development 	<p>Theory-1Hrs</p> <p>Practical-Hrs</p> <p>Total-1Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	<p>Class Room</p>
<p>LU3. Maintain quality of career development services and</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Analyze and review relevance of career theories, models, 	<p>Knowledge based questions</p> <p><u>Theory</u></p>	<p>Theory-1Hrs</p> <p>Practical-Hrs</p> <p>Total-1Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



professional practice	<p>frameworks and research for target group</p> <ul style="list-style-type: none">• Incorporate into career development services and professional practice, major changes and trends influencing workplace and career-related options and choices• Comply with all relevant policy, legislation, professional codes of practice that influence delivery of career development services	<ul style="list-style-type: none">• Describe a range of data gathering and research techniques• Explain techniques used to analyze trends.		<ul style="list-style-type: none">• White board• Projector screen• Multimedia projector	
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National Curriculum Level-4 in Agricultural Machinery Technology



Module: Apply specialist interpersonal and counseling interview skills

Objective: After the completion of this module, the Trainee will be able to use advanced and specialized communication skills in the client-counselor relationship. This unit applies to individuals whose job role involves working with clients on personal and psychological issues within established policies, procedures and guidelines.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Communicate effectively	Trainee will be able to: <ul style="list-style-type: none"> Identify communication barriers and use strategies to overcome these barriers in the client-counselor relationship Facilitate the client-counselor relationship through selection and use of micro skills Integrate the principles of effective communication into work practices Observe and respond to non-verbal communication cues Consider and respond to the impacts of different 	Knowledge based questions Theory <ul style="list-style-type: none"> Legal and ethical considerations for communication in counseling practice, and how these are applied in individual practice: <ul style="list-style-type: none"> codes of conduct/practice discrimination duty of care 	Theory-2Hrs Practical-Hrs Total-2Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>communication techniques on the client-counselor relationship in the context of individual clients</p> <ul style="list-style-type: none">• Integrate case note taking with minimum distraction	<ul style="list-style-type: none">• human rights• practitioner/client boundaries• privacy, confidentiality and disclosure• rights and responsibilities of workers, employers and clients• work role boundaries responsibilities and limitations of the counselor role• work health and safety <p>Principles of person-centered practice</p> <p>Communication techniques and micro-skills including:</p> <ul style="list-style-type: none">• attending behaviors			
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National Curriculum Level-4 in Agricultural Machinery Technology



		<p>active listening, reflection of content feeling, summarizing</p> <ul style="list-style-type: none">• questioning skills open, closed, simple and compound questions• client observation skills• noting and reflecting skills• providing client feedback <p>Specialized counseling communication techniques, and how they are used, including:</p> <ul style="list-style-type: none">• challenging• reframing• focusing <p>K8: components of the communication process including:</p> <ul style="list-style-type: none">• encoder			
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National Curriculum Level-4 in Agricultural Machinery Technology



		<ul style="list-style-type: none"> • decoder <p>Obstacles to the counseling process</p> <p>Self-evaluation practices, including:</p> <ul style="list-style-type: none"> • how to recognize own biases • Impact of own values on the counseling relationship. 			
LU2. Use specialized counseling interviewing skills	Trainee will be able to: <ul style="list-style-type: none"> • Select and use communication skills according to the sequence of a counseling interview • Identify points at which specialized counseling interviewing skills are appropriate for inclusion • Use specialized counseling communication techniques based on their 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Key objectives of counseling interview • Stages of a counseling interview 	Theory-1Hrs Practical-Hrs Total-1Hrs	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>impacts and potential to enhance client development and growth</p> <ul style="list-style-type: none"> Identify and respond appropriately to strong client emotional reactions 	<ul style="list-style-type: none"> Potential impacts of using different communication skills and techniques in counseling contexts 			
<p>LU3. Evaluate own communication</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Reflect on and evaluate own communication with clients Recognize the effect of own values and beliefs on communication with clients Identify and respond to the need for development of own skills and knowledge 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Impacts of trauma and stress on the communication process, including on: <ul style="list-style-type: none"> concentration and attention memory use of verbal and written language use of body 	<p>Theory- 2Hrs</p> <p>Practical-Hrs</p> <p>Total-2 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



		<p>language</p> <ul style="list-style-type: none">• challenging within the counseling session <p>Observational techniques including:</p> <ul style="list-style-type: none">• facial expressions• non-verbal behavior• posture• silence <p>Ways in which different people absorb information, including:</p> <ul style="list-style-type: none">• visual• auditory• kinesthetic <p>K10: communication barriers and resolution strategies, including:</p> <ul style="list-style-type: none">• environmental• physical• individual perceptions			
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National Curriculum Level-4 in Agricultural Machinery Technology



		<ul style="list-style-type: none">• cultural issues• language• age issues• disability <p>K9: primary factors that impact on the communication process including:</p> <ul style="list-style-type: none">• context• participants• rules• messages• noise• feedback			
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-27 Prepare and implement negotiation

Objective: After the completion of this module, the Trainee will be able to prepare for and participate in process of negotiation, Coordinate support services, Restore order, Provide leadership direction and guidance to the work group.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Prepare for the negotiation	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Identify objectives and preferred outcome of the negotiation and determine minimum acceptable outcome Understand in relation to what can be offered and what is needed from the other party Gather information regarding the other party – objectives, needs, preferences, resources, what they want to achieve – in order to determine best negotiating points List and rank the issues to consider concessions that may be made. 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Explain organization's policies, guidelines and procedures related to control and surveillance, safety and preventing and responding to incidents and breaches of orders 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Find examples and refine negotiation argument Check information to ensure it is correct and up-to-date. Develop a negotiation plan that includes information about the other party and its interests and a set of responses and strategies to the anticipated tactics. Prepare an agenda in advance, which includes discussion topics, participants, location and schedule 	covered in the range of variables.			
LU2. Participate in negotiations	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Analyze all aspects of the incident for degree of hazard, priorities, optional outcomes and appropriate strategies Analyze and determine strategies and priorities on the incident sought from a range of sources Assess long term objectives against resources and priorities 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline the principles of effective communication 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> • Apply a range of communication techniques to make and maintain contact with the key people • Provide clear and factual information to enable an honest and realistic assessment of the interests of the key people and their positions • Resolve the conflict and express their likely consequences clearly and do an analysis of the benefits • Reassess points of disagreements for common positive positions 				
LU3. Coordinate support services	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Assess the need for support services in terms of the determined strategies and priorities • Negotiate the resources of support services according to established 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Explain organization's management and 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>procedures and availability</p> <ul style="list-style-type: none"> • Provide information on strategies to support services and maintain the communication • Delegate roles and responsibilities according to expertise and resources 	<p>accountability systems</p>			
LU4. Restore order	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Assess the incidents for degree of risk and take appropriate action to reduce and remove the impact of the incident and restore order • Take action designed to minimize risk and the preserve the safety and security of all involved • Take action to prevent the escalation of the incident appropriate to the circumstances and agreed procedures. • Carry out the use of force for the restoration of control and the maintenance of security 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Describe teamwork principles and strategies 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>in the least restrictive manner.</p> <ul style="list-style-type: none"> • Complete reports accurately and clearly provided to the appropriate authority promptly • Review, evaluate and analyze the incident and the organizational response to it and report it promptly and accurately. 				
<p>LU5. Provide leadership direction and guidance to the work group</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Link between the function of the group and the goals of the organization • Participate in decision making routinely to develop, implement and review work of the group and to allocate responsibilities where appropriate • Give opportunities and encouragement to others to develop new and innovative work practices and strategies • Identify conflict and resolve with minimum 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Outline the guidelines for use of equipment and technology • Explain code of conduct 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>disruption to work group function</p> <ul style="list-style-type: none">• Provide staff with the support and supervision necessary to perform work safely and without risk to health• Allocate tasks within the competence of staff and support with appropriate authority, autonomy and training• Supervise appropriately the changing priorities and situations and takes into account the different needs of individuals and the requirements of the task				
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&-20 Manage personal work priorities and professional development

Objective: After the completion of this module, the Trainee will be able to create systems and process to organize information and prioritize tasks. It applies to individuals working in managerial positions who have excellent organizational skills. The work ethic of individuals in this role has a significant impact on the work culture and patterns of behavior of others as managers at this level are role models in their work environment.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Establish personal work goals	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Serve as a positive role model in the workplace through personal work planning Ensure personal work goals, plans and activities reflect the organization's plans, and own responsibilities and accountabilities Measure and maintain personal performance in varying work conditions, work contexts and when contingencies occur 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Explain principles and techniques involved in the management and organization of: <ul style="list-style-type: none"> performance measurement personal behavior, self- 	<p>Theory-2Hrs</p> <p>Practical-Hrs</p> <p>Total-2Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



		<p>awareness and personality traits identification</p> <ul style="list-style-type: none"> • a personal development plan • personal goal setting • time • Discuss management development opportunities and options for self-Outline organization s policies, plans and procedures 			
<p>LU2. Set and meet own work priorities</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Take initiative to prioritize and facilitate competing demands to achieve personal, team and 	<p>Knowledge based questions</p> <p><u>Theory</u></p>	<p>Theory-1Hrs</p> <p>Practical-Hrs</p> <p>Total-1Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> organizational goals and objectives Use technology efficiently and effectively to manage work priorities and commitments Maintain appropriate work-life balance, and ensure stress is effectively managed and health is attended to 	<ul style="list-style-type: none"> Describe methods for achieving a healthy work-life balance 		<ul style="list-style-type: none"> Multimedia projector 	
LU3. Develop and maintain professional competence	Trainee will be able to: <ul style="list-style-type: none"> Assess personal knowledge and skills against modules to determine development needs, priorities and plans Seek feedback from employees, clients and colleagues and use this feedback to identify and develop ways to improve competence Identify, evaluate, select and use development opportunities suitable to personal learning style/s to develop competence 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Explain types of learning style/s and how they relate to the individual Describe types of work methods and practices that can 	Theory-2 Hrs Practical-Hrs Total-2 Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Participate in networks to enhance personal knowledge, skills and work relationships• Identify and develop new skills to achieve and maintain a competitive edge	improve personal performance.			
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0716-MVS&A-19. Manage recruitment selection and induction processes

Objective: This unit describes the skills and knowledge required to manage all aspects of recruitment selection and induction processes in accordance with organizational policies and procedures. It applies to individuals or human resource personnel who take responsibility for managing aspects of selecting new staff and orientating those staff in their new positions. It is not assumed that the individual will be directly involved in the selection processes themselves, although this may well be the case.

Duration: 60 Hours

Theory: 15 Hours

Practice: 45 Hours

Credit Hours: 6

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Develop recruitment, selection and induction policies and procedures	<ul style="list-style-type: none"> Analyze strategic and operational plans and policies to identify relevant policies and objectives Develop recruitment, selection and induction policies and procedures and supporting documents 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> develop or critically analyze a policy and procedures framework for recruitment, 	Theory-5Hrs Practical-15Hrs Total-20Hrs	<ul style="list-style-type: none"> Documents Hard form Eligibility criteria Marks sheet 	Class Room Training Workshop Lab/ Field Visit



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Review options for technology to improve efficiency and effectiveness of recruitment and selection process• Obtain support for policies and procedures from senior managers• Trial forms and documents supporting policies and procedures and make necessary adjustments• Communicate policies and procedures to relevant staff and provide training if required	<p>selection and induction</p> <p><u>Practical Activity:</u></p> <p>1. Prepare and oversee appropriate documentation required for recruitment</p>			
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<p>LU2. Recruit and select staff</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Determine future human resource needs in collaboration with relevant managers and sections • Ensure current position descriptors and person specifications for vacancies are used by managers and others involved in recruitment, selection and induction processes • Provide access to training and other forms of support to all persons involved in recruitment and selection process • Ensure advertising of vacant positions complies with organizational policy and legal requirements • Utilize specialists where necessary 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • identify the need for recruitment • select and advise job applicants appropriately • manage the induction process <p><u>Practical Activity:</u></p> <ol style="list-style-type: none"> 1. Recruit and select staff 	<p>Theory-5Hrs Practical-15Hrs Total-20Hrs</p>	<ul style="list-style-type: none"> • • 	<p>Class Room</p> <p>Training Workshop</p> <p>Lab/ Field Visit</p>
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	<ul style="list-style-type: none"> • Ensure selection procedures are in accordance with organizational policy and legal requirements • Ensure processes for advising applicants of selection outcome are followed • Ensure job offers and contracts of employment are executed promptly, and new appointments are provided with advice about salary, terms and conditions 				
<ul style="list-style-type: none"> • LU3.Manage staff induction 	<ul style="list-style-type: none"> • Provide access to training and ongoing support for all persons engaged in staff induction • Check induction processes are followed across the organization 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Comply with relevant legislation and organizational requirements 	Theory-5Hrs Practical-15Hrs <ul style="list-style-type: none"> • Total-20Hrs 	<ul style="list-style-type: none"> • 	Class Room Training Workshop <ul style="list-style-type: none"> • Lab/ Field Visit



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none">• Oversee management of probationary employees and provide them with feedback until their employment is confirmed or terminated• Obtain feedback from participants and relevant managers on extent induction process is meeting its objectives• Make refinements to induction policies and procedures	<p><u>Practical Activity:</u></p> <p>1. Manage staff induction</p>				
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-21 Manage workforce planning

Objective: After the completion of this module, the Trainee will be able to manage planning in relation to an organization's workforce including researching requirements, developing objectives and strategies, implementing initiatives and monitoring and evaluating trends. It applies to individuals who are human resource managers or staff members with a role in a policy or planning unit that focuses on workforce planning.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Research workforce requirements	<p>Trainee will be able to:</p> <ul style="list-style-type: none">Review current data on staff turnover and demographicsAssess factors that may affect workforce supplyEstablish the organization's requirements for a skilled and diverse workforce	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none">Outline industrial relations relevant to the specific industry	<p>Theory- 1Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none">InternetMS OfficeSmartphoneLaptop/ComputerSmartphonePrinterWhite boardProjector screenMultimedia projector	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU2. Develop workforce objectives and strategies</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Review organizational strategy and establish aligned objectives for modification or retention of the workforce • Consider strategies to address unacceptable staff turnover, if required • Define objectives to retain required skilled labor • Define objectives for workforce diversity and cross-cultural management • Define strategies to source skilled labor • Communicate objectives and rationale to relevant stakeholders • Obtain agreement and endorsement for objectives and establish targets • Develop contingency plans to cope with extreme situations 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Explain current information about external labor supply relevant to the specific industry or skill requirements of the organization 	<p>Theory- 1Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>
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National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU3. Implement initiatives to support workforce planning objectives</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Implement action to support agreed objectives for recruitment, training, redeployment and redundancy Develop and implement strategies to assist workforce to deal with organizational change Develop and implement strategies to assist in meeting the organization's workforce diversity goals Implement succession planning system to ensure desirable workers are developed and retained Implement programs to ensure workplace is an employer of choice 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Strategies to assist workforce to deal with organizational change & work environment 	<p>Theory- 1Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	<p>Class Room</p>
<p>LU4. Monitor and evaluate workforce trends</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Review workforce plan against patterns in exiting employee and workforce changes Monitor labor supply trends for areas of over- 	<p>Knowledge based questions</p> <p><u>Theory</u></p>	<p>Theory-2 Hrs</p> <p>Practical-Hrs</p> <p>Total-2 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>or under-supply in the external environment</p> <ul style="list-style-type: none">• Monitor effects of labor trends on demand for labor• Survey organizational climate to gauge worker satisfaction• Refine objectives and strategies in response to internal and external changes and make recommendations in response to global trends and incidents• Regularly review government policy on labor demand and supply• Evaluate effectiveness of change processes against agreed objectives	<p>Describe labor force analysis and forecasting techniques</p>		<ul style="list-style-type: none">•Multimedia projector	
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS-A-22 Undertake project work

Objective:

After the completion of this module, the Trainee will be able to undertake a straightforward project or a section of a larger project. It covers developing a project plan, administering and monitoring the project, finalizing the project and reviewing the project to identify lessons learned for application to future projects. This unit applies to individuals who play a significant role in ensuring a project meets timelines, quality standards, budgetary limits and other requirements set for the project.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Define project	Trainee will be able to: <ul style="list-style-type: none">• Access project scope and other relevant documentation• Define project stakeholders• Seek clarification from delegating authority of issues related to project and project parameters• Identify limits of own responsibility and reporting requirements• Clarify relationship of project to other projects	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none">• Give examples of project management tools and how they contribute to a project	Theory-2Hrs Practical-Hrs Total-2 Hrs	<ul style="list-style-type: none">•Internet•MS Office•Smartphone•Laptop/Computer•Smartphone•Printer•White board•Projector screen•Multimedia projector	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>and to the organization's objectives</p> <ul style="list-style-type: none"> Determine and access available resources to undertake project 	<p>Explain the organization's procedures and processes that are relevant to managing a project including:</p> <ul style="list-style-type: none"> lines of authority and approvals quality assurance human resources budgets and finance recordkeeping reporting 			
LU2. Develop project plan	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Develop project plan in line with the project parameters Identify and access appropriate project management tools Formulate risk management plan for project, including Work Health and Safety (WHS) 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline types of documents and other sources of information 	<p>Theory- 1Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Develop and approve project budget Consult team members and take their views into account in planning the project Finalize project plan and gain necessary approvals to commence project according to documented plan 	commonly used in defining the parameters of a project			
LU3. Administer and monitor project	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Take action to ensure project team members are clear about their responsibilities and the project requirements Provide support for project team members, especially with regard to specific needs, to ensure that the quality of the expected outcomes of the project and document time lines are met Establish and maintain required recordkeeping systems throughout the project 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline the organization's mission, goals, objectives and operations and how the project relates to them 	<p>Theory- 1Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Implement and monitor plans for managing project finances, resources and quality Complete and forward project reports as required to stakeholders Undertake risk management as required to ensure project outcomes are met Achieve project deliverables 				
LU4. Finalize project	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Complete financial recordkeeping associated with project and check for accuracy Ensure transition of staff involved in project to new roles or reassignment to previous roles Complete project documentation and obtain necessary sign-offs for concluding project 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Explain processes for identifying and managing risk in a project 	<p>Theory-1Hrs</p> <p>Practical-Hrs</p> <p>Total-1Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology





National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-25 Work safely in an office environment

Objective: After the completion of this module, the Trainee will be able to participate in workplace occupational health and safety (OHS) processes to protect workers own health and safety, and that of others.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Work safely	<p>Trainee will be able to:</p> <ul style="list-style-type: none">Follow established safety procedures when conducting workCarry out pre-start systems and equipment checks in accordance with workplace procedures	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none">Explain responsibilities of employers and employees under relevant health and safety regulation	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none">InternetMS OfficeSmartphoneLaptop/ComputerSmartphonePrinterWhite boardProjector screenMultimedia projector	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU2. Implement workplace safety requirement</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Identify designated persons for reporting queries and concerns about safety in the workplace Identify existing and potential hazards in the workplace, report them to designated persons and record them in accordance with workplace procedures Identify and implement workplace procedures and work instructions for controlling risks Report emergency incidents and injuries to designated persons 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Report of potential hazards at the workplace to designated persons and record at workplace Workplace procedures and work instructions for controlling risks 	<p>Theory-2Hrs Practical-Hrs Total-2Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector Safety signs Safety procedures Variety of forms, formats used within the organization 	<p>Class Room</p>
<p>LU3. Participate in OHS consultative processes</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Contribute to workplace meetings, inspections or other consultative activities Raise OHS issues with designated persons in accordance with 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Describe emergency procedures 	<p>Theory-1 Hrs Practical-Hrs Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	<p>Class Room</p>



National Curriculum Level-4 in Agricultural Machinery Technology



	organizational procedures <ul style="list-style-type: none"> • Take actions to eliminate workplace hazards or to reduce risks 	including procedures for fires, accidents and evacuation			
LU4. Follow safety procedures	Trainee will be able to: <ul style="list-style-type: none"> • Identify and report emergency incidents • Follow organizational procedures for responding to emergency incidents 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Outline commonly used hazard signs and safety symbols 	Theory-1Hrs Practical-Hrs Total-1Hrs	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector • Safety signs •Safety procedures •Variety of forms, formats used within the organization 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



Module: Develop workplace documents

Objective: After the completion of this module, the Trainee will be able to interpret written information for workplace purposes as well as planning, drafting and reviewing a basic document before writing the final version. The focus is on the content and structure of written materials and not on the use of computer technology.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Interpret written information	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Read workplace materials to identify the subject and key information for using or reporting to others. Read procedural manuals and codes of practice to locate specific information to carry out work functions in accordance with policy and standards. Read a range of written materials to locate and select required information for 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Explain the reading and writing procedures at a level to cope with a range of workplace materials Explain the integration of 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>summaries, short reports and responses to requests.</p> <ul style="list-style-type: none">• Identify the cultural context and prior knowledge required to interpret workplace information and obtain assistance when required.• Determine audience and purpose for the document.• Seek assistance with interpretation of complex materials in accordance with organizational procedures.	<p>information from a number of sources in order to generate meaning</p> <ul style="list-style-type: none">• Describe the ways to write and sequence paragraphs according to the required purpose of written material• Explain the response to diversity, including gender and disability• Describe the problem-solving skills to determine document design and production			
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National Curriculum Level-4 in Agricultural Machinery Technology



		processes			
LU2. Develop written materials	Trainee will be able to: <ul style="list-style-type: none"> Identify and comply with established requirements for a range of written materials in accordance with organizational procedures & standard templates. Determine format and structure. Establish key points for inclusion. Identify organizational requirements Establish method of communication Establish means of communication 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Describe the preparation of general information and papers according to target audience 	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room
LU3. Draft document	Trainee will be able to: <ul style="list-style-type: none"> Develop draft document to communicate key points Obtain and include any required additional information 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Explain the environmental policies 	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<ul style="list-style-type: none"> Prepare written information in an accurate, concise and unambiguous manner that meets intended audience and organizational requirements. 	<ul style="list-style-type: none"> such as those relating to paper use/ wastage/recycling Elaborate the ways of proofreading and editing documents to ensure clarity of meaning and conformity to organizational requirements Elaborate spelling, punctuation and grammar for workplace documents at an experienced level 		<ul style="list-style-type: none"> Projector screen Multimedia projector 	
LU4. Review document	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Check draft for suitability of tone for audience, purpose, format and communication style Check draft for readability, grammar, spelling, sentence and paragraph construction and correct 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Ergonomic requirements devised for office work 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>any inaccuracies or gaps in content.</p> <ul style="list-style-type: none"> • Check draft for sequencing and structure • Check draft to ensure it meets organizational requirements • Ensure draft is proofread, where appropriate, by supervisor or colleague 	<ul style="list-style-type: none"> • Written material through selection and use of words, grammatical structures, headings and punctuation appropriate to the purpose 			
LU5. Write final document	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Make and proofread necessary changes • Ensure document is sent to intended recipient within required time frames • File copy of document in accordance with organizational policies and procedures 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Resources to assist in document production, such as dictionary, thesaurus, templates, style sheets • Ways to produce business letters, memos, job applications, resumes, 	<p>Theory-1 Hrs</p> <p>Practical-Hrs</p> <p>Total-1 Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



		meeting agendas and minutes Format letters into a standard and window faced envelope.			
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-29 Organize schedules

Objective: After the completion of this module, the Trainee will be able to manage appointments and diaries for personnel within an organization, using manual and electronic diaries, schedules and other appointment systems. It applies to individuals employed in a range of work environments who provide administrative support to teams and individuals.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Establish schedule requirements	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Identify organizational requirements and protocols for diaries and staff planning tools Identify organizational procedures for different types of appointments Determine personal requirements for diary and schedule items for individual personnel Establish appointment priorities and clarify in discussion with individual personnel 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Identify the key provisions of relevant legislation, standards and codes that affect aspects of business operations or the achievement of team goals Describe organizational requirements for 	<p>Theory-3Hrs</p> <p>Practical-Hrs</p> <p>Total-3Hr</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



		managing appointments for personnel within the organization			
LU2. Manage schedules	Trainee will be able to: <ul style="list-style-type: none"> Identify recurring appointments and deadlines, and schedule these in accordance with individual and organizational requirements Establish availability of attendees, and schedule new appointments in accordance with required timelines and diary commitments Negotiate alternative arrangements and confirm when established appointments are changed Record appointments and manage schedules in accordance with organizational policy and procedures 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> Summarize the range of appointment systems that could be used Outline important considerations when managing the schedules of others. 	Theory-2Hrs Practical-Hrs Total-2Hr	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-28 Maintain professionalism in the workplace

Objective: After the completion of this module, the Trainee will be able to maintain a professional image in the workplace, including behaving ethically, demonstrating motivation, respecting timeframes and maintaining personal appearance.

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Respect work timeframes	Trainee will be able to: <ul style="list-style-type: none">Demonstrate punctuality in meeting, set working hours and times.Utilize working hours only for working and follow company regulations.Complete work tasks within deadlines according to order of prioritySupervisors are informed of any potential delays in work times or projects	Knowledge based questions Theory <ul style="list-style-type: none">Explain application of good manners and right conductOutline the company code of conduct/values	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none">InternetMS OfficeSmartphoneLaptop/ComputerSmartphonePrinterWhite boardProjector screenMultimedia projector	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



LU2. Maintain personal appearance and hygiene	Trainee will be able to: <ul style="list-style-type: none"> • Clean hair, body and nails regularly. • Wear suitable cloths for the workplace, and respect local and cultural contexts • Meet specific company dress code requirements 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • Describe common products used for oral and personal hygiene 	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room
LU3. Maintain adequate distance with colleagues and clients	Trainee will be able to: <ul style="list-style-type: none"> • Respect personal space of colleagues and clients with reference to local customs and cultural contexts. • Keep sufficient distance from others • Avoid cross transmission of infections (especially through respiration) 	Knowledge based questions <u>Theory</u> <ul style="list-style-type: none"> • State workplace hygiene standards • Explain basic practices for oral and personal hygiene 	Theory-1 Hrs Practical-Hrs Total-1 Hrs	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU4. Work in an ethical manner</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Follow company values/ethics codes of ethics and/or conduct, policies and guidelines. Use company resources in accordance with company ethical standards. Conduct personal behavior and relationships in accord with ethical standards and company policies. Undertake work practices in compliance with company ethical standards, organizational policy and guidelines. Instruct co-workers on ethical, lawful and reasonable directives. Share company values /practices with co-workers using appropriate behavior and language. Report work incidents /situations and/or resolved in accordance 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline the Company regulations, performance and ethical standards Explain work responsibilities/job functions Describe communication skills 	<p>Theory-2 Hrs Practical-Hrs Total-2 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	<p>Class Room</p>
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National Curriculum Level-4 in Agricultural Machinery Technology



	with company protocol /guidelines.				
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National Curriculum Level-4 in Agricultural Machinery Technology



0716-MVS&A-18 Manage meetings with customers

Objective: After the completion of this module, the Trainee will be able to manage a range of meetings including overseeing the meeting preparation processes, chairing meetings, organizing the minutes and reporting meeting outcomes. It applies to individuals employed in a range of work environments who are required to organize and manage meetings within their workplace, including conducting or managing administrative tasks in providing agendas and meeting material. They may work as senior administrative staff or may be individuals with responsibility for conducting and chairing meetings in the workplace

Duration: 5 Hours

Theory: 5 Hours

Practice: 0 Hours

Credit Hours: 0.5

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1. Plan and Prepare for meetings	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Develop agenda in line with stated meeting purpose Ensure style and structure of meeting are appropriate to its purpose Identify meeting participants and notify them in accordance with organizational procedures Confirm meeting arrangements in accordance with 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Outline responsibilities of the chairperson and explain group dynamics in relation to managing 	<p>Theory-2Hrs</p> <p>Practical-Hrs</p> <p>Total-2Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



	<p>requirements of meeting</p> <ul style="list-style-type: none"> Dispatch meeting papers to participants within designated timelines 	meetings			
<p>LU2. Conduct meetings</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> Chair meetings in accordance with organizational requirements, agreed conventions for type of meeting and legal and ethical requirements Conduct meetings to ensure they are focused, time efficient and achieve the required outcomes Ensure meeting facilitation enables participation, discussion, problem solving and resolution of issues Brief minute-taker on method for recording meeting notes in accordance with organizational requirements and conventions for type of meeting 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> Describe options for meetings including face-to-face, tele-conferencing, web-conferencing and using webcams 	<p>Theory-2 Hrs</p> <p>Practical-Hrs</p> <p>Total-2 Hrs</p>	<ul style="list-style-type: none"> Internet MS Office Smartphone Laptop/Computer Smartphone Printer White board Projector screen Multimedia projector 	Class Room



National Curriculum Level-4 in Agricultural Machinery Technology



<p>LU3. Follow up meeting's agenda for implementation</p>	<p>Trainee will be able to:</p> <ul style="list-style-type: none"> • Check transcribed meeting notes to ensure they reflect a true and accurate record of the meeting and are formatted in accordance with organizational procedures and meeting conventions • Distribute and store minutes and other follow-up documentation within designated timelines, and according to organizational requirements • Report outcomes of meetings as required, within designated timelines 	<p>Knowledge based questions</p> <p><u>Theory</u></p> <ul style="list-style-type: none"> • Devise meeting terminology, structures, arrangements as per organizational procedures 	<p>Theory-1 Hrs Practical-Hrs Total-1Hrs</p>	<ul style="list-style-type: none"> •Internet •MS Office •Smartphone •Laptop/Computer •Smartphone •Printer •White board •Projector screen •Multimedia projector 	<p>Class Room</p>
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National Curriculum Level-4 in Agricultural Machinery Technology



Curriculum Validation Members:

	Name	Designation
1	Mr. Sikandar Masood	Director NAVTTC/ Coordinator
2	Mr. Aijaz Ahmad Zia	DACUM Facilitator
3	Dr. Muhammad Naazir Khan Niazi	Chairman, PBTE Lahore
4	MrMuzamil Hussain	AM, RYK PTEVTA
5	Mr. Muhammad Afzal	Asstt Manager, Millat Tractors, Rawalpindi
6	Engr. Shahzad Amir Rafiq	Instructor GCT, Sahiwal PTEVTA
7	Mr. Jamal Akbar	Associate Prof/Rep., KP TEVTA
8	Engr. Aqib Sharif	Agri. Engg. Rep., Punjab TEVTA
9	Mr.Liaqat Jhamro	Director (Acad)/ Rep., Sindh TEVTA
10	Ms. Jawaria Qazi	Web Administrator, PBTE Lahore
11	Mr. Nazakat Hussain	Head, Farm Implement, Millat Tractors
12	Engr. Hira Ishtiaq	Consultant AIMS Engineering, Lahore
13	Mr. Atif Latif	AD, R&D, P-TEVTA



National Curriculum Level-4 in Agricultural Machinery Technology



14	Engr. M. Sohaib	Agriculture Engineer, AMTI, Talagang
15	Engr. TahreemJaved	SuperPark Engineering Lahore



National Curriculum Level-4 in Agricultural Machinery Technology



Report Regarding QVC for the Curriculum of the trade Agricultural Machinery Technology (Level 2-5)



Minutes of Meeting

A meeting of Qualification Validation Committee for Review and Validation of Curriculum of "Agriculture Machinery Technology" (Level 2-5) was held at Pakistan Industrial Technical Assistance Center, Lahore from 8th – 12th Nov, 2021. The following activities took place during meeting:

1. Participants were informed about the validation process.
2. Consultation has been made with the relevant experts to confirm the accuracy of the modules and get their feedback and endorsement.
3. Learning elements were rephrased and missing practical activities were added by experts
4. Material list and learning place were updated according to Learning Unit requirement.
5. Confirmed the accuracy of credit hours for CS as per SBTE, PBTE and NVQF guidelines.
6. The Qualification was finalized in presence of Academic/Industry/TEVTAs/BTEs/QABs to be implemented as a 3 years Diploma (Level 5) course program.
7. The Provisional Qualification awarding bodies in the presence of Provisional TEVTAs approved and recommended for the notification of subject qualification as per approved scheme of study
8. After incorporation all the recommendations of committee in letter and spirit the revised draft was presented before NAVTTTC officials.

The following experts has participated in the Curriculum Review and Validation Committee meeting and showed their consent to validated curriculum as found them according to the requirements of the industry:

	Name	Designation	Signature
1	Mr. Sikandar Masood	Director NAVTTTC/ Coordinator	
2	Mr. Aijaz Ahmad Zia	DACUM Facilitator	
3	Dr. Muhammad Naazir Khan Niazi	Chairman, PBTE Lahore	
4	Mr Muzamil Hussain	AM, RYK PTEVA	
5	Mr. Muhammad Afzal	Asstt Manager, Millat Tractors, Rawalpindi	
6	Engr. Shahzad Amir Rafiq	Instructor GCT, Sahiwal PTEVA	
7	Mr. Jamal Akbar	Associate Prof/Rep., KP TEVTA	
8	Engr. Aqib Sharif	Agri. Engg. Rep., Punjab TEVTA	
9	Mr. Liaqat Jhamro	Director (Acad)/ Rep., Sindh TEVTA	
10	Ms Jawaria Qazi	Web Administrator, PBTE Lahore	
11	Mr. Nazakat Hussain	Head, Farm Implement, Millat Tractors	
12	Engr. Hira Ishtiaq	Consultant AIMS Engineering, Lahore	
13	Mr. Atif Latif	AD, R&D, P-TEVTA	
14	Engr. M. Sohaib	Agriculture Engineer, AMTI, Talagang	
15	Engr. Tahreem Javed	SuperPark Engineering Lahore	