





## Certificate

### CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**AGRICULTURE SKILL COUNCIL OF INDIA**

for the

**MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/Qualification Pack: **'Service & Maintenance Technician-Farm Machinery'** QP No. **'AGR/Q1106 NSQF Level 4'**

Date of Issuance: January 30<sup>th</sup>, 2017

Valid up to: March 31<sup>st</sup>, 2020

\* Valid up to the next review date of the Qualification Pack

  
S. S. Anand  
Authorised Signatory  
(Agriculture Skill Council of India)

## TABLE OF CONTENTS

<a href="#"><u>1. Curriculum</u></a>	04
<a href="#"><u>2. Trainer Prerequisites</u></a>	08
<a href="#"><u>3. Annexure: Assessment Criteria</u></a>	09



This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Service and Maintenance Technician-Farm machinery” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<b>Introduction</b>  <b>Theory Duration</b> (hh:mm) 05:00  <b>Practical Duration</b> (hh:mm) 00:00  <b>Corresponding NOS Code</b> Bridge Module	<ul style="list-style-type: none"> <li>Understand General Discipline in the class room (Do’s &amp; Don’ts)</li> <li>Scope &amp; importance of Farm Mechanization in India</li> <li>Get acquainted with different types of Farm Machineries and their usage &amp; working</li> <li>Understand the role of a Service &amp; Maintenance Technician-Farm Machinery and the progression pathways</li> </ul>	Laptop, white board, marker, projector and video films
2	<b>Service and maintenance of tillage and soil farming equipments</b>  <b>Theory Duration</b> (hh:mm) 06:00  <b>Practical Duration</b> (hh:mm) 50:00  <b>Corresponding NOS Code</b> AGR/N1119	<ul style="list-style-type: none"> <li>Develop awareness about tillage and soil farming equipment</li> <li>Identify different components of tillage and soil farming equipments and Tractor Hitching Systems.</li> <li>Identify constructional material of different components of equipment</li> <li>Service and maintain the mould board plough,</li> <li>Adjust the settings of mould board plough</li> <li>Service and maintain the disc plough</li> <li>Adjust the settings of disc plough</li> <li>Service and maintain the disc harrow</li> <li>Service and maintain the Cultivator</li> <li>Service and maintain the Rotavator</li> <li>Service and maintain the Lazer leveller</li> <li>Identify the causes/fault</li> <li>Prepare a sequence of repair activities</li> <li>Dismantle the equipment</li> <li>Locate the component to be replaced/repared</li> <li>Cut defective component</li> <li>Replace/repair the defective component</li> <li>Test the equipment</li> </ul>	Mould board plough, disc plough, disc harrow, cultivator, tools such as screw driver set, pliers set, hammer set, set of chisels, set of files, hand hacksaw, set of spanners, set of sockets, set of pullers, pipe wrench, adjustable screw wrench, chisel set, tongs, hand grease gun, bench vice, micrometer, vernier callipers, screw jack, hydraulic jack, air compressor, washing machine, welding machine, pullers, anvil, cotton jute etc
3	<b>Service and maintenance of seed drills and planters</b>  <b>Theory Duration</b> (hh:mm) 08:00	<ul style="list-style-type: none"> <li>Develop awareness about seed drills and planters</li> <li>Identify the different components of seed drills and planters</li> <li>Service and maintain the seed and fertilizer boxes</li> <li>Service and maintain the drive/power transmission system</li> </ul>	Seed drill, planter, metering Systems for seed & Fertilizers, furrow openers, tools such as screw driver set, pliers set, hammer set, set of chisels, set of files, hand hacksaw, set of

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<b>Practical Duration</b> (hh:mm) 30:00  <b>Corresponding NOS Code</b> <b>AGR/N1120</b>	<ul style="list-style-type: none"> <li>Service and maintain the seed metering mechanisms</li> <li>Service and maintain the fertilizer metering mechanisms and Seed/fertilizer tubes and furrow openers</li> <li>Calibrate of seed drill and planter</li> <li>Identify and assessment wear tear/faulty components</li> <li>Procedure to replace/repair the defective component</li> </ul>	spanners, set of sockets, set of pullers, pipe wrench, adjustable screw wrench, chisel set, tongs, hand grease gun, bench vice, micrometer, vernier callipers, screw jack, hydraulic jack, air compressor, washing machine, welding machine, bearing pullers, anvil, cotton jute etc Stop watch, Power cutter, Drill machine
4	<b>Service and maintenance of plant protection equipments</b> <b>Theory Duration</b> (hh:mm) 08:00  <b>Practical Duration</b> (hh:mm) 30:00  <b>Corresponding NOS Code</b> <b>AGR/N1121</b>	<ul style="list-style-type: none"> <li>Develop awareness of different types of plant protection equipments</li> <li>Identify the different components of plant protection equipments</li> <li>Service and maintain the plant protection equipments</li> <li>Carry out maintenance of pump assembly, pressure regulator</li> <li>Follow safety and precaution while handling chemicals for Storage and preparation</li> <li>Clean the tank, nozzle and filters strainers and delivery hoses using clean water</li> <li>Inspect delivery hose joints, pump lever and lock nut connecting the piston and leve for cracks &amp; leakages and take corrective actions</li> <li>Lubricate the plunger rod and piston parts</li> <li>Check and assess the wear and tear of gaskets, piston rings and washers and replace if required</li> <li>Check the belt tension</li> <li>Inspect parts like nuts and bolts and carry out repairs as and when required</li> <li>Calibrate the equipment and set it</li> <li>Observe safety rules and precaution while disposal of chemicals</li> </ul>	Sprayer, duster, power sprayer, tools such as screw driver set, pliers set, hammer set, set of chisels, set of files, hand hacksaw, set of spanners, set of sockets, set of pullers, pipe wrench, adjustable screw wrench, chisel set, tongs, hand grease gun, bench vice, micrometer, vernier callipers, screw jack, hydraulic jack, air compressor, washing machine, welding machine, pullers, anvil, cotton jute etc Power cutter, Drill machine, Patterator
5	<b>Service and maintenance of harvesting ,threshing and post-harvest machineries/equipments</b>	<ul style="list-style-type: none"> <li>Develop awareness to harvesting ,threshing and post-harvest machineries/equipments</li> <li>Identify different components of harvesting, threshing and post-harvest machineries/equipments</li> <li>Service and maintain the power reapers</li> </ul>	Reaper, thresher, reaper binders, cleaners/ graders, milling machinery, ♂ sugarcane crushers and chaff cutters. drying equipment, dal mill, rice



## Trainer Prerequisites for Job role: "Service and Maintenance Technician-Farm machinery" mapped to Qualification Pack: "AGR/Q1106, v1.0"

Sr. No.	Area	Details
1	<b>Description</b>	Trainer is responsible for educating the trainees – Different types of Farm Machineries, their usage & working, Service and Maintenance of Farm machineries, Safety & hygiene at the workplace
2	<b>Personal Attributes</b>	Trainer should be Subject Matter Expert. He/ she should have good communication, leadership, observation and practical oriented skills.
3	<b>Minimum Educational Qualifications</b>	Diploma/ITI in Agriculture Engineering
4a	<b>Domain Certification</b>	Certified for Job Role: "Service and Maintenance Technician-Farm machinery" mapped to QP: "AGR/Q1106, v1.0". Minimum accepted score is 80%.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102". Minimum accepted % as per respective SSC guidelines is 80%.
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>• M. Tech (Ag. Engg/Mech/ Farm Mechanization)</li> <li>• B. Tech (Ag. Engg/Mech/ Farm Mechanization)</li> <li>• B Sc Agriculture with 2 years of total work experience out of which 1 year of relevant work experience</li> <li>• Diploma (Ag. Engg/Mech/Farm Mechanization) with 3 Years relevant experience</li> <li>• Diploma in Agriculture with 5 years of relevant work experience</li> <li>• ITI/ Vocational pass out in Agricultural machinery/Mechanical with 5 years experience in relevant field</li> </ul>





PC7. change the nipple, if soil has entered in the grease nipple	3	1	2
PC8. grease all the greasing points with grease gun and tighten all nuts and bolts after every 50 hours	3	1	2
PC9. open the hub of disc plough and cleanse it with diesel oil, pump in new grease and replace its seal after 300 hours of operation	4	1	3
PC10. loosen degree of hub if the diameter of disc is reduced and replace the disc if diameter of disc reduced to the maximum limits given in Repair maintenance manual.	4	1	3
PC11. keep the bearings lubricated as per instructions in the manual	3	1	2
PC12. ensure that high quality grease is used in bearing housing, coulter hub and bushes	3	1	2
PC13. inspect the disc gang angle and gang assembly and replace damaged gang bearings	3	1	2
PC14. inspect the scrapper assembly and ensure discs are sharp	3	1	2
PC15. replace any broken or cracked discs, spools having broken flanges and gang- bolts	3	1	2
PC16. inspect the dept control mechanism	3	1	2
PC17. inspect the disc spacing, disc diameter	3	1	2
PC18. check the angle of hitch and hitch parts and replace worn out or missing pins, nuts and bolts of hitch parts	4	2	2
PC19. inspect all joints and all bolts and nuts, pins for tightness	3	1	2
PC20. replace worn - out and broken bolts and weld broken joints	3	1	2
PC21. lubricate bearing assembly and mating parts using grease or oil	3	1	2











	followed closely				
	PC9. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger		7	2	5
	PC10. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions for emergency evacuation		7	2	5
	PC11. follow emergency procedures to company standard / workplace requirements		6	2	4
	PC12. use emergency equipment in accordance with manufacturers' specifications and workplace requirements		7	2	5
	PC13. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques		7	2	5
	PC14. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate		6	2	4
	PC15. report details of first aid administered in accordance with workplace procedures.		6	2	4
			<b>100</b>	<b>30</b>	<b>70</b>
<b>TOTAL</b>		<b>500</b>	<b>500</b>	<b>150</b>	<b>350</b>
Percentage Weightage				<b>30%</b>	<b>70%</b>
Minimum Pass% to qualify (aggregate):				<b>70%</b>	