

# Model Curriculum

## Agriculture Machinery Repair and Maintenance Service Provider

**SECTOR: AGRICULTURE & ALLIED**

**SUB-SECTOR: AGRICULTURE CROP PRODUCTION**

**OCCUPATION: FARM MACHINERY EQUIPMENT OPERATION &  
MAINTENANCE**

**REF ID: AGR/Q1111, V1.0**

**NSQF LEVEL: 5**



## 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: **'Agriculture Machinery Repair and Maintenance Service Provider'**  
QP No. **'AGR/Q1111 NSQF Level 5'**

Date of Issuance: April 24<sup>th</sup>, 2017

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

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



Authorised Signatory  
(Agriculture Skill Council of India)

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# Agriculture Machinery Repair and Maintenance Service Provider

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Agriculture Machinery Repair and Maintenance Service Provider”, in the “Agriculture & Allied” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Agriculture Machinery Repair and Maintenance Service Provider</b>		
<b>Qualification Pack Name &amp; Reference ID.</b>	AGR/Q11111, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	
<b>Pre-requisites to Training</b>	Class12, preferably		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• Identify the importance of entrepreneurship</li> <li>• Establish a farm machinery repair and maintenance centre</li> <li>• Identify different types of farm machine equipment: and their components</li> <li>• Identify procedure to assess wear tears and faults findings.</li> <li>• Service the farm machines: fault finding in farm machines, rectifying the defects, checking of repaired farm machine equipments etc</li> <li>• Enter into a repair and maintenance contract of farm machinery equipment</li> <li>• Demonstrate a model of setting a enterprise</li> <li>• Practice health and safety at the work place in terms of personal as well as others' safety and introduction to dangerous Machinery Regulation Act.</li> </ul>		



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		a similar field to gain expertise <ul style="list-style-type: none"> <li>• Identify distribution and marketing channels considering the requirements and constraints associated with the same</li> <li>• Calculate costing and pricing of a product</li> <li>• State risk assessment in business</li> <li>• Identify opportunities for scaling up the business</li> <li>• Collect information related to various subsidies/funds/ schemes offered by the government, authorized state units and other financial institutions</li> <li>• Maintain and track records, and monitor them on a regular basis</li> <li>• Select promotional strategies for the business based on the budget and target segment</li> <li>• State minimizing costs and maximizing profits steps</li> </ul>	
3	<b>Prepare for setting up repair and service centers</b>  <b>Theory Duration</b> (hh:mm) 10:00  <b>Practical Duration</b> (hh:mm) 40:00  <b>Corresponding NOS Code</b> AGR/N1137	<ul style="list-style-type: none"> <li>• State steps and requirements of setting up of an enterprise</li> <li>• Explain procedure and requirements involved in setting up of an enterprise-registration and license, infrastructure, legal etc</li> <li>• Describe types of cost- fixed and variable</li> <li>• Calculate the costs expected to be incurred in setting up of a business</li> <li>• Describe loans and its type</li> <li>• List loaning agency and its selection</li> <li>• Explain types of loan /funds based on factors</li> <li>• Identify financial institutions for financial assistance</li> <li>• List forms and its use for loan</li> <li>• Fill application for long and medium term loans to purchase land, construct factory building/shed and to purchase machineries and equipments</li> <li>• Fill loan forms in the financial institutions and commercial banks by submitting formal application along with the required documents (as applicable)</li> <li>• Interpret and ensure adherence to state laws and other laws pertaining to commercial establishments such as:               <ul style="list-style-type: none"> <li>• Shops and establishments act</li> <li>• Taxation laws</li> </ul> </li> </ul>	Calculator Map, Drawing sheet







Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<b>150:00</b>	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, exhaust fan, power cutter, drill machine	

Grand Total Course Duration: **200 Hours, 0 Minutes**

*(This syllabus/ curriculum has been approved by [Agriculture Skill Council of India](#))*

## Trainer Prerequisites for Job role: “Agriculture Machinery Repair & Maintenance Service Provider” mapped to Qualification Pack: “AGR/Q1111, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	Trainer is responsible for educating the trainees- setting up and operationalization of agriculture machinery repair and maintenance centre
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>	10+2 with Science
4a	<b>Domain Certification</b>	Certified for Job Role: “Agriculture Machinery Repair and Maintenance Service Provider” mapped to QP: “AGR/Q1111, 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 score as per respective SSC guidelines is 80%.
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>• B Tech in Mechanical / Agriculture engineering</li> <li>• B Sc Agriculture with 1 year of relevant work experience and 2 years of total work experience</li> <li>• Diploma / ITI (Mechanical / Agriculture engineering) with 3 years of relevant work experience</li> <li>• 10+2 with Science and having any Certificate course in Farm Mechanization with 5 years of relevant work experience</li> </ul>



Compulsory					
Total Marks: 500					
Assessment outcomes	Assessment criteria for outcomes	Marks Allocation			
		Total Marks	Out Of	Theory	Skills Practical
<b>1. AGR/N9910 Undertake entrepreneurship activities</b>	PC1. conduct market survey and analyze market demand based on market trend, existing competition, current requirement, market status, etc	<b>100</b>	7	2	5
	PC2. identify possible sources of finance/loan		6	2	4
	PC3. identify potential farmers and maintain farmer database		7	2	5
	PC4. conduct target market assessment and decide positioning of products/services which is easily accessible to potential buyers		7	2	5
	PC5. identify suitable location for ease of conducting business		6	2	4
	PC6. identify and lead a team for management of business		6	2	4
	PC7. ensure compliance with all government laws, local state laws and other regulations as maybe applicable		7	2	5
	PC8. interact with successful entrepreneurs and business people in a similar field to gain expertise		7	2	5
	PC9. identify distribution and marketing channels considering the requirements and constraints associated with the same		7	2	5
	PC10. set a pricing strategy for the product/service based on the value of the product and modify pricing as and when required		7	2	5
	PC11. conduct risk assessment and identify opportunities for scaling up the business		7	2	5
	PC12. collect information related to various subsidies/funds/ schemes offered by the government, authorized state units and other financial institutions		7	2	5
	PC13. track and maintain records, and monitor them on a regular basis		6	2	4
	PC14. develop and execute promotional strategies for the business based on the budget and target segment		7	2	5

	PC15. implement processes which help in minimizing costs and maximizing profits		6	2	4
			<b>100</b>	<b>30</b>	<b>70</b>
<b>2. AGR/N1137 Prepare for setting up repair and service centre</b>	PC1. assess requirements of different machineries by carrying out user survey on farmer's field	<b>100</b>	10	3	7
	PC2. identify appropriate tools and machineries which would be required for servicing and repair of machinery		10	3	7
	PC3. self evaluate on ability to repair and practice repair, overhauling and servicing of machinery		10	3	7
	PC4. calculate amount of space that would be required for storage of spare parts and tools and equipments		10	3	7
	PC5. decide location of centre based on the following parameters:				
	— proximity to farmer's lands				
	— space available for easy maneuvering of equipment				
	— proximity to power source so that electric power is available on a regular basis		10	3	7
	— water supply for both convenience and safety				
	— distance from industrial areas and chemical factories				
	PC6. draw up and estimate the costs expected to be incurred in setting up the business				
	— fixed cost		10	3	7
	— variable cost				
	— cost of labour				
	PC7. identify potential external sources of funds based on factors such as				
	— length of time for which funds are available		10	3	7
	— costs involved				
PC8. approach financial institutions for financial assistance such as					
— commercial/regional rural/co-operative banks	10	3	7		
— NABARD: national bank for agriculture and rural development - which provides long, medium and short term loans					
PC9. apply for long and medium term loans to purchase land, construct factory building/shed and to purchase machineries and equipments	10	3	7		
PC10. apply for loans in the financial institutions and commercial banks by submitting formal application along with following documents (as applicable)					
— loan application (duly filled)	10	3	7		
— proof of possession of land/building					
— budgetary quotations of plant and					



	PC24. ensure training of team on safety standards:				
	— stopping the machine before any intervention				
	— making sure the machine has come to rest				
	— securing anything which could move or rotate				
	— using the right tools for the job		5	2	3
	— following the manufacturer's instructions/procedures				
	— replacing the guards before restarting the machine when the job is finished				
	— checking the machine before restarting				
			<b>100</b>	<b>30</b>	<b>70</b>
<b>4. AGR/N1139 Ensure proper documentation and record keeping related to the farm mechanization unit/service centre</b>	PC1. document and maintain records of recurring costs such as:	<b>100</b>			
	— inventory cost for storage of agriculture tools, equipments and machineries		15	5	10
	— fuel/lubricant cost				
	— labour charges				
	— interest on bank loans				
	— maintenance cost of job performed by centre				
	PC2. document and maintain records of tools, equipments and machineries and their supplier/manufacturer details, manuals, annual maintenance details, etc.		15	5	10
	PC3. maintain a log book for tool, equipment or machinery use and the time that it was used for		14	4	10
	PC4. document and maintain records of periodical maintenance of each tool, equipment or machinery such as utilization, performance, breakdown details, corrective actions, etc.		14	4	10
	PC5. document and maintain database of farmers along with frequency of visit and sales details		14	4	10
PC6. maintain a balance sheet to assess profitability of business		14	4	10	
PC7. maintain a daily cash record to keep a record of cash received from sales on a daily basis		14	4	10	
			<b>100</b>	<b>30</b>	<b>70</b>
<b>5. AGR/N9903 Maintain health and safety at the workplace</b>	PC1. undertake basic safety checks before operation of all machinery and vehicles and report all potential hazards to the supervisor	<b>100</b>	6	2	4
	PC2. identify work for which protective clothing or equipment is required and perform those duties in accordance with workplace policy		7	2	5
	PC3. read and understand the hazards of use and contamination mentioned on		7	2	5

	the labels of pesticides/fumigants, etc.				
	PC4. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices		7	2	5
	PC5. use equipment and materials safely and correctly and return the same to designated storage when not in use		7	2	5
	PC6. dispose off waste safely and correctly in a designated area		6	2	4
	PC7. recognize risks to bystanders and take action to reduce risk associated with jobs in the workplace		7	2	5
	PC8. perform work in a manner which minimizes environmental damage all procedures and ensure work instructions for controlling risks are followed closely		7	2	5
	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>GRAND TOTAL</b>	<b>500</b>	<b>500</b>	<b>150</b>	<b>350</b>



