

Syllabus For COMBINE HARVESTER OPERATOR(RPL)

Course Name	COMBINE HARVESTER OPERATOR(RPL)
Sector	AGRICULTURE
Course Code	AGR/2021/CHOP/031
Level	4 (RPL)
Occupation	Jr. Farm Machinery Operator
Job Description	Combine Harvester Operator undertakes field operations using Self-propelled or Tractor Mounted Combine Harvester owned by individual farmers or co-operatives or custom hiring centres (CHCs) or by any farmer's club or society. The operator interacts with customer and diagnoses the problem to assess the possible causes of trouble in operation.
Course Duration	Total Duration 60 Hrs (T-24 , P-36)
Trainees' Entry Qualification	Class VIII Pass with 5 years experience in the relevant field
Trainers Qualification	B.E./B Tech in automobile engineering with 1 year experience in the relevant field or/ Diploma in automobile engineering with 2 years experience in the relevant field

	Qualification Title	Combine Harvester Operator
1	Nature and purpose of the qualification (Please specify whether the qualification is short term or long term)	Short Term Re-skilling Course 10 days residential training program(Theory: 24 hrs; Practical: 36 hrs)
2	Occupation(s) to which the qualification gives access	After completion of the course the trainees shall be qualified for following job role: Combine Harvester Operator
3	Job description of the Occupation	Combine Harvester Operator undertakes field operations using Self- propelled or Tractor Mounted Combine Harvester owned by individual farmers or co-operatives or custom hiring centres (CHCs) or by any farmer's club or society. The operator interacts with customer and diagnoses the problem to assess the possible causes of trouble in operation.
4	Licensing requirements	Yes.
5	Anticipated volume of training / learning required to complete the training.	60 Hours

6	Entry requirements and/or recommendations and minimum age	Class VIII passed
7	Title of component Learning outcomes	Estimated size (learning hours)
1	Apply safe working practices	02
2	Identify different components of IC Engine, knowing operational principle of 2-Stroke and 4-Stroke CI and SI engines	04

3	Explain engine systems like fuel system, cooling system, lubrication system, air intake and exhaust system etc.	04
4	Identify different constructional and operational components of combine harvesters, its controls and levers	06
5	Demonstrate gathering, reaping, conveying, threshing, cleaning and packing mechanism with respect of specification and working principles.	06
6	Overhauling of the reaping and other mechanism and assembling the parts.	10
7	Apply precautions during, before and after field operation if the harvester.	06
8	Demonstrate operation of combine harvester with different operational controls	16
9	Daily and periodic maintenance, and servicing of different operational units along with traction device (wheel and crawler).	06
	TOTAL (hours)	60

SYLLABUS:

SL NO	CONTENT	DETAILS
1	Identification of engine and machine components (4 hrs)	1.1 Engine – demonstration of working principle, 1.2 Identification of engine parts 1.3 Identification and demonstration of engine systems 1.4 Identification of constructional and functional components of the combine harvester
2	Servicing and maintenance of Engine and transmission systems. (4 hrs)	2.1 Servicing of engine components and associated system 2.2 Servicing of transmission system 2.3 Servicing of operational controls
3	Dismantling, assembling and maintenance of	3.1 Measuring, dismantling and assembling the reaping unit and cutter header assembly. 3.2 Dismantling, assembling and maintenance of conveying

	operational units. (8 hrs)	unit, threshing unit, concave and cleaning units. 3.3 Adjustment and maintenance of traction units (tractor, wheel and crawler and associated parts).
4	Precautions and preparation of harvester for operation (4 hrs)	Demonstration on safety measures <ul style="list-style-type: none"> i. Precautions on operator's physical condition and clothes ii. Precautions before use iii. Precautions for checking before test run and operation iv. Precautions for operation and moving v. Precautions for loading/unloading vi. Precautions for operation
5	Field practice and adjustments with combine harvester (12 hrs)	5.1 Practice on <ul style="list-style-type: none"> i. Pre-operation checks ii. Starting and stopping the engine iii. Starting, turning and parking iv. Traveling v. Harvesting, threshing, cleaning, packing vi. Loading/unloading on truck vii. Replacing of grain bags viii. Operation at different cutting depth and threshing cylinder speed settings in field. 5.2 Adjustments of <ul style="list-style-type: none"> i. the gap between feeding auger and base plate ii. gap between platform auger finger and base plate iii. the position of reel iv. Checking and replacing fuse v. the chains vi. the belts vii. the crawler
6.	Maintenance of combine harvester (4 hrs)	6.1 Daily maintenance Follow the operators manual 6.2 Maintenance after Operation <ul style="list-style-type: none"> i. Post-operation maintenance ii. Detaching and opening of each part iii. Oiling of each part iv. Greasing required parts v. Cleaning of each part vi. Long-time storage
Total		36 hrs.

List of tools and equipment for 'Combine Harvester Operator

LIST OF GENERAL TOOLS & EQUIPMENTS: (For Batch of 30 Candidates)			
S No.	Name of the Tool & Equipment	Specification	Quantity
1.	Laptop & LCD Projector	Standard & available size	01 each
2.	White board, Marker	Minimum 5'X4'	01-02 each
3.	Record book	Standard & available size	01 each
4.	Public address system	-Do-	01 No

N.B.: To conduct Practical for trainees on related trade/discipline, a farm machinery shed with the following machines and implements are prerequisite for hands-on skill development in training.

S No.	Name of the Farm Equipment's	Specification	Quantity
1.	Farm Machinery shed	Space: 25'X40'.	1000 Sqft.
2	Combine Harvester	Self-propelled or Tractor mounted	1
3	Hand tools/ Kit box	Standard	2

