

Syllabus For RICE TRANSPLANTER OPERATOR

Course Name	RICE TRANSPLANTER OPERATOR
Sector	AGRICULTURE
Course Code	AGR/2021/RTOP/034
Level	4 (RPL)
Occupation	RICE TRANSPLANTER OPERATOR
Course Duration	Total Duration 36.5 Hrs (OJT)
Trainees' Entry Qualification	Class VIII Pass with 5 years experience in the relevant field
Trainers Qualification	B.E./B-TECH in agriculture engineering with 1 year experience or diploma in agriculture engineering with two years experience

SYLLABUS:**Knowledge criteria:**

Sl. No.	CONTENT	DETAILS
1.	Occupational safety (2 hrs)	1.1. Basic safety introduction & Personal protection 1.2. Basic injury prevention & elementary first aid 1.3. Safety sign for Danger, Warning, caution and personal safety message 1.4. Use of Fire extinguishers 1.5. Concept of Standard
2	Operational principle of 2-Stroke and 4-Stroke CI and SI engines; Different components of IC Engine (2 hrs)	2.1 Operational principal of IC Engine 2.2 Working of 2-Stroke and 4-Stroke engine 2.3 Components of IC engine 2.4. Function and working of the engine components
3	Systems of IC Engine (2 hrs)	3.1 Air-cleaning system – types, working mechanism 3.2 Fuel supply system – Need for fuel system, components, working 3.3 Cooling system – Importance, types, components, working principle

		3.4 Lubrication system – use, types, components 3.5 Power Transmission system – types, components
4	Types and functions of Rice Transplanters and their components (2 hrs)	4.1 Types (Power and no of row specific) and functions of Rice Transplanters 4.2 Constructional and functional components of rice transplanter
5	Power transmission system and transplanting mechanism (2 hrs)	5.1 Power drives and transmission mechanism 5.2 Four bar linkage and crank mechanism 5.3 Seedling tray and fork movement
6	Seed treatment; preparation of Mat-type nursery and puddled field (2 hrs)	6.1 Methods of seed treatment 6.2 Nursery bed preparation 6.3 Seed sowing and Nursery maintenance 6.4 Seedling & field preparation for transplanting
7	Operational Controls and safe driving of rice transplanter (2 hrs)	7.1 Operational controls like gears, levers, brake, clutch etc. 7.2 Spacing and depth control of the seedlings 7.3 Safety precautions for operation 7.4 Safe driving of the transplanter
8	Routine Maintenance of rice transplanter (2 hrs)	8.1 During operation 8.2 Daily maintenance 8.3 Periodical maintenance 8.4 During offseason
Total		16 hrs

Performance Criteria:

SL NO	CONTENT	DETAILS
1	Identification of engine and machine components (2.5 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 transplanter
2	Dismantling and assembling of operational components. (4 hrs)	2.1 Dismantling and assembling of seedling rack 2.2 Adjustment of transplanter forks for no of seedling 2.3 Adjustment of transplanting mechanism for depth and spacing

3	Servicing and maintenance of Engine and transmission systems. (4 hrs)	1.1 Servicing of engine components and associated system 1.2 Servicing of transplanting mechanism 1.3 Servicing of operation al controls
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4	Seed treatment, nursery bed preparation and field preparation for seedling transplanting. (4 hrs)	4.1 Preparation of nursery base field 4.2 Soil mixing with sands and organic fertilizer 4.3 Preparation of nursery bed with plastic and proper boundary 4.4 Chemical and mechanical treatment of seeds 4.5 Seed sowing demo for proper seedling population
5	Field practice with rice transplanter (6 hrs)	5.1 Tillage, puddling and field preparation 5.2 Driving the transplanter. 5.3 Controlling the transplanting levers. 5.4 Practice of starting, operating, turning and stopping the RTP. 5.5 Operating the RTP at different depth and spacing setting in puddled field.
Total		20.5 hrs.

List of tools and equipment for 'Rice Transplanter 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	Power tiller with rototiller Or Tractor with rotavator for puddling	Power tiller (13 HP)Or Tractor (18 HP and Above)	1
3	Paddy Transplanter	6-8 row	1
4	Engine cut models	Laboratory standard	2
5	Diesel Engine	5 hp	1

6	Hand tools/ Kit box	Standard	2
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