Model Curriculum

Aerial Work Platform Operator

(Option: Telescopic Handler)

SECTOR: INFRASTRUCTURE EQUIPMENT
SUB-SECTOR: EQUIPMENT OPERATIONS
OCCUPATION: MACHINE OPERATION
REF ID: IES/Q0127, V1.0
NSQF LEVEL: 4

Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

INFRASTRUCTURE EQUIPMENT SKILL COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of Job Role/ Qualification Pack:
'**Aerial Work Platform Operator (Option:Telescopic Handler**' QP No. '**IES/ Q 0127 NSQF Level 4**'

Date of Issuance: April 1st, 2018

Valid up to: March 31st , 2020

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

Authorized Signatory
(Infrastructure Equipment Skill Council)

TABLE OF CONTENTS

1. Curriculum **01**

2. Trainer Pre-requisites **07**

3. Annexure: Assessment Criteria **08**

Aerial Work Platform Operator (Option: Telescopic Handler)

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of "Aerial Work Platform Operator (Option: Telescopic Handler)", in the "Infrastructure Equipment" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	**Aerial Work Platform Operator (Option: Telescopic Handler)**		
Qualification Pack Name & Reference ID	IES/Q0127		
Version No.	1.0	**Version Update Date**	28 June 2018
Pre-requisites to Training	Class 8th 1 to 2 years' experience in material handling at work site		
Training Outcomes	**After completing this programme, participants will be able to:** **Compulsory** • **Conduct pre-operation checks on aerial work platform** by inspecting, preparing and testing the functions of all controls and systems of the machine including its monitoring and safety devices. • **Carry out aerial work platform operations** by inspecting the worksite, understanding the task, planning the methodology and executing it precisely and safely within the allotted resources and time frame. • **Carry out regular maintenance of aerial work platform** by selecting and carrying out the relevant service schedule, diagnosing and rectifying common faults, compiling and submitting reports as per organisations policy. • **Comply with worksite health and safety guidelines** by following processes and procedures related to personal protective equipment, basic first aid for common injuries at work site, emergency evacuation and disposal of hazardous waste.		
	Option 1 • **Operate and maintain a telescopic handler** by preparing the machine and executing the tasks safely within the allotted time and resources, carrying out regular maintenance and simple troubleshooting.		

This course encompasses 4 out of 4 Compulsory National Occupational Standards (NOS) 1 out of 1 Option NOS of "Aerial Work Platform Operator (Option: Telescopic Handler)" Qualification Pack issued by "Infrastructure Equipment Skill Council".

COMPULSORY NOS

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	**Carry out pre-operation checks on aerial work platform** **Theory Duration** (hh:mm) 08:00 **Practical Duration** (hh:mm) 16:00 **Corresponding NOS Code** IES/N0179	• Inspect machine and critical structure for cracks/damages and hose lines including clamps/ couplers for leakages. • Inspect condition of tires, air pressure, tightness of bolts and nuts. • Inspect work platform, carrying basket including linkages and extension slides for correctness • Inspect and replenish as necessary fluid levels in the engine (fuel, lube, coolant), hydraulic transmission systems • Inspect and lubricate all greasing points/ pivots / pins of all moving parts and components. • Operate all control levers/sticks, and check all gauges, switches, lights and horns are functional • Operate and check lower operating controls override the upper controls of boom lift equipment. • Acquire the ability to read and comprehend basic signs, symbols, diagrams, charts and decals on the equipment. • Communicate information & instructions using correct tech terms and phrases to team members /supervisor in a clear and concise manner. • Maintain a logbook to record all checks /activities carried out before starting operations. • Report defects and problems in time and, if beyond his scope, escalate as necessary	• Aerial Work Platform with standard tools, accessories and equipment. • Class room with audio-video system • Manufacturers O and M Manual & Video • Safety video • PPE Items & Safety Gear • Open ground
2	**Operate aerial work platform.** **Theory Duration** (hh:mm) 18:00 **Practical Duration** (hh:mm) 36:00 **Corresponding NOS Code** IES/N0180	• Formulate the methodology for execution of tasks as per the site conditions and operational instructions/guidelines. • Inspect the work site and entry/exit routes for any obstructions like trenches/cuttings and overhead power lines • Ascertain stability and gradient of ground to support both machine and workmen, and set outriggers ensuring stability. • Start the engine as per procedure and check functioning of all the controls and monitoring devices /aids. • Operate the machine by lowering the platform for workmen to enter; and	• Aerial Work Platform with standard tools, accessories and equipment. • Class room with audio-video system • Manufacturers O and M Manual & Video • Safety video • PPE Items & Safety Gear • Open ground

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		extending boom lift slowly to the work area • Monitor the safe boom extension / operating range as per the load capacities chart • Identify operational slowdowns and initiate necessary actions to rectify the issues in time • Terminate operations by placing boom lift in stowed position; uninstalling outriggers, parking the machine and shutting down the engine. • Inspect for damages; leaks etc and report / take appropriate action as laid down • Maintain a logbook to record all activities carried out during the aerial work platform operations. • Achieve high levels of customer satisfaction by ensuring quality service is delivered as committed	
3	**Carry out routine maintenance and troubleshooting of an aerial work platform.** **Theory Duration** (hh:mm) 08:00 **Practical Duration** (hh:mm) 16:00 **Corresponding NOS Code** IES/N0181	• Determine the service requirement as per the parameters listed in the maintenance schedule • Position the machine correctly and safely before carrying out any maintenance activity • Inspect machine for damaged / cracked parts / components and rectify as necessary • Inspect and check functioning of all control panels / mechanisms and monitoring devices. • Inspect engine, hydraulic, electrical and transmission systems and service the various components as per the guidelines. • Inspect and service the work platform / carrying basket as laid down in the maintenance manual • Inspect wheel rims, tires for damages and correct air pressure; wheel nuts for tightness • Diagnose the defect/ problem and rectify using appropriate tools/eqpt; if need be take advice from supervisor • Complete documentation on prescribed formats completed legibly and in time. • Report defects and problems in time and escalate, if beyond his scope, as necessary	• Aerial Work Platform with standard tools, accessories and equipment. • Class room with audio-video system • Manufacturers O and M Manual & Video • Safety video • PPE Items & Safety Gear • Lab/workshop/covered shed
4	**Comply with Worksite Health and Safety Guidelines**	• Comply with all safety, health, security and environmental regulations and guidelines at the worksite	• Aerial Work Platform with standard tools, accessories and

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 06:00 **Practical Duration** (hh:mm) 12:00 **Corresponding NOS Code** IES/N7601	• Utilise Personal Protective Equipment (PPE) and other safety gear related to protection of body in an effective manner. • Follow safety measures during operations to ensure that the health and safety of all including members of the publics is not at risk. • Handle the transportation, storage and disposal of hazardous materials and waste in compliance with workshop health, safety and environmental guidelines • Operate various types and grades of fire extinguishers, as applicable to the different categories of equipment • Support in administering basic first aid and report to concerned staff in case of an accident • Respond promptly and appropriately to an accident/ incident or emergency within limits of one's roles and responsibilities • Record and report essential details related to operations, incidents or accidents as per the organisation's procedures.	equipment. • Class room with audio-video system • Organisation's ESH / Safety video • PPE Items & Safety Gear • Firefighting equipment & Charts • First Aid Kit and Charts
	Total Duration **Theory Duration 40:00** **Practical Duration 80:00**	**Unique Equipment Required**: • Aerial Work Platform and or Telescopic Material Handler with standard tools, accessories and equipment. • Class room with audio-video projection system • Manufacturers O and M Manual & Video • Safety video • PPE Equipment: Helmet, gloves, earplugs, goggles, safety shoes • Firefighting equipment and 'How to Use' Charts • First Aid Box and 'How to Do' Charts Open ground and Lab/Workshop/Covered Shed	

OPTIONS (Optional to choose any or all or none)

OPTION 1: Telescopic Handler

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	**Operate and maintain telescopic handler equipment** **Theory Duration** (hh:mm) 08:00 **Practical Duration** (hh:mm) 16:00	• Inspect machine and critical structure for cracks/damages and hose lines including clamps/ couplers for leakages. • Inspect condition of tires, air pressure, tightness of bolts and nuts. • Inspect and replenish as necessary fluid levels in the engine (fuel, lube, coolant), hydraulic transmission systems • Inspect and lubricate all greasing points/ pivots / pins of all moving parts and components.	• Telescopic Handler with standard tools, accessories and equipment. • Class room with audio-video system • Manufacturers O and M Manual & Video • Safety video • PPE Items & Safety Gear

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code IES/N0182	• Operate all control levers/sticks, and check all gauges, switches, lights and horns are functional • Understand the task, plan and organise the methodology for execution as per the site conditions. • Ascertain stability and gradient of ground to support both machine and load. • Determine the operating range based on load capacities; select correct carriage and forks/pallets • Position the tele handler in place and retrieve load without moving and repositioning the machine. • Engage the load, drive to landing area, extend the boom slowly, place the load and disengage. • Drive the machine to parking area and shut down engine after idling for few minutes, as per procedure. • Determine the service requirement as per the parameters listed in the maintenance schedule • Position the machine correctly and safely before carrying out any maintenance activity • Inspect engine, hydraulic, electrical and transmission systems and service the various components as per the guidelines. • Diagnose the defect/ problem and rectify using appropriate tools/eqpt; if need be take advice from supervisor • Acquire the ability to read and comprehend basic signs, symbols, diagrams, charts and decals on the equipment. • Communicate information & instructions using correct tech terms and phrases to team members /supervisor in a clear and concise manner. • Maintain a logbook to record all checks /activities carried out before starting and during operations. • Achieve high levels of customer satisfaction by ensuring quality service is delivered as committed	• Open ground
	Total Duration **Theory Duration 08:00** **Practical Duration 16:00**	**Unique Equipment Required**: • Telescopic Material Handler with standard tools, accessories and equipment. • Manufacturers O and M Manual & Video; Safety video • PPE Equipment: Helmet, gloves, earplugs, goggles, safety shoes • Open ground and Lab/Workshop/Covered Shed	

	GRAND Total Duration **Minimum Duration for the QP= 120 hrs** **Theory: 40 hrs** **Practical: 80 hrs** **Maximum Duration for the QP= 144 hrs** **Theory: 48 hrs** **Practical: 96 hrs**	**Unique Equipment Required**: • Aerial Work Platform and or Telescopic Material Handler with standard tools, accessories and equipment. • Class room with audio-video projection system • Manufacturers O and M Manual & Video • Safety video • PPE Equipment: Helmet, gloves, earplugs, goggles, safety shoes • Firefighting equipment and 'How to Use' Charts • First Aid Box and 'How to Do' Charts Open ground and Lab/Workshop/Covered Shed

*(This syllabus/ curriculum has been approved by **Infrastructure Equipment Skill Council)***

Trainer Pre-requisites for Job role: "Aerial Work Platform Operator (Option: Telescopic Handler)" mapped to Qualification Pack: "IES/Q0127, v1.0"

Sr. No.	Area	Details
1	**Description**	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "IES/Q 0127 Version 1.0".
2	**Personal Attributes**	Aptitude for conducting training, with strong communication and interpersonal skills. Passion for training and developing others; well-organised; and a team player. Eager to learn and keep oneself updated with the latest in the mentioned field.
3	**Minimum Educational Qualifications**	Class 10th
4a	**Domain Certification**	Certified for Job Role: "Aerial Work Platform Operator (Option: Telescopic Handler)" mapped to QP: "IES/Q 0127 – Version 1.0". Minimum accepted score 70%. Desired: Certification Training in Aerial Work Platform and Telescopic Handler Equipment Operations & Maintenance
4b	**Platform Certification**	Certified for Job Role: "Trainer" mapped to Qualification Pack: MEP/Q0102. Minimum accepted score 80%.
5	**Experience**	• Have 3 to 4 years' site experience in Aerial Work Platform and Telescopic Handler Operations. • Have 1 to 2 years' experience in conducting O and M training programs.

Assessment Criteria	
Job Role	Aerial Work Platform Operator (Option: Telescopic Handler)
Qualification Pack	IES/Q 0127 Version 1.0
Sector Skill Council	Infrastructure Equipment

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3	Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
5	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion
6	To pass the Qualification Pack, trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment
7	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Compulsory NOS Total Marks: 100				Marks Allocation	
Assessment outcomes	**Assessment Criteria for outcomes**	**Total Marks**	**Out of**	**Theory**	**Skill Practical**
1. IES/N0179 Carry out Pre-operation checks on Aerial Work Platform	PC1. check tires for damages and bulges	30	3	1	2
	PC2. check wheels for loose lug bolts, bent rims, cracks		3	1	2
	PC3. check the equipment for any damage- cracks, misalignment, welds, excess mast movement, locking pins		3	1	2
	PC4. check the hydraulic system reservoir, engine crankcase, engine coolant, transmission, air filter and axles are filled to the required operating fluid levels		4	1	3
	PC5. inspect for defects such as cracked welds, fuel leaks, hydraulic leaks, damaged control cables or wire harness		4	1	3
	PC6. inspect whether work platform and extension slides are clean, dry & clear of debris		3	1	2

	PC7. check the carrying basket for any physical damages and all the fastenings and linkages for any damages		3	1	2
	PC8. verify whether lower operating controls successfully override the upper controls of boom lift equipment		2	1	1
	PC9. ensure emergency lowering functions are working		1.5	0.5	1
	PC10. fill up the details in the checklist report after inspection of the equipment		2	1	1
	PC11. report any defect or abnormality in the equipment to the person responsible for the maintenance of the equipment		1.5	0.5	1
	Total		**30**	**10**	**20**
2. IES/N0180 Carry out aerial work platform equipment operations	PC1. check the ground for adequate strength to support the weight of both the machine and the load/workmen throughout the lift	**35**	3	1	2
	PC2. set outriggers on pads or on a level, solid surface of boom lift equipment		3	1	2
	PC3. ensure that the road side gradient is not more than 15° to avoid boom lift toppling		3	1	2
	PC4. lower the platform using controls to allow the workmen enter into the boom or scissor lift		3	1	2
	PC5. extend the boom, lift slowly and move the boom lift or scissor lift to the work area		3	1	2
	PC6. determine the operating range based on the load capacities for the equipment		3	1	2
	PC7. use the capacity chart to determine safe boom extension range		3	1	2
	PC8. place the booms and lift in stewed position, when finished with the machine		2	1	1
	PC9. shift the transmission to neutral and allow the engine to slow to idle speed		3	1	2
	PC10. park the machine on a level surface		3	1	2
	PC11. ensure the engine is turned off and remove the key to prevent unauthorized operation		2	1	1
	PC12. communicate problems accurately to others, such as maintenance personnel		2	1	1
	PC13. document and communicate concerns to appropriate personnel,		2	1	1

	such as supervisor, mechanic				
	Total		**35**	**13**	**22**
3. IES/N0181 Carry out maintenance and troubleshooting of the aerial work platform	PC1. determine the right service schedule by tracking machine operating hours		2.5	0.5	2
	PC2. check if all the plates are attached to the vehicle		1.5	0.5	1
	PC3. replenish lubricants and fluids as per the running of the machine or as per the schedule		2	0.5	1.5
	PC4. dispose of waste lubricating oils, anti-freeze and hydraulic fluids according to local regulations or take them to a recycling center for disposal.		2	0.5	1.5
	PC5. check battery levels and condition of the terminals and carry out minor adjustments if required		1	0	1
	PC6. fill the fuel tank to prevent water from condensing in the tank		1	0	1
	PC7. ensure that no maintenance task on the engine is performed when running or still hot	**20**	1.5	0.5	1
	PC8. ensure the main is turned off from panel completely before carrying out maintenance work on the equipment		1	0	1
	PC9. ensure that appropriate tools are used while troubleshooting		1	0	1
	PC10. diagnose the problem and identify appropriate repair procedures		1.5	0.5	1
	PC11. report defects precisely to the supervisor if beyond scope of the role		1.5	0.5	1
	PC12. dispose waste as per the guidelines of the site/ organization		1.5	0.5	1
	PC13. follow reporting procedures as laid down by the employer		1	0.5	0.5
	PC14. complete all documentation as per the prescribed standards in a timely manner		1	0.5	0.5
	Total		**20**	**5**	**15**
4. IES/N7601 Comply with worksite health and safety guidelines	PC1. comply with safety, health, security and environment related regulations/ guidelines at the work site	**15**	1.5	0.5	1

	PC2. use Personal Protective Equipment (PPE) and other safety gear as applicable to the equipment and the worksite		2.5	0.5	2
	PC3. follow safety measures during operations to ensure that the health and safety of self or others (including members of the public) is not at risk		2	1	1
	PC4. carry out operations as per the manufacturer's and worksite related health and safety guidelines		1.5	0.5	1
	PC5. handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines		1.5	0.5	1
	PC6. operate various grades of fire extinguishers, as applicable		1.5	0.5	1
	PC7. support in administering basic first aid and report to concerned team members, as required, in case of an accident		1.5	0.5	1
	PC8. respond promptly and appropriately to an accident/ incident or emergency situation, within limits of role and responsibility		1.5	0.5	1
	PC9. record and report details related to operations, incidents or accidents, as applicable		1.5	0.5	1
	Total		15	5	10
	Grand Total		**100**	**33**	**67**

Optional NOS **Total Marks: 50**				**Marks Allocation**	
Assessment outcomes	**Assessment Criteria for outcomes**	**Total Marks**	**Out of**	**Theory**	**Skill Practical**
1. IES/N0182 Operate and maintain telescopic handler equipment	PC1. check seat belt for damage, replace belt if frayed or cut webbing, damaged buckles or loose mounting hardware	**50**	1.5	0.5	1
	PC2. check the gauges, switches, joysticks, horns and controls for proper condition		1.5	0.5	1
	PC3. check for frame level indicator and window glass for damages		1.5	0.5	1
	PC4. check all the lighting systems for proper working condition		1.5	0.5	1
	PC5. check the ground for adequate strength to support the weight of both the machine and the load throughout the lift		1.5	0.5	1

	PC6. determine the operating range based on the load capacities for the equipment		2.5	0.5	2
	PC7. ensure that the correct carriage and forks are being used before loading the material		2.5	0.5	2
	PC8. adjust spacing of forks to engage the pallet or load at max width		2.5	0.5	2
	PC9. position the telescopic handler to place or retrieve the load without moving or repositioning the machine		2.5	0.5	2
	PC10. engage the load, rest it against the backrest and tilt it back slightly		2.5	0.5	2
	PC11. drive the telescopic handler to the landing location		2.5	0.5	2
	PC12. align forks of telescopic handler at the level at which the load is to be placed, then extend boom slowly until load is just above area where it is to be placed		2.5	1	1.5
	PC13. lower the boom of telescopic handler until the load rests in position and the forks are free to retract		2	0.5	1.5
	PC14. drive the equipment to the parking lot		1.5	0.5	1
	PC15. shift the transmission to “Neutral” and allow the engine to slow to idle speed		1.5	0.5	1
	PC16. park the machine on a level surface		1.5	0.5	1
	PC17. ensure the engine is off and remove ignition key of telescopic handler		2	0.5	1.5
	PC18. determine the right service schedule by tracking machine operating hours		2	0.5	1.5
	PC19. check if all the plates are attached onto the vehicle		2.5	1	1.5
	PC20. ensure the main power is turned off from panel completely before carrying out maintenance work		1.5	0.5	1
	PC21. replenish lubricants and fluids as per the running of the machine or as per the schedule		2.5	1	1.5
	PC22. follow reporting procedures as laid down by the employer		2	0.5	1.5
	PC23. complete all documentation in the prescribed standards in a timely manner		1.5	0.5	1
	PC24. report defects precisely to the supervisor if beyond scope of his role		2	1	1
	PC25. dispose waste as per the guidelines of the site/ organization		2.5	1	1.5
	Total		**50**	**15**	**35**