



Model Curriculum

Rigger: Rigging of Heavy Material

SECTOR: IRON & STEEL
**SUB-SECTOR: STEEL, SPONGE – IRON, FERRO ALLOYS,
RE ROLLERS, REFRACTORY**
OCCUPATION: MECHANICAL MAINTENANCE
REF ID: ISC/Q0908
NSQF LEVEL: 3



 Skill India सक्षमता - नवोदय - नवशक्ति		 N.S.D.C. National Skill Development Corporation Transforming the skill landscape
<h1>Certificate</h1>		
<h2>CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS</h2>		
is hereby issued by the		
INDIAN IRON AND STEEL SECTOR SKILL COUNCIL		
for the		
MODEL CURRICULUM		
Complying to National Occupational Standards of Job Role/ Qualification Pack: 'Rigger: Rigging of Heavy Material ' QP No. 'ISC/ Q 0908NSQF Level 3'		
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Date of Issuance:	December 22nd, 2015	 Authorised Signatory (Indian Iron and Steel Sector Skill Council)
Valid up to:	December 21st, 2016	
* Valid up to the next review date of the Qualification Pack		



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Rigger: Rigging of Heavy Material

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Rigger: Rigging of Heavy Material”, in the “Iron&Steel” Sector/Industry and aims at building the following key competencies amongst the learner.

Program Name	Rigger: Rigging of Heavy Material		
Qualification Pack Name & Reference ID.	Rigger: Rigging of Heavy Material ISC/Q0908		
Version No.	1.0	Version Update Date	30-12-2015
Pre-requisites to Training	Minimum qualification – 10th standard		
Training Outcomes	After completing this programme, participants will be able to: <ul style="list-style-type: none"> Understand the given job of rigging Carry out the required job of rigging Use basic health and safety practices at the work place Works effectively with others 		

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “Rigger: Rigging of Heavy Material” Qualification Pack issued by “Indian Iron & Steel Sector Skill Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Over view of Iron & Steel Industry Theory Duration (hh:mm) 04:00 Practical Duration (hh:mm) 00:00 Corresponding NOS Code	<ul style="list-style-type: none"> Understanding of Iron & steel industry Understanding various types of Iron & Steel Industry Creating of products of Iron & Steel industry Activities in Iron & Steel Industry 	PPTs of Iron and steel manufacturing, Charts showing the same
2	5S & House keeping Theory Duration (hh:mm) 08:00 Practical Duration (hh:mm) 06:00	<ul style="list-style-type: none"> Identification of bottlenecks in functioning of work place Various methods of housekeeping both pre-work & post-work as well 	PPTs of 5S, Display Charts of 5S, Audit Checklists of 5S



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code ISC/N0008		
3	Understand the given job of rigging Theory Duration (hh:mm) 22:00 Practical Duration (hh:mm) 36:00 Corresponding NOS Code ISC/N0806	<ul style="list-style-type: none"> Understand assigned rigging job according given checklist and instructions Identify tools and tackles that are required for doing the assigned rigging work 	Slings, wire ropes, knots, shackles, chain blocks,
4	Carry out the required job of rigging Theory Duration (hh:mm) 24:00 Practical Duration (hh:mm) 120:00 Corresponding NOS Code CSC/N0025	<ul style="list-style-type: none"> Plan the rigging operation based on actual load, equipment to be lifted and moved Execute rigging operations Complete post rigging activities 	Slings, wire ropes, knots, shackles, chain blocks
5	Use basic health and safety practices at the workplace Duration (hh:mm) 04:00 Practical Duration (hh:mm) 18:00 Corresponding NOS Code ISC/N0008	<ul style="list-style-type: none"> Health and safety procedures Fire safety procedures Emergencies, rescue and first aid procedures 	PPE, Different Type of Safety Sign, First Aid Box, Step Ladder, Sample Accident reports ,Fire Extinguishers, Items required for fire extinguisher and fire Safety
6	Work effectively with others Theory Duration (hh:mm) 08:00 Practical Duration (hh:mm)	<ul style="list-style-type: none"> Ensure appropriate communication with superiors, peers and others as applicable at work place Demonstrate appropriate behaviour and etiquette at work place 	Communication skills PPTs, Posters Team management posters

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	00:00 Corresponding NOS Code ISC/N0009		
	Total Duration Theory Duration 70:00 Practical Duration 180:00	Unique Equipment Required: <ul style="list-style-type: none"> • Sample Fabrication drawings, • Basic hand tools such as spanner, pliers, pullers & power tools • Measuring & Precision measuring instruments such as a micro-meter, Vernier callipers, • Material and Equipment for cleaning • Welding setup, dunnage, scotch block, cleat and hook. Power tools and hand tools, Steel strap and chains • Personal protective Equipment's and clothes • Different Type of Safety Sign, First Aid Box, • Safety instrument and clothing, Step Ladder, Sample Accident reports • Fire Extinguishers, Items required for fire extinguisher and fire Safety 	

Grand Total Course Duration: **250Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Indian Iron and Steel Sector Skills Council](#))

Trainer Prerequisites for Job role: “Rigger: Rigging of Heavy Material” mapped to Qualification Pack: “ISC/Q0908”.

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ISC/Q0908”.
2	Personal Attributes	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field
3	Minimum Educational Qualifications	Min. ITI Fitter pass and preferably CTI/ATI cleared/ Diploma Mechanical
4a	Domain Certification	Certified for Job Role: “Rigger: Rigging of Heavy Material” mapped to QP: “ISC/Q0908”. Minimum accepted score is 80%.
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “SSC/1402”. Minimum accepted score is 80%.
5	Experience	Min. 5 years relevant industry experience and minimum 3 years' experience as Trained or untrained for same Job Role/ Trade.



Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Rigger: Rigging of Heavy Material
Qualification Pack	ISC/Q0908
Sector Skill Council	Indian Iron & Steel Sector Skill Council

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	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on these criteria.
5	To pass the Qualification Pack, every trainee should score a minimum of 60% in every NOS.
6	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessable Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
ISC/N0935: Understand the given job of rigging	PC1. Interpret the checklist and understand the rigging job requirements	250	20	10	10
	PC2. Identify the associated, risks and hazards		20	10	10
	PC3. Make a work plan to carry out the rigging job considering the area of work and floor load bearing capacity		20	10	10
	PC4. Identify tools, tackles & equipment required to perform the operation and inspect them before operation		20	5	15
	PC5. Identify and select knots based on the requirement e.g. Bowline knots, Slip knots, Butterfly knots etc.		20	5	15
	PC6. Use various types of rigging equipments and basic hitches and their applications		20	5	15
	PC7. Identify hitch configurations and capacities		20	5	15
	PC8. Identify appropriate anchors		20	5	15
	PC9. Identify appropriate slings, wire ropes, end terminations and tightness		20	5	15



Assessable Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
	PC10. Identify appropriate chains, pulley required for the rigging job		20	5	15
	PC11. Understand wind force, temperature and visibility		20	5	15
	PC12. Asks helper to carry tools required to the desired work site (slings as required, different type of shackles, eyebolt, chain-block etc.)		15	5	10
	PC13. Report to stores in case of non-availability of tools & tackles or stock-out		15	5	10
	NOS Total Marks	Total	250	80	170
ISC/N0936: Carry out the required job of rigging	PC1. Understand the weight and volume of loads	500	30	10	20
	PC2. Estimate the centre of gravity of the load		30	10	20
	PC3. Identify the lift points of in the load		30	10	20
	PC4. Determine and select rigging based on loading		30	10	20
	PC5. Perform pre-use inspection of rigging and lift points		25	5	10
	PC6. Ensure hoisting/rigging activity is not performed under hazardous conditions e.g. close proximity to energised line		30	10	20
	PC7. Understand hazards related to the rigging job at hand		15	10	5
	PC8. Plan, in accordance with safety guidelines		15	5	10
	PC9. Verify that all slings and hardware are rated more than the expected load		30	10	20
	PC10. Use padding to protect synthetic slings from damage		30	10	20
	PC11. Attach pulleys and blocks to fix overhead structure e.g. beams, equipment assemblies, valves etc.		30	10	20
	PC12. Provide necessary support/tie the load to be handled		30	10	20



Assessable Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
	PC13. Control movement of heavy loads during lifting through narrow openings/confined space to prevent any lateral damage and for safe working		30	10	20
	PC14. Provide signal / verbal direction for moving loads to co-workers		25	5	20
	PC15. Tilt, dip and turn suspended load to manoeuvre obstacles around the work place using multi point suspension techniques		30	10	20
	PC16. Identify false modes and carry out emergency damage control		30	10	20
	PC17. Remove tools and tackles, slings etc. from the working area after job is completed		15	5	10
	PC18. Remove hoisting equipment, crane, chain blocks, pull hoists etc. from the work place		15	5	10
	PC19. Ensure the work site is left in clean and safe condition		15	5	10
	PC20. Ensure all tools and tackles, slings, chain blocks etc. are returned to the department store		15	5	10
NOS Total Marks		Total	500	165	335
ISC/N0008: Use basic health and safety practices at the workplace	PC1. Use protective clothing/equipment for specific tasks and work conditions	150	9	4	5
	PC2. State the name and location of people responsible for health and safety in the workplace		6	1	5
	PC3. State the names and location of documents that refer to health and safety in the workplace		2	1	1
	PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace		8	4	4



Assessable Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
	PC5. Carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in the work environment of the job role		6	1	5
	PC6. State location of general health and safety equipment in the workplace		6	1	5
	PC7. Inspect for faults, set up and safely use steps and ladders in general use		6	1	5
	PC8. Work safely in and around trenches, elevated places and confined areas		6	1	5
	PC9. Lift heavy objects safely using correct procedures		6	1	5
	PC10. Apply good housekeeping practices at all times		2	1	1
	PC11. Identify common hazard signs displayed in various areas		6	5	1
	PC12. Retrieve and/or point out documents that refer to health and safety in the workplace		5	1	4
	PC13. Use the various appropriate fire extinguishers on different types of fires correctly		9	4	5
	PC14. Demonstrate rescue techniques applied during fire hazard		8	4	4
	PC15. Demonstrate good housekeeping in order to prevent fire hazards		2	1	1
	PC16. Demonstrate the correct use of a fire extinguisher		6	1	5
	PC17. Demonstrate how to free a person from electrocution		6	1	5
	PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.		8	3	5
	PC19. Demonstrate basic techniques of bandaging		6	1	5



Assessable Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
	PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		7	2	5
	PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments		6	1	5
	PC22. Administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		6	1	5
	PC23. Demonstrate the artificial respiration and the CPR Process		6	1	5
	PC24. Participate in emergency procedures		6	1	5
	PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible		4	1	3
	PC26. Demonstrate correct method to move injured people and others during an emergency		2	1	1
	NOS Total Marks	Total	150	45	105
ISC/N0009: Work effectively with others	PC1. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	5	5
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		9	4	5
	PC3. Provide information to others clearly, at a pace and in a manner that helps them to understand		11	1	10
	PC4. Display helpful behaviour by assisting others in performing tasks in a positive manner, where required and possible		10	5	5



Assessable Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
	PC5. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	5	5
	PC6. Display appropriate communication etiquette while working		11	1	10
	PC7. Display active listening skills while interacting with others at work		11	1	10
	PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		8	3	5
	PC9. Demonstrate responsible and disciplined behaviours at the workplace		14	4	10
	PC10. Escalate grievances and problems to supervisor		6	1	5
	NOS Total	Total	100	30	70
	Grand Total	1000	1000	320	680
	Percentage Weightage:			50%	50%
	Minimum Pass% to qualify (aggregate):			60%	