



Model Curriculum

Control Room Operator

SECTOR: IRON & STEEL
SUB-SECTOR: STEEL

OCCUPATION: Iron Making
REF ID: ISC/Q0409
NSQF LEVEL: 5



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

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: Control Room Operator OP No. ISC/Q0409 NSQF Level 5

Date of issuance: December 22nd, 2015

Valid up to: December 21st, 2016

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


Authorised Signatory
(Indian Iron and Steel Sector Skill Council)



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CONTROL ROOM OPERATOR

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Control Room Operator”, in the “Iron & Steel” Sector/Industry and aims at building the following key competencies amongst the learner.

Program Name	Control Room Operator		
Qualification Pack Name & Reference ID.	Control Room Operator ISC/Q0409		
Version No.	1.0	Version Update Date	25-03-2015
Pre-requisites to Training	Minimum qualification – ITI Pass		
Training Outcomes	After completing this programme, participants will be able to: <ul style="list-style-type: none"> Control the processes by monitoring the parameters on computer screen Use basic health and safety practices at workplace Work effectively with others and manage team members 		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of “Control Room Operator” 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) 05:00 Corresponding NOS Code	<ul style="list-style-type: none"> Understanding Iron & steel industry Understanding types of Iron & Steel Industry Understanding products of Iron & Steel industry Activities in Iron & Steel Industry 	PPTs of Iron and steel manufacturing, Charts showing the same
2	Occupational, Health and Safety (OHAS) Theory Duration (hh:mm) 12:00 Practical Duration (hh:mm)	<ul style="list-style-type: none"> Understanding the Occupational health & Safety Understand What is hazard Documentation for Health and safety Working at Heights, confined spaces Remedies for fire at work place 	PPTs for OHAS related to Job Role, Display Material for PPEs related to Job Role, Safety Material



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	20:00 Corresponding NOS Code ISC/N0008		
3	5S & House keeping Theory Duration (hh:mm) 12:00 Practical Duration (hh:mm) 24:00 Corresponding NOS Code ISC/N0004	<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
4	Control the processes by monitoring the parameters on computer screen Theory Duration (hh:mm) 25:00 Practical Duration (hh:mm) 60:00 Corresponding NOS Code ISC/N0430	<ul style="list-style-type: none"> • Prepare for the control room operation • Monitor the process parameters on the screen • Control the parameters as per SOP/SPI/Control Plan • Record observations/deviations in the process in log books/control charts 	PPTs for various types of drawings, Blue prints, interlocks, alarms, control machinery
5	Prepare for Control Room Operator operation Duration (hh:mm) 25:00 Practical Duration (hh:mm) 70:00 Corresponding NOS Code ISC/N0205	<ul style="list-style-type: none"> • Plan for different tools and tackles required for anchorage system regulation • Ensure taking permission and clearances for anchorage system regulation from supervisor • Carry out anchorage system regulation activities 	Precision measuring tools, interlocks, alarms, control machinery
6	Carry out Control Room Operator operation Theory Duration	<ul style="list-style-type: none"> • Conduct routine maintenance or rectify the problem, as appropriate • Carry out routine maintenance of anchorage system in accordance to 	Hand tools and lifting machines, various measuring instruments, interlocks, alarms,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 40:00 Practical Duration (hh:mm) 125:00 Corresponding NOS Code ISC/N0206	the expansion norm <ul style="list-style-type: none"> Carry out basic diagnostics and troubleshooting Plan corrective measures for rectification of anchorage system 	control machinery
7	Use basic health and safety practices at the workplace Duration (hh:mm) 12:00 Practical Duration (hh:mm) 20:00 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, Safety instrument and clothing, Step Ladder, Sample Accident reports ,Fire Extinguishers, Items required for fire extinguisher and fire Safety
8	Work effectively with others Duration (hh:mm) 10:00 Practical Duration (hh:mm) 18:00 Corresponding NOS Code ISC/N0009	<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
	Total Duration Theory Duration 140:00 Practical Duration 342:00	Unique Equipment Required: <ul style="list-style-type: none"> Mechanical Drawings, Blueprints, Basic Tools and Equipment's, measuring tools& precision measurement tools, Assembling tools Material and Equipment for cleaning, lifting machines PPE, Safety Sign, First Aid Box, Fire Extinguishers 	

Grand Total Course Duration: **482Hours, 0 Minutes**

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

Trainer Prerequisites for Job role: “Control Room Operator” mapped to Qualification Pack: “ISC/Q0409”



Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ISC/Q0409”.
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: “Control Room Operator” mapped to QP: “ISC/Q0409”. 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 industry experience and minimum 2 years’ experience as Trained or un trained for same Job Role/ Trade



Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Control Room Operator
Qualification Pack	ISC/Q0409
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.

Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
ISC/N0430:Control the processes by monitoring the parameters on computer screen	PC1. Read the previous shift log book and understand the various operating parameters of the last shift operation process	750	15	10	5
	PC2. Understand the production requirement from the supervisor		20	10	10
	PC3. Understand the process and the control room screen		50	10	40
	PC4. Ensure sufficient availability of machinery, consumables and tools required for smooth running of the operation to achieve production schedule		30	10	20



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	PC5. Ensure that the process parameters set up on the operator work station are in accordance with the process sheets or instructions from the supervisor		50	10	40
	PC6. Ensure to inform supervisor in case of any abnormalities observed during execution of work and seek guidance		30	10	20
	PC7. Ensure that the bins & hopper have the required quantity of materials required to carry out smooth operation		40	10	30
	PC8. Start up and shut down the production system in cases of emergency or as required by schedule		40	10	30
	PC9. Monitor and analyse the trends and alarms that appear on the HMI and take necessary countermeasures by informing the supervisor		40	10	30
	PC10. Constantly communicate to the concerned control room to ensure smooth processing within the respective shops		40	10	30
	PC11. Inform the appropriate authority in case of an emergency or fire		40	10	30
	PC12. Ensure that all safety measures, interlocks, alarms are working and in conformance with the safe running of the equipment		40	10	30



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	PC13.Observe computer printouts, video monitors and gauges to verify specified processing conditions and to make necessary adjustments		40	10	30
	PC14.Operate multi-function central process control machinery to grind, separate, filter, melt, roast, treat, refine or otherwise as per process requirement		30	10	20
	PC15. Ensure that work area is clean and free of any obstacle or encumbrance		30	10	20
	PC16. Note observations /deviations in the on-going process		30	10	20
	PC17. Control/set/vary the operating parameters according to SOP/SPI/ Control Plan and take corrective/ preventive measures		30	10	20
	PC18. Keep in constant touch with the Operations & Maintenance department & inform them of any change in parameters/system requirements.		30	10	20
	PC19. Ensure the effective implementation of operational policies covering all areas of the steel plant so that all relevant procedural / legislative requirements are fulfilled		30	10	20



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	PC20. Take right steps according to the Emergency Preparedness procedure in an emergency situation		30	10	20
	PC21. Maintain shift log of production and other data and prepare production and other reports		20	10	10
	PC22 Record all instructions received during the operation process in the instruction book and all incidents in the occurrence book		30	20	10
	PC23 Inform supervisor and maintenance team in case abnormalities of data/process parameters are being noticed/recorded		15	5	10
	NOS Total Marks	Total	750	235	515
ISC/N0008: Use basic health and safety practices at the workplace	PC1. Use protective clothing/equipment for specific tasks and work conditions	150	10	5	5
	PC2. State the name and location of people responsible for health and safety in the workplace		5	0	5
	PC3. State the names and location of documents that refer to health and safety in the workplace		1	0	1
	PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace		9	5	4
	PC5. Carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in		10	5	5



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	the work environment of the job role				
	PC6. State location of general health and safety equipment in the workplace		5	0	5
	PC7. Inspect for faults, set up and safely use steps and ladders in general use		5	0	5
	PC8. Work safely in and around trenches, elevated places and confined areas		5	0	5
	PC9. Lift heavy objects safely using correct procedures		5	0	5
	PC10. Apply good housekeeping practices at all times		1	0	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		4	0	4
	PC13. Use the various appropriate fire extinguishers on different types of fires correctly		9	5	4
	PC14. Demonstrate rescue techniques applied during fire hazard		10	5	5
	PC15. Demonstrate good housekeeping in order to prevent fire hazards		1	0	1
	PC16. Demonstrate the correct use of a fire extinguisher		4	0	4



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	PC17. Demonstrate how to free a person from electrocution		5	0	5
	PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.		10	5	5
	PC19. Demonstrate basic techniques of bandaging		5	0	5
	PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		10	5	5
	PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments		5	0	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		5	0	5
	PC23. Demonstrate the artificial respiration and the CPR Process		5	0	5
	PC24. Participate in emergency procedures		5	0	5
	PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible		9	5	4



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	PC26. Demonstrate correct method to move injured people and others during an emergency		1	0	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	5	0	5
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	0	10
	PC3. Provide information to others clearly, at a pace and in a manner that helps them to understand		10	0	10
	PC4. Display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		5	0	5
	PC5. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	0	10
	PC6. Display appropriate communication etiquette while working		10	0	10
	PC7. Display active listening skills while interacting with others at work		5	0	5
	PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		5	0	5



Assessment outcome (nos)	Assessment criteria	Total marks	Out of	Marks allocation	
				Theory	Skills practical
	PC9. Demonstrate responsible and disciplined behaviors at the workplace		15	5	10
	PC10. Escalate grievances and problems to		5	0	5
	PC11. Gather concerns, feedback from team members and convey them to appropriate authorities		15	5	10
	PC12. Escalate grievances and problems to superiors		5	0	5
	NOS Total Marks	Total	100	10	90
	Grand Total	1000	1000	290	710
	Percentage Weightage:			50%	50%
	Minimum Pass% to qualify (aggregate):			60%	