



Model Curriculum

Battery Anchorage Regulator

SECTOR: IRON & STEEL
SUB-SECTOR: STEEL

OCCUPATION: Coke Making
REF ID: ISC/Q0202
NSQF LEVEL: 4



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: 'Battery Anchorage Regulator' OP No. ISC/Q0202 NSQF Level 4

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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BATTERY ANCHORAGE REGULATOR

CURRICULUM / SYLLABUS

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

Program Name	Battery Anchorage Regulator		
Qualification Pack Name & Reference ID.	Battery Anchorage Regulator ISC/Q0202		
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">• Understand the assigned job of Battery Anchorage Regulator• Regulate the battery anchorage system after planning and coordination• Basic and routine maintenance/ trouble shooting of battery anchorage system• Use basic health and safety practices at workplace• Work effectively with others		

This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Battery Anchorage Regulator” 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)	<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	PPTs for OHAS related to Job Role, Display Material for PPEs related to Job



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	12:00 Practical Duration (hh:mm) 20:00 Corresponding NOS Code ISC/N0008	<ul style="list-style-type: none"> Remedies for fire at work place 	Role, Safety Material
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	Understand the assigned job of Battery Anchorage Regulator Theory Duration (hh:mm) 24:00 Practical Duration (hh:mm) 70:00 Corresponding NOS Code ISC/N0204	<ul style="list-style-type: none"> Understand the assigned job of anchorage measurement in accordance with prior Carry out activities for taking measurement of anchorage system 	PPTs for various types of Battery/drawings, Blue prints, & samples for battery regulator and respective machines Hand tools and lifting machines, various measuring instruments
5	Prepare for Battery Anchorage Regulator operation Duration (hh:mm) 24:00 Practical Duration (hh:mm) 75:00 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, pullers, lifting tools etc. marking tools
6	Carry out Battery Anchorage	<ul style="list-style-type: none"> Conduct routine maintenance or rectify the problem, as appropriate 	PPTs for various types of

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Regulator operation Theory Duration (hh:mm) 40:00 Practical Duration (hh:mm) 125:00 Corresponding NOS Code ISC/N0206	<ul style="list-style-type: none"> Carry out routine maintenance of anchorage system in accordance to the expansion norm Carry out basic diagnostics and troubleshooting Plan corrective measures for rectification of anchorage system 	bearings/drawings, Blue prints, & samples for bearings and respective machines Hand tools and lifting machines, pullers, various measuring instruments
7	Use basic health and safety practices at the workplace Duration (hh:mm) 12:00 Practical Duration (hh:mm) 15:00 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) 12:00 Practical Duration (hh:mm) 15:00 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 349:00	Unique Equipment Required: <ul style="list-style-type: none"> Mechanical Drawings, Blueprints, Basic Tools and Equipment's, measuring tools& precision measurement tools, Assembling tools Lubricant and coolant Material and Equipment for cleaning, Bearing pulling, lifting machines PPE, Safety Sign, First Aid Box, Fire Extinguishers 	

Grand Total Course Duration: **489Hours, 0 Minutes**

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



Trainer Prerequisites for Job role: “Battery Anchorage Regulator” mapped to Qualification Pack: “ISC/Q0202”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ISC/Q0202”.
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: “Battery Anchorage Regulator” mapped to QP: “ISC/Q0202”. 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	Battery Anchorage Regulator
Qualification Pack	ISC/Q0202
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/N0204: Understand the assigned job of anchorage measurement	PC1. Interpret the schedule and understand the anchorage system measurement job requirements	150	25	15	10
	PC2. Plan, as appropriate to carry out the anchorage system measurement job		25	15	10
	PC3. Ensure to take permission and clearances for taking anchorage system measurement from supervisor		25	15	10
	PC4. Carry out anchorage system measurement activities		25	15	10



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	PC5. Understand the different tools and tackles for taking the anchorage system measurement at different heights		25	15	10
	PC6. Ensure to take support and help from other operative team members for measurement at the top of anchorage system (top spring measurement)		25	15	10
	PC7. Understand the symbols used in the engineering drawings		25	15	10
	NOS Total Marks	Total	150	90	60
ISC/N0205: Regulate the anchorage system after planning and coordination	PC1. Identify the zone and level of anchorage regulation	200	30	20	10
	PC2. Plan for required and necessary anchorage regulation		25	10	15
	PC3. Plan for different tools and tackles required for anchorage system regulation		20	10	10
	PC4. Plan for taking support and help from other operative team members for anchorage system regulation		20	5	15
	PC5. Ensure taking permission and clearances for anchorage system regulation from supervisor		20	10	10



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	PC6. Understand the different tools and tackles required for anchorage system regulation (zone wise)		25	5	20
	PC7. Seek support and help from other operative team members for anchorage system regulation (top spring regulation)		25	5	15
	PC8. Carry out anchorage system regulation activities		40	20	20
	NOS Total Marks	Total	200	85	155
ISC/N0206: Routine and basic maintenance/ trouble shooting of anchorage system	PC1. Note visual deflection of anchor column, spring damage, snapped tie rod, bolt with missing thread	400	25	10	15
	PC2. Note visual cross leakages through refractory brickwork through oven proper		30	15	15
	PC3. Check the anchorage expansion measurement data		45	20	25
	PC4. Plan corrective measures for rectification of anchorage system		25	20	5
	PC5. Carry out rectification job e.g. replacement/welding of cross tie rods, damaged spring, regulation bolts etc.		25	10	15
	PC6. Adjust/ regulate required load for the bracing system		25	10	15
	PC7. Complete timely and legibly daily/weekly maintenance sheets as provided by the		25	10	15



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	Company				
	PC8. Expose refractory brickwork around observed gas leakages/ flame on and around the bracing system		25	10	15
	PC9. Note incidences of battery machines fouling with anchor column		20	15	5
	PC10. Note incidences of falling electrical power collectors of battery machines		20	15	5
	PC11. Note incidences of deviation of charging car track rail, guide car track rail etc.		20	15	5
	PC12. Ensure stability of disturbed anchor column by transferring load from neighbouring anchor column		35	15	20
	PC13. Ensure stability of disturbed anchor column by tying up with turn buckle		30	10	20
	PC14. Assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel		20	10	10
	PC15. Complete timely and legibly daily/weekly defect sheets		30	20	10
	NOS Total Marks	Total	400	205	195
ISC/N0008: Use basic health and safety practices at the workplace	PC1. Use protective clothing/equipment for specific tasks and work conditions	200	10	5	5



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	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 the work environment of the job role		10	5	5
	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



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	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
	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



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	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
	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	10	5	5
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	5	5
	PC3. Provide information to others clearly, at a pace and in a manner that helps them to understand		10	0	10



Assessment outcome (nos)	Assessment criteria	Total marks	Marks allocation		
			Out of	Theory	Skills practical
	PC4. Display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		10	5	5
	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		10	0	10
	PC7. Display active listening skills while interacting with others at work		10	0	10
	PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	5	5
	PC9. Demonstrate responsible and disciplined behaviors at the workplace		15	5	10
	PC10. Escalate grievances and problems to		5	0	5
	NOS Total Marks	Total	100	30	70
	Grand Total	1000	1000	455	585
	Percentage Weightage:			50%	50%
	Minimum Pass% to qualify (aggregate):			60%	