

QUALIFICATION FILE

High Speed Rotating Machinery (Steel Plant): Mechanic

☒ Short Term Training (STT) ☐ Long Term Training (LTT) ☐ Apprenticeship

☐ Upskilling ☐ Dual/Flexi Qualification ☒ For ToT ☒ For ToA

☒ General ☐ Multi-skill (MS) ☐ Cross Sectoral (CS) ☐ Future Skills ☐ OEM

NCrF/NSQF Level: 4

Submitted By:

Indian Iron and Steel Sector Skill Council (IISSSC)

Karigari Bhawan, 5th Floor,

Room No-509, Plot No-B/7,

Action Area-III, New Town,

Rajarhat, Kolkata-700160

Table of Contents

Section 1: Basic Details	3
Section 2: Module Summary	5
NOS/s of Qualifications	5
Mandatory NOS/s:	5
Elective NOS/s:	5
Optional NOS/s:	6
Assessment - Minimum Qualifying Percentage	6
Section 3: Training Related	6
Section 4: Assessment Related	7
Section 5: Evidence of the need for the Qualification	7
Section 6: Annexure & Supporting Documents Check List	7
Annexure: Evidence of Level	8
Annexure: Tools and Equipment (Lab Set-Up)	9
Annexure: Industry Validations Summary	11
Annexure: Training & Employment Details	13
Annexure: Blended Learning	14
Annexure: Detailed Assessment Criteria	15
Annexure: Assessment Strategy	22
Annexure: Acronym and Glossary	23

Section 1: Basic Details

1.	Qualification Name	High Speed Rotating Machinery (Steel Plant): Mechanic																			
2.	Sector/s	Iron and Steel																			
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: (change to previous, once approved)	Qualification Name of existing/previous version: High Speed Rotating Machinery (Steel Plant): Mechanic / v1.0																		
4.	a. OEM Name b. Qualification Name (Wherever applicable)																				
5.	National Qualification Register (NQR) Code & Version (Will be issued after NSQC approval)	QG-04-IS-03630-2025-V1-ISSSC	6. NCRF/NSQF Level: 4																		
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other) (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate																			
8.	Brief Description of the Qualification	The individual in this role performs mechanical maintenance, of fans, compressors, turbo blowers, sinter fans etc. by following organizational specified procedures and standards.																			
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12th grade Pass (In science)</td> <td>6 Months of experience in relevant field</td> </tr> <tr> <td>2</td> <td>11th Class (In science)</td> <td>1.5 years of experience in relevant field</td> </tr> <tr> <td>3</td> <td>10th Class</td> <td>3 years of relevant experience</td> </tr> <tr> <td>4</td> <td>10th Class (2 years of NTC / NAC / CTS in Fitter, Machinist, Electrical)</td> <td></td> </tr> <tr> <td>5</td> <td>Pursuing 2nd year of 3-year regular Diploma (after 10th) (in Metallurgy / Mechanical / Production / Electrical)</td> <td></td> </tr> </tbody> </table> b. Age: 18 years		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1	12th grade Pass (In science)	6 Months of experience in relevant field	2	11th Class (In science)	1.5 years of experience in relevant field	3	10th Class	3 years of relevant experience	4	10th Class (2 years of NTC / NAC / CTS in Fitter, Machinist, Electrical)		5	Pursuing 2nd year of 3-year regular Diploma (after 10th) (in Metallurgy / Mechanical / Production / Electrical)	
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																			
1	12th grade Pass (In science)	6 Months of experience in relevant field																			
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3	10th Class	3 years of relevant experience																			
4	10th Class (2 years of NTC / NAC / CTS in Fitter, Machinist, Electrical)																				
5	Pursuing 2nd year of 3-year regular Diploma (after 10th) (in Metallurgy / Mechanical / Production / Electrical)																				

10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	15	11. Common Cost Norm Category (I/II/III) (wherever applicable): I																					
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																						
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	☒ Offline ☐ Online ☐ Blended <table border="1"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>144:00</td> <td>246:00</td> <td>60:00</td> <td></td> <td>450</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> (Refer Blended Learning Annexure for details)					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	144:00	246:00	60:00		450	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	144:00	246:00	60:00		450																			
Online																								
14.	Aligned to NCO/ISCO Codes (if no code is available mention the same)	NCO-2015/8131.15																						
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	Supervisor - Mechanic: High Speed Rotating Machinery																						
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi																						
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:																						
18.	Is the Job Role Amenable to Persons with Disability	☐ Yes ☒ No If "Yes", specify applicable type of Disability:																						
19.	How Participation of Women will be Encouraged	No gender sensitization																						
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	☐ Yes ☒ No																						
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☒ Yes ☐ No Colleges ☒ Yes ☐ No																						
22.	Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Mr. Sushim Banerjee Email: ceo@iissc.org/ sushim_banerjee@yahoo.com Contact No.: 033-23247559 Website: https://www.iissc.org/																						
23.	Final Approval Date by NSQC: 18-02-2025	24. Validity Duration: 3 Years		25. Next Review Date: 18-02-2028																				

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

Th.-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended **Proj.**-Project

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Use basic health and safety practices at the workplace	ISC/N0008, v2.0	Non-Core	4	2	25	35	00		60	45	105	00	00	150	10
2.	Prepare for maintenance of high-speed rotating machinery	ISC/N0953, v1.0	Core	4	2	20	40	00		60	30	50	00	20	100	20
3.	Perform maintenance of high-speed rotating machinery	ISC/N0954, v1.0	Core	4	4	45	75	00		120	30	50	00	20	100	30
4.	Perform high speed rotating machinery post-maintenance activities	ISC/N0955, v1.0	Core	4	3	30	60	00		90	30	50	00	20	100	30
5.	Employability Skills (60 Hours)	DGT/VSQ/N0102	Non-core	4	2	24	36	00		60	20	30	00	00	50	10
6.	OJT	NA	Core	4	2			60		60						
Duration (in Hours) / Total Marks					15	144	246	60		450	155	285	00	60	500	100

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.																
2.																

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks				
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total
Duration (in Hours) / Total Marks															

Optional NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks				
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Weightage (%) (if applicable)
1.															
2.															
Duration (in Hours) / Total Marks															

Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

Minimum Pass Percentage – Aggregate at qualification level: 70 % (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Pass Percentage – NOS/Module-wise: ____% (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	ITI (In stream related to Fitter) with 5 years experience in industry and 1 year of training experience in Fitting Operations Or Diploma (Mechanical engineering) with 3 years experience in industry and Maintenance and 1 year of training experience in Fitting Operations
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	B.Tech (Mechanical) with 7 years experience in industry and 2 year of training experience in Fitting Operations
3.	Tools and Equipment Required for Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	ITI (In stream related to Fitter) with 6 years experience in industry and 1 year of assessment experience in Fitting Operations Or Diploma (Mechanical engineering) with 3 years experience in industry and 1 year of assessment experience in Fitting Operations
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	B.Tech (Mechanical) with 6 years experience in industry and 2 year of assessment experience in Fitting Operations
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	B.Tech (Mechanical) with 7 years experience in industry and 2 year of assessment experience in Fitting Operations
4.	Assessment Mode (Specify the assessment mode)	Offline
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No (details to be provided in Annexure-if it is different for Assessment)

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 18
5.	Estimated nos. of persons to be trained and employed: 500
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: In progress If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors (Mandatory)	Attached
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2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Attached
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached
4.	Annexure: Assessment Strategy (Mandatory)	Attached
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is "Blended Learning")	NA
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	Filled
7.	Annexure: Acronym and Glossary (Optional)	
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Attached
9.	Supporting Document: Career Progression (Mandatory - Public view)	Attached
10.	Supporting Document: Occupational Map (Mandatory)	Attached
11.	Supporting Document: Assessment SOP (Mandatory)	Attached
12.	Any other document you wish to submit:	

Annexure: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process	Perform maintenance for the of high-speed rotating machineries.	Person may carry out a job which may require limited range of activities routine and predictable.	4
Professional and Technical Skills/ Expertise/ Professional Knowledge	• Maintenance for the of high-speed rotating machineries • Tools and required during maintenance • Service and repairing of defected parts • Post-maintenance activities	Basic facts, process and principle applied in trade of employment	4
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Attaching utmost importance to safety for high-speed rotating machineries and self, inspection methods of high-speed rotating machineries, usage of equipment for maintenance	Demonstrate practical skill, routine and repetitive in narrow range of application and	4
Broad Learning Outcomes/Core Skill	Reading and writing; addition, subtraction; hygiene and environment.	Skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment.	4

Responsibility	Responsible for completing the assigned task, working under guidance of supervisor	Under close supervision. Some responsibility for own work within defined limit.	4
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Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment
Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Rule Steel 15 Cm With Metric Graduation	As per requirement	8
2	Square Try 10 Cm .Blade	As per requirement	8
3	Caliper Outside 15 .Cm	As per requirement	8
4	Caliper Inside 15 .Cm	As per requirement	8
5	Divider 15.Cm.	As per requirement	8
6	Straight Scriber 15.Cm.	As per requirement	8
7	Punch Centre 10.Cm.	As per requirement	8
8	Screw Driver 15.Cm.	As per requirement	8
9	Chisel Cold Flat 10 Cm.	As per requirement	5
10	Hammer Ball Peen 0.45 Kg. With Handle.	As per requirement	5
11	Hammer Ball Peen 0.22 Kg. With Handle.	As per requirement	5
12	File Flat 25 Cm. Second Cut.	As per requirement	8
13	File Flat 25 Cm. Smooth	As per requirement	8
14	File Half Round Second Cut 15 Cm.	As per requirement	8
15	Hacksaw Frame Fixed 30 Cm.	As per requirement	8
16	Safety Goggles.	As per requirement	15
17	Dot Slot Punch 10 Cm.	As per requirement	8
18	Rule Steel 30 Cm. To Read Metric.	As per requirement	4
19	Rule Steel 60 Cm.	As per requirement	4
20	Straight Edge 45 Cm. Steel.	As per requirement	2
21	Plate Surface 45*45 Cm. Ci} Granite	As per requirement	2
22	Marking Table 91*91*122 Cm.	As per requirement	1
23	Universal Scriber Block 22 Cm.	As per requirement	2
24	V - Block Pair 7 Cm. And 15 Cm With Clamps	As per requirement	2
25	Square Adjustable 15 Cm. Blade	As per requirement	2
26	Angle Plate 10*20 Cm.	As per requirement	2
27	Level Sprit 15 Cm.	As per requirement	1
28	Punch Letter 3 Mm. Set .	As per requirement	1
29	Punch No Set 3 Mm	As per requirement	1
30	Punch Hollow 6 Mm To 19 Set Of 5.	As per requirement	2
31	Punch Round 3*4 Mm Set Of 2.	As per requirement	2

32	Portable Hand Drill (Electric) 0 To 6Mm.	As per requirement	2
33	Drill Twist S\ S 1.5To 12Mm By 0.5Mm	As per requirement	1
34	Drill Twist S\ S 8 To 15Mm.By1/2 Mm.	As per requirement	1
35	Taps And Dies Complete Set In Box B.A	As per requirement	1
36	Taps And Dies Complete Set In Box With Wroth.	As per requirement	1
37	Taps And Dies Complete Set In Box 3-18Mm Set Of 10.	As per requirement	1
38	File Wording 15Cm Smooth.	As per requirement	4
39	File Knife Edge 15Cm Smooth.	As per requirement	4
40	File Cant Saw 15 Cm. Smooth	As per requirement	4
41	File Feather Edge 15Cm.Smoth.	As per requirement	4
42	File Triangular 15Cm.Smoth.	As per requirement	4
43	File Round 20 Cm. Second Cut.	As per requirement	8
44	File Sqaure15Cm.Secound Cut.	As per requirement	4
45	File Sqaure 25 Cm. Second Cut.	As per requirement	4
46	Feeler Gauge 10 Blade.	As per requirement	4
47	File Set	As per requirement	8
48	Clamps Sets	As per requirement	4
49	Micrometer (Outside and Inside)	As per requirement	3
50	Belt pulley alignment device	As per requirement	1
51	Dial Guage Set (0.2 in - 0-50-0) Graduation from 0.001 to 0.2 in	As per requirement	2
52	Black/White board	As per requirement	1
53	Trade specific charts and other teaching aids	As per requirement	5
54	Helmet	As per requirement	30
55	Safety shoes	As per requirement	30
56	Safety belt	As per requirement	6
57	Cotton hand gloves	As per requirement	30
58	Goggles	As per requirement	30
59	Reflective Jackets	As per requirement	30
60	Safety message boards	As per requirement	5
61	Black/White board	As per requirement	1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector

3. Computer/Laptop
4. Chairs
5. Tables
6. Whiteboard marker

Annexure: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	Bokaro Steel Plant	B.K Singh	GM		8986871504	Basant.singh@sail.in	
2	Kejriwal Castings	Mr. Subhasis Chatterjee	General Manager (Projects)	33A, Chowringhee Road Chatterjee International Centre 11th Floor, Suite No. 11 Kolkata 700071			
3	Bhalotia Auto Products Pvt. Ltd.	Kanchan Patra	AGM	H.O Muneshwari Bhawan, Jamshedpur - 831001	9830019700		
4	Rourkela Steel Plant	H. Pati	GM	Rourkela - 769011	8895500593		
5	ESL Steel Limited	G L Karna	Head – L&D	Siyalijori, P.O – Jogidih, O.P – Bangaria, P.S – Chandankyari, Bokaro Pin – 828303	9004974233	Govindlal.karna@vadanta.co.in	
6	Super Pannel Pvt. Ltd.	Amit Kumar	Director	3/32 & 3/33, Ajanta compound site-II, Mohan Nagar, Ghaziabad	8533921917	Director.superpanel@hotmail.com	
7	Thinkway Industries Private Limited	Swati Kumar	Director	Flat no. 33, Block B, Pocket C, Loknayak Puram, Bakarwala, DDA flat Nagloi	9999751120	Operations.zita@gmail.com	
8	ManpowerGroup Services India Pvt. Ltd.	Durgesh Bagariya	Head Branch Operations	Unit No. 4-A/1 & Unit No. 4-A/2, 4th Floor, plot no. 6, Uppalplaza, M-6, Jasola, New Delhi, Delhi 110025	+91 9824054165	durgesh.b@manpower.co.in	
9	N. V. Enterprises	Amresh Kumar Tyagi	Owner	Corporation Office: Door No. A-16, 3 rd Cross, Thiruppathi Valley, Near	9944799610	Nthyagi2010@gmail.com	

				Kothgondaapally, Hosur (TN), 635109			
10	Sun Bright Manpower Solution (P) Ltd.	Arun Kumar	Supervisor	Shop No. 3144, Mainroad Narasapura (v), Kolar Taluk & Dist. Pin – 563133	7338463588	bangalore@sunbrightgroup.com	
11	Surya Consultancy & Solutions	V. Ravi Kumar	Owner	1, Pragathi Printers rod, Govindappa Building, Narasapura, Kolar Tq & District - 563133	7338463588	suryaconsultancy.solution@gmail.com	
12	TD Placements & Services Pvt. Ltd.	Joy Mitra	Manager		8010154000	operation@tdsjob.com	
13	Texmo Industries	C. Manimaran	Asst. Manager		+91422-6610300	TRM@texmo.net	
14	SAIL DGP	Mr. Soumitra Ghosh	Deputy General Manager - Electrical	Durgapur Steel Plant Durgapur – 713203 West Bengal			
15	JSPL	Damodar Mittal	SVP, DRI Plant	Kharsia Road, Raigarh, Pin 496001, Chhattisgarh			
16	Essar Steel	Sarosh Gandhi	Sr. Manager - HR	27th KM, Surat Hazira Road District – Surat, Hazira, Pin - 394 270, Gujarat			
17	Rohit Ferro tech Ltd.	Mr. Jayanta Chatterjee	Director	Bhunja Raichak, Joynagar, P.S. DurgaChak,			
18	Sarda Metals & Alloys Ltd.	Mr. Prabhat Mohan	Head HR	Floor II & III, D.No.50-96-4/1, Sri GowriNilayam, Seethammadhara NE Visakhapatnam - 530013.			

Annexure: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2023-24	500	350	200	140	50	35
2024-25	1000	700	400	280	100	70
2025-26	1500	1050	600	420	150	105

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

- 1.
- 2.

Content availability for previous versions of qualifications:

☐ Participant Handbook ☐ Facilitator Guide ☐ Digital Content ☐ Qualification Handbook ☐ Any Other:

Languages in which Content is available:

Annexure: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	☒ Theory/ Lectures - Imparting theoretical and conceptual knowledge	• Books/ e-books • Presentations • Reference Material • Audio / Video Modules	40:60
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	• Self-Learning Videos • Broadcasts • Mobile Learning • Curated Digital content	40:60
3	☒ Showing Practical Demonstrations to the learners	• Video Content • E-Resource library • AR/ VR/ XR	40:60
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	• Training tools (tools list attached) • Video Play • Presentations	40:60
5	☒ Tutorials/ Assignments/ Drill/ Practice	• Online Question Bank • Mobile Quick test app • MCQ based tests	40:60
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	• Assessment engine for Essays • Up-loadable file examinations • Mock test sessions	40:60
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	• Online tests • Offline assessments	40:60

Annexure: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
ISC/N0008: Use basic health and safety practices at the workplace	<i>Health and safety</i>	5	5	-	-
	PC1. Use protective clothing/equipment for specific tasks and work conditions Protective clothing includes: Leather or asbestos gloves Flame proof aprons Flame proof overalls buttoned to neck Cuff less (without folds) trousers Reinforced footwear Helmets/hard hats Cap and shoulder covers Ear defenders/plugs Safety boots Knee pads Particle masks Glasses/gloves/visors Equipment includes: Hand shields Machine guards Residual current devices Shields Dust sheets Respirator	5	5	-	-
	<i>Health and safety procedures</i>	15	40	-	-
	PC2. State the name and location of people responsible for health and safety in the workplace Various areas are listed below: On chemical containers Equipment Packages Inside buildings Open areas and public spaces, etc.	-	4	-	-
	PC3. State the names and location of documents that refer to health and safety in the workplace	-	1	-	-
	PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace Hazards include: Working with electrical and thermal tools and equipment Sharp edged and heavy tools Heated metals Oxyfuel and gas cylinders Welding radiation Surfaces: sharp, slippery, uneven, chipped, broken, etc. Substances: chemicals, gas, oxy-fuel, fumes, dust, etc. Physical: working at heights, large and heavy objects and machines, sharp and piercing objects, tools and machines, intense light, load noise, obstructions in corridors, by doors, blind turns, noise, over stacked shelves and packages, etc. Electrical: power supply and points, loose and naked cables and wires, electrical machines and appliances, etc.	5	5	-	-
	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 Safe working practices include: Using protective clothing and equipment Putting up and reading safety signs Handle tools in the correct manner and store and maintain them properly Keep work area clear of clutter, spillage and unsafe object lying casually While working with electricity take all electrical precautions like insulated clothing, adequate equipment insulation, use of control equipment, dry work area, switch off the power supply when not required, etc. Safe lifting and carrying practices Use equipment that is working properly and is well maintained Take due measures for safety while working in confined places, trenches or at	5	5	-	-

	heights, etc. Including safety harness, fall arrestors, etc. Methods are: Training in health and safety procedures Using health and safety procedures Use of equipment and working practices (such as safe carrying procedures) Safety notices, advice Instruction from colleagues and supervisors				
PC6.	State location of general health and safety equipment in the workplace	-	5	-	-
PC7.	Inspect for faults, set up and safely use steps and ladders in general use Faults : Corrosion of metal components Deterioration Splits and cracks timber components Imbalance Loose rungs Nuts or bolts, etc. Set up: Firm/level base Clip/lash down Leaning at the correct angle, etc.	-	5	-	-
PC8.	Work safely in and around trenches, elevated places and confined areas	-	4	-	-
PC9.	Lift heavy objects safely using correct procedures	-	4	-	-
PC10.	Apply good housekeeping practices at all times. Good housekeeping practices: Clean/tidy work areas Removal/disposal of waste products Protect surfaces	-	1	-	-
PC11.	Identify common hazard signs displayed in various areas	5	1	-	-
PC12.	Retrieve and/or point out documents that refer to health and safety in the workplace	-	5		
	<i>Fire safety procedures</i>	10	15	-	-
PC13.	Use the various appropriate fire extinguishers on different types of fires correctly. Fire extinguishers: Sand Water Foam Co2 Dry powder Fires: Class A: Ordinary solid combustibles, e.g. wood, paper, cloth, plastic, charcoal etc. Class B: Flammable liquids and gases, e.g. gasoline, propane, diesel fuel, tar, cooking oil and similar substances Class C: Electrical equipment e.g. appliances, wiring, breaker panels etc. (these categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no longer receiving electricity) Class D: Combustible metals such as magnesium, titanium, and sodium (these fires burn at extremely high temperatures and require special suppression agents) Causes of fires: Heating of metal Spontaneous ignition Sparking, Electrical heating Loose fires (e.g. Smoking, welding, etc.) Chemical fires, etc.	5	5	-	-
PC14.	Demonstrate rescue techniques applied during fire hazard	5	5	-	-
PC15.	Demonstrate good housekeeping in order to prevent fire hazards	-	1	-	-
PC16.	Demonstrate the correct use of a fire extinguisher	-	4	-	-
	<i>Emergencies, rescue and first-aid procedures</i>	15	45	-	-
PC17.	Demonstrate how to free a person from electrocution	-	5	-	-
PC18.	Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.	5	5	-	-

	PC19. Demonstrate basic techniques of bandaging	-	5	-	-
	PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments. few General health and safety equipment are mentioned below : Fire extinguishers First aid equipment Safety instruments and clothing Safety installations, e.g. Fire exits, exhaust fans etc.	5	5	-	
	PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments	-	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	-	
	PC23. Demonstrate the artificial respiration and the CPR Process	-	5	-	-
	PC24. Participate in emergency procedures. Emergency procedures are: Raising alarm Safe/efficient evacuation Correct means of escape Correct assembly point Roll call Correct return to work	-	4	-	-
	PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible Incident Report should capture: Name Date/time of incident Date/time of report, Location Environment conditions Persons involved Sequence of events Injuries sustained Damage sustained Actions taken Witnesses Supervisor/manager notified Documents: Fire notices Accident reports Safety instructions for equipment and procedures Company notices and documents Legal documents (e.g. Government notices)Job titles: ISC/N0008: Use basic health and safety practices at the workplace Health and safety officer First aid officer Fire officer	5	5	-	-
	PC26. Demonstrate correct method to move injured people and others during an emergency	-	1	-	-
Total Marks		45	105	-	-
ISC/N0953: Prepare for maintenance of high-speed rotating machinery	<i>Identify work requirements</i>	9	15	-	7
	PC1. identify the machine, its manufacturer's specifications and functioning from the user manual	1	2	-	1
	PC2. identify the work to be done by interpreting the checklist, engineering drawings, work order and SOPs etc.	1	2	-	1
	PC3. interpret information from sections, views and scale of measurement used in drawing of the machine	3	5	-	1
	PC4. identify correct limits, tolerance and fits of rotating machine by interpreting the drawings properly	2	3	-	2
	PC5. identify the tools, equipment, consumables and spare parts required during the task	2	3	-	2
	<i>Prepare for maintenance activities</i>	21	35	-	13

	PC6. use appropriate Personal Protective Equipment (PPE) for safe working in workshop	1	2	-	-
	PC7. read maintenance schedule and checklist and plan the time and schedule for conducting the maintenance	2	3	-	2
	PC8. select and arrange the right tools, equipment, consumables and spare parts as per the SOP and job requirements	2	3	-	1
	PC9. check the tools, equipment, consumables and spare parts for any defects and that they are as per the required quality standards	4	7	-	3
	PC10. check and calibrate the tools and equipment before use	4	7	-	2
	PC11. prepare tools, tackles, spares, lifting equipment etc. as per SOP/WI	4	7	-	3
	PC12. use checklist and coordinate with the superior for confirming maintenance tasks	2	3	-	1
	PC13. report damaged / defective components of equipment and tools as per the escalation matrix	2	3	-	1
	Total Marks	30	50	-	20
ISC/N0954: Perform maintenance of high-speed rotating machinery	<i>Perform maintenance of high-speed rotating machinery</i>	30	50	-	20
	PC1. enquire with the user/operator about any problems/unusual conditions noticed on the rotating machinery	1	2	-	1
	PC2. follow safety practices during maintenance activities as per organisational SOP	1	1	-	-
	PC3. perform basic health check-up of rotating machinery as specified in the maintenance checklist	2	4	-	2
	PC4. conduct visual and dimensional inspections to assess the components	2	3	-	1
	PC5. check the equipment for any operational deviations, geometric inaccuracies or internal conditions to test its working status and expected conditions	2	3	-	2
	PC6. perform various calculations to size and assess rotating equipment performance (head, discharge temp, inlet capacity, volumetric efficiency etc.)	2	3	-	1
	PC7. check the machine parts for any wear and tear, damage, improper functioning etc.	2	3	-	1
	PC8. dismantle the equipment and replace/change the spare parts and consumables as per the schedule	2	3	-	1
	PC9. conduct breakdown maintenance and then inspect the machine for leakages, breakages, unusual noise, changes in noise, temperatures, pressures, flows, or vibration levels, under-rated performance or any other problem as reported in the complaint	3	5	-	2
	PC10. use appropriate vibration and temperature measuring instruments to monitor the vibration and temperature in the equipment	2	3	-	1
	PC11. read the gauges and record the observations at prescribed time intervals	1	2	-	1
	PC12. analyse the readings to identify any deviations and correct them if not within the desired levels	1	2	-	1
	PC13. check pipe work, small bore tubing and flexible hose for any defects	1	3	-	1

	PC14. analyze the problems in operation related to packing, mechanical seals, bearings and flow control	2	3	-	1
	PC15. repair or replace damaged components as per the requirement	2	3	-	1
	PC16. use recommended consumables, tools and equipment for service and repair of equipment as per Standard Operating Procedures (SOP)	1	2	-	1
	PC17. add lubricants and coolants into moving parts of machine as per SOP/WI	1	2	-	1
	PC18. assess when the problem is beyond his competence and report the problem to suitably qualified/designated and competent personnel	1	1	-	1
	PC19. dispose off waste materials such as failed parts/aggregates, as per organisation's policies	1	1	-	-
	Total Marks	30	50	-	20
ISC/N0955: Perform high speed rotating machinery post-maintenance activities	<i>Conducting trials and documentation</i>	25	41	-	17
	PC1. assemble back the covers, guards, clamps, insulation etc. of the equipment and prepare it for conducting the trials	3	5	-	2
	PC2. shift and install the machine for the next procedure and record all repairs carried out, time taken and unplanned tasks encountered in the activity	3	5	-	2
	PC3. check the machine/electrical panels component as per the control plan, WI for proper working	3	5	-	2
	PC4. check vibrations in the machine to ensure they are within desired limits	3	5	-	2
	PC5. conduct trials of the machine and verify that specified parameters are attained with no abnormalities	3	5	-	2
	PC6. run few cycles of equipment and observe its functioning in the presence of operator	3	5	-	2
	PC7. ensure that rotating equipment and auxiliary systems are operating within the OEM operating limits	2	3	-	2
	PC8. change the maintenance due/status sticker	2	3	-	1
	PC9. ensure that all maintenance points are adequately considered and report the superiors about maintenance activity done	2	3	-	1
	PC10. record all repairs carried out, time taken and unplanned tasks encountered during the maintenance activities	1	2	-	1
	<i>Perform post-maintenance activities</i>	5	9	-	3
	PC11. clean and store all the tools and equipment after completion of work	2	3	-	1
	PC12. clean the work area after completion of work	1	2	-	1
	PC13. remove the tools and equipment being from the work site before handing over	1	2	-	1
	PC14. inform supervisor and concerned person regarding the job completion	1	2	-	-
	Total Marks	30	50	-	20
DGT/VSQ/N0102 - Employability Skills (60 hours)	<i>Introduction to Employability Skills</i>	1	1	-	-
	PC1. identify employability skills required for jobs in various industries	-	-	-	-
	PC2. identify and explore learning and employability portals				
	<i>Constitutional values – Citizenship</i>	1	1	-	-

PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices				
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self- Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life				
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English				
PC9. write short messages, notes, letters, e-mails etc. in English				
<i>Career Development & Goal Setting</i>	1	2		
PC10. understand the difference between job and career				
PC11. prepare a career development plan with short- and long-term goals, based on aptitude.				
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement.	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation				
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-

PC22. use basic features of word processor, spreadsheets, and presentations				
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity				
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards				
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline / online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection				
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirement				
Total Marks	20	30	-	-
Grand Total	155	285		60

Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

1. Assessment System Overview:
 - Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
 - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
 - Assessment agency deploys the ToA certified Assessor for executing the assessment
 - SSC monitors the assessment process & records
2. Testing Environment:
 - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
 - Check the duration of the training.
 - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
 - EAF the batch size is more than 30, then there should be 2 Assessors.
 - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
 - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
 - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
 - Check the availability of the Lab Equipment for the particular Job Role.
3. Assessment Quality Assurance levels / Framework:
 - Question papers created by the Subject Matter Experts (SME)
 - Question papers created by the SME verified by the other subject Matter Experts
 - Questions are mapped with NOS and PC
 - Question papers are prepared considering that level 1 to 3 is for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
 - Assessor must be ToA certified & trainer must be ToT Certified
 - Assessment agency must follow the assessment guidelines to conduct the assessment
4. Types of evidence or evidence-gathering protocol:
 - Time-stamped & geotagged reporting of the assessor from assessment location
 - Centre photographs with signboards and scheme specific branding
 - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
 - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos
5. Method of verification or validation:
 - Surprise visit to the assessment location
 - Random audit of the batch
 - Random audit of any candidate

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

Annexure: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf