QUALIFICATION FILE

Jr. Technician (COMPUTER HARDWARE & NETWORK)

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

☒ **Up skilling** ☐ **Dual/Flexi Qualification** ☐ **For ToT** ☐ **For ToA**

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

NCrF/NSQF Level: 3

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

Govt. of India

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New Delhi-110108

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Table of Contents

Section 1: Basic Details

1.	Qualification Name	Jr. Technician (COMPUTER HARDWARE & NETWORK)		
2.	Sector/s	Electronics & HW		
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐OEM	**NQR Code & version of existing/previous qualification:** *(change to previous, once approved)* QG-03-EH-02380-2024-V1-MSME		**Qualification Name of existing/previous version:**
4.	a. OEM Name b. Qualification Name *(Wherever applicable)*	**NA** -		
5.	National Qualification Register (NQR) Code &Version *(Will be issued after NSQC approval)*	QG-03-EH-02380-2024-V1-MSME		**6. NCrF/NSQF Level: 3**
7.	Award (Certificate/Diploma/Advanced Diploma/ Any Other *(Wherever, applicable specify multiple entry/exits also & provide details in annexure)*	**Certificate**		
8.	Brief Description of the Qualification	The qualification containing different modules, which is required for the job role of Maintenance Technician (Computer Hardware & Network). Qualified learner shall be able to : • Repair and maintain computer Hardware system • Install and configure the computer and Network devices. • Trouble shoots the systems such as printers, scanners and network devices. • Get the employment in the field of computer & hardware maintenance and also become an entrepreneur.		
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: b. Age: 14 years		
10.	Credits Assigned to this Qualification, Subject to Assessment *(as per National Credit Framework (NCrF))*	**12**		**11. Common Cost Norm Category (I/II/III)** *(wherever applicable)***: I**

a. Entry Qualification & Relevant Experience:

Sl. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)
1	Grade 10 pass	Nil
2	Grade 9 pass and pursuing continuous schooling in regular school	Nil
3	Previous relevant Qualification of NSQF Level 2.5	1.5 year relevant experience
4	8th Grade pass	2-year relevant experience

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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 requirements of the qualification)*	☐Offline ☐Online ☒Blended				

☐Offline ☐Online ☒Blended

Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total(Hours)
Classroom (offline)	50	180	60	-	290
Online	100	-	-	-	100
Total	150	180	60		390

(Refer Blended Learning Annexure for details)

14.	**Aligned to NCO/ISCO Code/s** *(if no code is available mention the same)*	**7422.20 (**Field Technician - Computing and Peripherals)
15.	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	Technician - Computer Hardware & Networking
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", As per Govt. norms**
19.	**How Participation of Women will be Encouraged**	**Seats are reserve as per Govt. norms.**
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: Sh. Vijay Mahipatrao Bankar** **Contact No. +0755 3501078** **Email-msmetcab@gmail.com**
23.	**Final Approval Date by NSQC:** *30.04.2024*	**24. Validity Duration: 3 years** **25. Next Review Date :30.04.2027**

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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 Training* **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.	Understand Basic Electronics & its Repairs.	MSME/CCCHNM/01	Core	3	2	30	30		-	60	100	100	-	-	200	
2.	Install Computer Peripherals & their Maintenance.	MSME/CCCHNM/02	Core	3	3	30	60	30	-	120	100	100	-	-	200	
3.	Operates System Software Installation.	MSME/CCCHNM/03	Core	3	2	30	30		-	60	100	100	-	-	200	
4.	Monitoring Network Setup & their Maintenance	MSME/CCCHNM/04	Core	3	4	30	60	30	-	120	100	100	-	-	200	
5.	Employability Skill	MSME/ES/01	Non-Core	3	1	30	-		-	30	100	-	-	-	100	
	Duration (in Hours) / Total Marks				14	150	180	60		390	500	400			900	-

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.																
Duration (in Hours) / Total Marks																

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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	Total	Weightage (%) (if applicable)
1.																
2.																
Duration (in Hours) / Total Marks																

Assessment - Minimum Qualifying Percentage

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

Minimum Marks to pass Theory Exam: *40%*
Minimum Marks to pass Practical Exam: *60%*

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.)*

Minimum Marks to pass Theory Exam: *40%*
Minimum Marks to pass Practical Exam: *60%*

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Diploma / Degree in Computer Science/ IT /Electrical / Electronics / or Equivalent with Practical skills and knowledge required in the relevant job role at least one level higher i.e. level 3.5c and above in related field and minimum 2 years of experience in Tool Room/ Technology Centre of MSME or any reputed industry will become a trainer, or in accordance with the TOT guideline of NCVET.
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Diploma / Degree in Computer Science/ IT /Electrical / Electronics / or Equivalent with 3 to 5 years of experience in IT/ Training/ IT Department from Tool Room/ Technology Centre of MSME or any reputed industry will become as a Master Trainer, Or in accordance with the TOT guideline of NCVET
3.	**Tools and Equipment Required for Training**	☒Yes ☐No (*If "Yes", details to be provided in Annexure*)

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4.	**In Case of Revised Qualification, Details of Any Up skilling Required for Trainer**	Yes

Section 4: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Diploma / Degree in Computer Science/ IT /Electrical / Electronics / or Equivalent with 3 years of experience in IT/CS/ Training/ IT from Tool Room/ Technology Centre of MSME or any reputed industry and Only (TOA) certified assessors will be able to conduct the assessments.
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Degree in Computer Science/ IT /Electrical / Electronics / or Equivalent with 5 years of experience in IT/ Training/ IT Department from Tool Room/ Technology Centre of MSME or any reputed industry.
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Post Graduate in the relevant discipline with minimum 5 years of experience in CS/IT/ Training/ IT Department from Tool Room/ Technology Centre of MSME or any reputed industry.
4.	**Assessment Mode** *(Specify the assessment mode)*	**Blended Type (Online + 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 https://www.meity.gov.in/writereaddata/files/Electronics_IT_Hardware_NSDC_Report_1732011%20%281%29.pdf Human Resource and Skill Requirements in the Electronics and IT Hardware Industry, "Study on mapping of human resource skill gaps in India till 2022 "
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:** 15
5.	**Estimated nos. of persons to be trained and employed:** 5000
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:, yes** If "No", why:

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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)*	*Annexure-I*
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	*Annexure-II*
3.	**Annexure:** Industry Validations Summary	*Annexure-III*
4.	**Annexure:** Training & Employment Details	*Annexure-IV*
5.	**Annexure:** Blended Learning *(Mandatory, in case selected Mode of delivery is "Blended Learning")*	*Annexure-V*
6.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	*Annexure-VI*
7.	**Annexure:** Assessment Strategy *(Mandatory)*	*Annexure-VII*
8.	**Annexure:** Acronym and Glossary *(Optional)*	*Annexure- VIII*
9.	**Annexure:** Multiple Entry-Exit Details *(Mandatory, in case qualification has multiple Entry-Exit)*	*NA*
10.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	*Annexure- IX*
11.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	*This aspect mentioned in point no. 15*
12.	**Supporting Document:** Occupational Map *(Mandatory)*	*Annexure-X*
13.	**Supporting Document:** Assessment SOP *(Mandatory)*	*Annexure- XI*
14.	Any other document you wish to submit:	*NA*

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Annexure I: 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	Acquired specialized knowledge and a range of cognitive and skills to accomplish tasks like understand and identify the computer peripherals, requirement of hardware configuration, installation process, knowledge of network and cabling techniques.	Job holder is expected to execute the study and analysis process required for various IT Equipment, their working principles in various types of conditions which require well developed knowledge in study and analysis under different conditions. The trainees also able to solve the Hardware related issue through this course.	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	The qualification covers technical skills through understanding and knowledge of different type of Electronics components and their working principles, study about the checking of different output voltage of SMPS. Assembling and disassembling of desktop computers and repairing its hardware components Installation of Printer, Scanner and also hardware components. Configure the IP and setup network.	Job holder's needs to have in depth knowledge and understanding the computer and its peripherals, Electricity supply input and desired output, able to measure the output voltage of SMPS, identify the electronics component correctly. They also gain adequate knowledge about the networking Types of I/O devices and ports on a standard PC for connecting I/O devices and Working principle of input & output devices.	3
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Understand the personal strength / value, Digital Literacy, Money Matters and Preparing for Employment & self-employment. Exercise self- management within the work contexts and can be prepare for new startup/ small businesses	Learner can Develop communication competence, report writing skills; preparation of Resumes or Curriculum Vitae, Learner can be able to Interact effectively with co-workers and can apply the Engineering Ethics and Human Values at workplace. Leaner can understand the basic process of becoming an entrepreneur start up and can get benefits from Various government schemes applicable. Planning and executing the maintenance work, using appropriate instruments within the quality framework and norms. The learner will also be responsible for own quality of work and will have to use quality tools to check own work to ensure conformance to requirements of the job.	3
Broad Learning Outcomes/Core Skill	A skilled professional with technical expertise, adept at solving complex problems and improving output. Should be able to listen and understand properly and	The job holder needs to have Generic Skills of writing, Oral and Communication Skills. Job holder prepares Documentations for maintenance history and schedule requirements.	3

	present complex information in a clear and concise manner. Certificate Course in Computer Hardware & Network Maintenance curriculum is designed to have reasonable good numerical abilities, mathematical calculations required for analyzing the electronics components used in circuit diagram, employability skills to receive, provide, and transmit information logically to the appropriate person or the group involved in the activities. Use of appropriate measuring techniques, units and number systems to express degree of accuracy units and number systems representing degree of accuracy. Should be able to communicate to the appropriate person in regards to health, safety, first aid etc.	Understand the maintenance requirements/client requirement which requires reasonably good clarity in oral and the written skills and while working on the content he needs to be aware of the social, political and natural environment. Also the job holder is competent enough to prepare the estimation and costing sheet by gathering analytical and logical data for the successful maintenance execution. Conduct appropriate and target oriented discussions with higher authority and within the team. Comply environment regulation and housekeeping. Identify environmental pollution & contribute to the avoidance of instances of environmental pollution.	
Responsibility	Responsibility for own work and learning and full responsibility for other's works and learning A highly skilled with Electrical and Electronic Components related to Computer and Networking system. Check-up procedures to ensure that maintenance objectives are finished within specified time frames are developed. Team Building, Constantly motivates, guides, mentors and trains the workforce.	The Job holder is expected to have openness to learning, ability to plan and organize own work and identify and solve problems in the course of working with in the team. Understanding the need to take initiative and manage him/her and others and work to improve efficiency and effectiveness. Apply safe working practices. Comply with environment regulation and housekeeping. Check-up procedures to ensure that agreed ethical and legal requirements are met are drawn. Work in a team, understand and practice soft skills, technical English to communicate with required clarity. Explain personnel finance, entrepreneurship and manage/organize related task in day-today work for personal & social growth.	3

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Annexure II: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment's: **Batch Size:** 20

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
TOOLS AND EQUIPMENTS:		Industry Standard	20 Nos
1	Connecting screw driver		20 Nos
2	Neon tester		20 Nos
3	Screw driver set		20 Nos
4	Insulated combination pliers		20 Nos
5	Long nose pliers		20 Nos
6	Soldering iron		20 Nos
7	Tweezers		20 Nos
8	Digital & Analog MultiMate		20 Nos
9	De-soldering Pump		20 Nos
10	Soldering Iron & Changeable bits		20 Nos
11	Allen key set		20 Nos
12	Tubular box spanner		20 Nos
13	Magnifying lenses		20 Nos
14	Continuity tester		20 Nos
15	Crimping tool(pliers)		20 Nos
16	Scissors		20 Nos
17	Cold chisel		4 Nos
18	Server Computer		12 Nos
19	Desktop Computer		20 Nos
20	Desktop , Laptop, Notebook for demonstration		As required
21	Printers: LaserJet, Desk Jet, DMP		As required
22	Computer Toolkits		As required

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23	Computer Spares:		As required
24	Motherboards (of different make)		As required
25	Cabinets		As required
26	Processors(of different make)		As required
27	Hard Disk		As required
28	LCD/LED Monitors		As required
29	Pen Drives		20 Nos
30	External Hard disk		4 Nos
31	External DVD Writer		4 Nos
32	Keyboards		20 Nos
33	Mouse		20 Nos
34	SMPS		20 Nos
35	Different types of memory cards		As required
SOFTWARE			
36	Windows Server Operating System	Industry Standard	2 Licenses
37	Windows Operating System		2 Licenses
38	Linux Operating System		20 Licenses
39	Network Management Software		2 Nos
40	MS Office		2 Nos
41	Antivirus software		2 Nos
42	Data recovery software		2 Nos
COMPUTER NETWORKING			
43	Wireless Network Adapter		12 Nos
44	Wireless Access Point		6 Nos
45	Router		2 Nos
46	Managed Layer	2 Ethernet Switch 24port	2 Nos
47	Managed Layer	3 Ethernet Switch 24port (one POE enable)	3 Nos
48	LAN cable tester		As required
49	Network cables – UTP	Standared	As required

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50	Network Cables – coaxial, flat, ribbon	Industry Standard	As required
51	LAN Cards, Wi-Fi LAN Card		As required
52	Connectors for cables		As required
53	Media Convertor		As required
54	24 port UTP jack panel		As required
55	SC Couplers		As required
56	SC Pigtails		As required
57	Co-axial cable		As required
58	RJ-11 connector		As required
59	BNC connector, T connector, terminator		As required
60	Keystone jack		As required
61	Patch / Jack Panel		As required
62	Patch / Mounting cord		As required
63	RJ-45 Info outlet with faceplate		As required
64	RJ-45 I/O Box		As required
65	Punching Tool		1 set
66	LCD/DLP Projector/Interactive Smart Board		1 set
67	**General Equipment for Classroom :** White Board, Smart Board, Duster, Marker, Multimedia /LCD Projector, Audio Video Aids, Pen drive and Practice exercise, PC with necessary software Etc.	Standard	1 Set / As required

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Annexure III: 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	Unique Enterprises	Partha Roy	Proprieter	.S.- Dasnagar, Howrah-711 13	98741 27130	partha@enterprisesindia.com	
2	SHIV ENGINEERS	S.Maity	Proprieter	BALITIKURI, HOWRAH - 711 113	7980872335	shivengineer1980@gmail.com	
3	SK Synthetics	MANISH JAIN	CEO	40 STRAND RD,3RD FLOOR KOLKATTA-700001	9331022044	SKSYNTHETICS@HOTMAIL.COM	
4	A. C. STEEL TRAIDING CORPORATION	A. C. JASWAL	PROPRIETER	BELILIOUS RD,LOAN BAZER,ROOM-141,142, HOWRAH-711101	9830073612	ACSTEEL_2004@YAHOO.CO.IN	
5	CALCUTTA TECHNO HEATERS (INDIA) PVT. LTD	M. K. SAHA	DIRECTOR	22A, DUM DUM ROAD, KOLKATA - 700 002	9831086241	MKSOCT55@GMAIL.COM	
6	Arrow Aviation	Sanjib De	Quality Managaer	53/1/3, Hazra Road, Kolkata - 700019	9831092407	qualitymanager@arrowaviation.com	
7	MAX MILL Technologies	PRADEEP SHARMA	MANAGER	172/1,Ashokgarh,Dunlop, Baranagar, Kolkata-700108	7003462714	maxmilltechnologies@gmail.com	
8	SPECIAL ENGINEERING SERVICES LTD.	ASHIM GANGULY	JR. Factory Manager	16, COSSIPORE ROAD, KOLKATA-700 002	913325578434	sescatcn@cal2.vsl.net.in	
9	ABHAYA PRECISION INDUSTRIES PVT LTD	Abhesek Ghosh	Managing Director	70/2,YOURIBANI LANE,KOLKATTA-04	9831617997	MAIL@ABHAYAMD.COM	
10	SATYANARAYANENGINEERINGWORKS	NILANGSHU GHARUI	MANAGER	SHANPUR, DAONAGAR, HW-711105	7980278984	DATYANARAYANEGG@GMAIL.COM	
11	SHREE RADHA KRISHNA INDUSTRIES	MANI BHUSHAN SINGH	Proprieter	1/1d, Joy Krishna Ghosal Road, Aríadaha, Rathtala, Kolkata-700 057	9883368597	SHREERADHAKRISHNA21@GMAIL.COM	
12	NSCB AVIATION (P) LIMITED	SUBHASISH HALDER	DIRECTOR	34, Scout Para, Ganga Nagar, Kolkata 700132	8910627096	subhasish.haldar@nscbaviation.com	
13	SSK PRECISION COMPONENTS Mfg. Put. LTD.	SOUVIK SINHA	DIRECTOR	P31, KB.. Roy Garden, Garia Station Road, Kolkata-84	9831065851	SSKCNC@REDIFFMAIL.COM	
14	ULTIMATE INDUSTRIES	AKASH GUPTA	OWner		7887562349		
15	COMFORT METRESS	SANJIB JAIN	OWNER	.S.- Dasnagar, Howrah-711 13	989358586	SANJIB0@GMAIL.COM	

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Annexure IV: 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
24-25	2000	2000	400	400	-	-
25-26	2500	2500	500	500	-	-
26-27	3000	3000	600	600	-	-

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
New Qualification													

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. Fee based Training Program under the Ministry of MSME

2. Capacity building Training program under National SC/ST Hub, M/o MSME, GOI

3. Schemes under the different state Government.

Content availability for previous versions of qualifications:

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

Languages in which Content is available:

English Only

Annexure V: Blended Learning

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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 with installation step, settings and configuration Self-Learning Videos /Broadcasts /Mobile Learning /Curated Digital content	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	Setup OS, Office Packages, Client /server configuration / application and utility Software, Video Content, E-Resource library.	40:60
4	☒Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	MS-Office Software, VM Ware Software/Virtual Box,	40:60
5	☒Tutorials/ Assignments/ Drill/ Practice	Online Question Bank, Mobile Quick test app, MCQ based tests, Practical Test on Machines	40:60
6	☒Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Assessment engine for Essays, Up-loadable file examinations, Mock test sessions	50:50
7	☒On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	NA	NA

Annexure: VI 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

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| NOS / Module: MSME/CCCHNM/01 **Understand Basic Electronics & its Repairs.** | PC.1 Explain Multi-meter & Tools
PC.2 Identify the Different types of terminals
PC.3 Demonstrate the Testing procedure of V, I, R.
PC.4 Identify the tools and its functions.
PC.5 Identify the types of Resistor.
PC.6 Calculate the value of Resistor
PC.7 Procedure to connect Resistor
PC.8 Identify the types of Capacitor
PC.9 Calculate the value of Capacitor
PC.10 Procedure to connect Capacitor
PC.11 Demonstrate the Testing procedure of Capacitor
PC.12 Demonstrate the testing procedure of inductor.
PC.13 Functions of Inductor.
PC.14 Characteristics of diode
PC.15 Procedure to connect Diode
PC.16 Demonstrate the Testing Procedure of Diode
PC.17 Use of Diode
PC.18 Identify the types of transistor
PC.19 Demonstrate the Testing of Transistor.
PC.20 Functions of Transistor
PC.21 Explain the Importance and Types of IC.
PC.22 Discuss about the power supply,
PC.23 Types of power supply ,
PC.24 Explain the Use of power supply.
PC.25 Discuss the Function of SMPS.
PC.26 Explain the Components used in different section of SMPS.
PC.27 Demonstrate the Testing of different section.
PC.28 Detect the fault and troubleshoot the fault.
PC.29 Explain Voltage testing in the output connector of SMPS | 100 | 100 | - | - |
| NOS / Module: MSME/CCCHNM/02 **Install Computer Peripherals & their Maintenance.** | PC.1 Understand different components of Computer
PC.2 Knowledge about to assembly of system
PC.3 Understand the troubleshooting of computer
PC.4 Understand the layout, component, form factors of motherboard.
PC.5 Understand form factors, slot types & different memory types.
PC.6 Able to explain the types of storage and to recognize the method of storage
PC.7 Understand different hardware components used in storage
PC.8 Able to identify the types of hardware components in the computer and differentiate it. | 100 | 100 | - | - |

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	PC.9 Able To understand the methods of troubleshooting storage				
	PC.10 understand types of printer and scanner To recognize features used				
	PC.11 Understand the types of storage unit				
	PC.12 Understand the concept of RAM & ROM				
	PC.13 understand the placement requirement of peripheral equipment such as printers, modems, etc., as per customer preferences				
	PC.14 connect the peripheral devices with the system as per the standard procedure followed for each equipment				
	PC.15 Discuss about the types Keyboard & types Of Mouse				
	PC.16 Able to fix the cable in Proper manner.				
	PC.17 Recognize of the component of computer, troubleshooting				
	PC.18 Explain Different Types of memory of computer.				
	PC.19 Understand the safety procedures while handling and installing the equipment				
	PC.20 ensure that appropriate device and model specific procedure is followed as per installation manual				
NOS / Module: MSME/CCCHNM/03 **Operates System Software Installation.**	PC.1 Discuss about the software and its type. PC.2 Apply Partition concept of hard disk and their limitation. PC.3 Install the operating system and appropriate application software as per customer preference PC.4 Install additional software like application and utility software. PC.5 Discuss about various operating systems and their features PC.6 Setup the basic steps of installation process. PC.7 Explain the Support of hardware base application and their uses. PC.8 Able to load the utility software as per the system configuration PC.9 Understand the concept of dual & triple booting. PC.10 Able to solve the basic software issues.	100	100	-	-

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NOS / Module: **MSME/CCCHNM/04** **Monitoring Network Setup &** **their Maintenance**	PC.1 Explain about the Computer Network PC.2 Understand the transmission media & it's uses PC.3 Understand the different types of networking devices PC.4 Knowledge about crimping & punching technology PC.5 Understand the OSI Model in network architecture PC.6 Understand the concept of IP Address PC.7 Use of IP address and Ranges of IP address PC.8 Knowledge about IP Subnetting PC.9 Knowledge about different protocols & it's uses PC.10 Knowledge about the network topology.	100	100	-	100
NOS / Module: **MSME/ES/01** **Employability Skill**	PC.1 Explain occupational health and Safety. PC.2 Explain about safety rules. PC.3 State the name and location of people responsible for health and safety in the workplace PC.4 Identify employability skills required for jobs in various industries. & Identify and explore learning and employability portals PC.5 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. PC.6 Follow environmentally sustainable practices. & Recognize the significance of 21st Century Skills for employment PC.7 Practice the 21st Century Skills such as Self-Awareness, Behavior 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 PC.8 Use Basic English for everyday conversation in different contexts, in person and over the telephone. PC.9 How to minimize the team conflicts & explain Ethics & values? PC.10 Read and understand routine information, notes, instructions, mails, letters etc. written in English PC.11 Write short messages, notes, letters, e-mails etc. in English & Understand the difference between job and career PC.12 Prepare a career development plan with short- and long-term goals, based on aptitude & Discuss the main types of electronic funds transfers	100		-	-

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	PC.13 Follow verbal and non-verbal communication etiquette and active listening techniques in various settings & work collaboratively with others in a team PC.14 Communicate and behave appropriately with all genders and PwD & escalate any issues related to sexual harassment at workplace according to POSH Act. PC.15 Select financial institutions, products and services as per requirement & carry out offline and online financial transactions, safely and securely. PC.16 Identify common components of salary and compute income, expenses, taxes, investments etc & identify relevant rights and laws and use legal aids to fight against legal exploitation PC.17 Operate digital devices and carry out basic internet operations securely and safely & use e- mail and social media platforms and virtual collaboration tools to work effectively PC.18 Use basic features of word processor, spreadsheets, and presentations. PC.19 Identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research & develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion. PC.20 Identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity PC.21 Identify different types of customers & identify and respond to customer requests and needs in a professional manner.			
-	**Grand Total**	500	400	-	-

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Annexure VII: 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 are assigned to the MSME NSQF Assessment Agency via email for the assessment.
- MSME NSQF Assessment Agency sends the assessment confirmation to respective TC.
- MSME NSQF Assessment Agency deploys the certified Assessor for executing the assessment at respective TC via online / offline mode.
- MSME NSQF Assessment Agency & respective TC Internal Assessment cell monitors the assessment process & records.

2. Testing Environment:

- MSME NSQF Assessment Agency confirms the Assessment location, date and time
- For number of candidates more than 30 separate assessors are assigned for the assessment.
- MSME NSQF Assessment Agency & respective assessor confirms that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Each TC Submits the Question Bank for the individual subject Theory & Practice separately, submits to MSME NSQF Assessment Agency and it is verified by the MSME NSQF Assessment Agency Committee members.
- Questions are mapped to the specified assessment criteria
- All the assessors & Trainers are well qualified & trained to carry out the specified task.

4. Types of evidence or evidence-gathering protocol:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.
- Assessment Photographs are shared with the MSME NSQF Assessment Agency & are also with the respective TC.

5. Method of verification or validation:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.

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6. Method for assessment documentation, archiving, and access:

- The Assessment records are shared with MSME NSQF Assessment Agency & also stored at respective TC.

- Assessor fills the assessment report and shares with the MSME NSQF Assessment Agency.

On the Job Training:

- Each module will be assessed separately.

- The candidate must score 60% marks to successfully complete the OJT.

- Learner will be assessed on the basis of OJT report followed by Viva

- Assessment will ensure that the Learner is able to:

  - ✓ Effective engagement with the customers / Subordinates and team
  - ✓ Understand the working of various tools and equipment
  - ✓ Understand the working environment of the industry

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Annexure VIII: Acronym and Glossary

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

Acronym

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

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