QUALIFICATION FILE

Technician - Computer Hardware & Network Management

☒ **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:

MSME TECHNOLOGY CENTRE

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

Govt. of India

A-Wing, 7th Floor, Nirman Bhawan, Maulana Azad road

New Delhi-110108

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Table of Contents

Section 1: Basic Details

1.	Qualification Name	Technician - Computer Hardware & Network Management	
2.	Sector/s	Electronics and HW	
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐OEM	NQR Code & version of existing/previous qualification: *(change to previous, once approved)* **QG-04-EH-02385-2024-V1-MSME**	Qualification Name of existing/previous version: ADVANCED DIPLOMA IN COMPUTER HARDWARE & NETWORK MANAGEMENT (ADCHNM)
4.	a. OEM Name b. Qualification Name *(Wherever applicable)*	NA -	
5.	National Qualification Register (NQR) Code&Version *(Will be issued after NSQC approval)*	QG-04-EH-02385-2024-V1-MSME	6. NCrF/NSQF Level: *4*
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 Sr. Technician (Computer Hardware & Network Management). Qualified Learners shall be able to: • Take care of the maintenance & troubleshooting of computer hardware & Networking • Assemble & disassemble the computer as well as Install various types of software and fault tolerant solutions. • Setup server network and share the data. • Manage various operating system	

Technician - Computer Hardware & Network Management

| 9. | **Eligibility Criteria for Entry for Student/Trainee/Learner/Employee** | a. Entry Qualification & Relevant Experience: |

Sl. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)
1	Completed 3-year diploma after 10th	Nil
2	Previous relevant Qualification of NSQF Level 3	3 year relevant experience
3	2nd year of 3 year diploma (after 10th)	Nil
4	Previous relevant Qualification of NSQF Level 3.5	1.5 year relevant experience
5	12th grade pass or equivalent	Nill

b. Age: 17 Years

10.	**Credits Assigned to this Qualification, Subject to Assessment***(as per National Credit Framework (NCrF)*	**20**	**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 requirements of the qualification)*

☐Offline ☐Online ☒Blended

Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total(Hours)
Classroom (offline)	72	420	60	-	552
Online	48	-	-	-	48
Total	120	420	60	-	600

(Refer Blended Learning Annexure for details)

14.	**Aligned to NCO/ISCO Code/s***(if no code is available mention the same)*	***3513.99 (Computer Network and Systems Technician)***
15.	**Progression path after attaining the qualification** *(Please show Professional and Academic progression)*	***Professional / Career Progress:*** Supervisor
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: As per government 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: 3years**	25. **Next Review Date: 30.04.2027**

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/N SQF 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.	Prepare Testing & Maintenance of Power Supply-SMPS	MSME/ADCHNM/01	Core	4.5	3	30	50	10		90	100	100	-	-	200	
2.	Assembly of PC Architecture & their Troubleshooting	MSME/ADCHNM/02	Core	4.5	3	-	80	10		90	-	100	-	-	100	
3.	Installing System Software & their Maintenance	MSME/ADCHNM/03	Core	4.5	3	-	80	10		90	-	100	-	-	100	
4.	Managing Network & Windows Server Configuration	MSME/ADCHNM/04	Core	4.5	6	30	150	20		180	-	100	-	100	200	
5.	Understand & Operate LINUX Operating System & its Management	MSME/ADCHNM/05	Core	4.5	3	-	80	10		90	-	100	-	-	100	
6.	Employability Skill	MSME/ES/02-	Non- Core	4.5	2	60	-	-		60	100	-	-	-	100	
	Duration (in Hours) / Total Marks				20	120	420	60		600	200	500		100	800	-

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																

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%

Technician - Computer Hardware & Network Management

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 5 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)
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 2years) (Yes/No):- Yes**
3.	**Government /Industry initiatives/ requirement (Yes/No):** Yes
4.	**Number of Industry validation provided:** 30
5.	**Estimated nos. of persons to be trained and employed: Approx. 2000**
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:,** Yes
	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)*	*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*

Technician - Computer Hardware & Network Management

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*

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 specific hardware, configuration , error solving ideas, installation process, broad knowledge of network concept and management as per industry .	Learner 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 can monitor the condition of peripheral devices from a remote location and solve the fault found, if any which requires high depth of skill in through this qualification.	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	The qualification covers wide range of technical skills through understanding and knowledge of different type of Electronics components used in different sections of a PC, their working principles, study of various components and sections behaviour in different conditions and electrical supply input and output etc. along with inclusion of detailed study of Circuit diagram. Assembling and disassembling of desktop &	Learner needs to have in depth knowledge and understanding circuit design, properties of individual elements/components, Electricity supply input and desired output, draw out specification of the various components used in PC and identify them correctly, Understand the error message etc. They also gain adequate knowledge about the networking structure, topology, protocol, OSI layers through the theoretical input. Types of I/O devices and ports on a standard PC for connecting I/O devices and Working principle of Domain Server. Networking features	4.5

	laptop computers and repairing its hardware components Installation of Printer, Scanner and troubleshoot their faults, To Setting up and configuring Networking System using various network devices.	of DNS, DHCP, WDS &Proxy Server etc.	
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.	4.5
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 present complex information in a clear and concise manner. Advanced Diploma in Computer Hardware and Network Management curriculum is designed to have reasonable good numerical abilities, mathematical calculations required for analyzing the electronics components used in circuit diagram, communication skills to receive, provide, and transmit information logically to the appropriate person or the group involved in the activities. Language to communicate written or oral, with	The Learner needs to have Generic Skills of writing, Oral and Communication Skills.learner prepares Documentations for maintenance history and schedule requirements. 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 learner 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. Present facts and circumstances, possible solutions & use English special terminology.	4.5

	required clarity Basic understanding of social political and natural environment 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.	Resolve disputes within the team Conduct written communication. Understand and explain the concept in productivity, quality tools, and labor welfare legislation and apply such in day to day work to improve productivity & quality. Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources. Comply environment regulation and housekeeping. Identify environmental pollution & contribute to the avoidance of instances of environmental pollution.	
Responsibility	Responsibility for own work to complete within the time frame with learning and full responsibility to supervise the other's works and proper guide to coworkers 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 learner is anticipated to be open to learning, able to plan and organize their own work, and able to recognize and resolve issues that arise while working in a team. Realizing the necessity of taking the initiative, managing oneself and others, and working to increase productivity and effectiveness. Use safe work procedures. 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.	4.5

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
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

Technician - Computer Hardware & Network Management

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	Industry Standard	As required
49	Network cables – UTP		As required
50	Network Cables – coaxial, flat, ribbon		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		
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

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	Hue Service Private Limited	ANUP KUMAR MUAL	MANAGER OPERATIONS	"38A, Broad Street, Ground floor,	9508576861	GUWAHTI@HUESERVICES.COM	
2	ORBIT INFOSOLUTION	SACHINDUA NATH	PARTNER	Beside Mahadevi Birla Kalyan Mandapam, Ballygunge, Kolkata - 700 019."	9830429275	CORPORATE@ORBITINFO.IN	
3	Arrow Aviation	Sanjib De	Quality Managaer	FERN ROAD, KOLKATTA-7000019	9831092407	qualitymanager@arrowaviation.com	
4	Unique Enterprises	Partha Roy	Proprieter	53/1/3, Hazra Road, Kolkata - 700019	98741 27130	partha@enterprisesindia.com	
5	SHIV ENGINEERS	S.Maity	Proprieter	.S.- Dasnagar, Howrah-711 13	7980872335	shivengineer1980@gmail.	

					com	
6	SK Synthetics	MANISH JAIN	CEO	BALITIKURI, HOWRAH - 711 113	9331022044	SKSYNTHETICS@HOTMAIL.COM	
7	A. C. STEEL TRAIDING CORPORATION	A. C. JASWAL	PROPRIETER	40 STRAND RD,3RD FLOOR KOLKATTA-700001	9830073612	ACSTEEL_2004@YAHOO.CO.IN	
8	CALCUTTA TECHNO HEATERS (INDIA) PVT. LTD	M. K. SAHA	DIRECTOR	BELILIOUS RD,LOAN BAZER,ROOM-141,142, HOWRAH-711101	9831086241	MKSOCT55@GMAIL.COM	
9	MAX MILL Technologies	PRADEEP SHARMA	MANAGER	22A, DUM DUM ROAD, KOLKATA - 700 002	7003462714	maxmilltechnologies@gmail.com	
10	SPECIAL ENGINEERING SERVICES LTD.	ASHIM GANGULY	JR. Factory Manager	172/1,Ashokgarh,Dunlop, Baranagar, Kolkata-700108	913325578434	sescatcn@cal2.vsl.net.in	
11	ABHAYA PRECISION INDUSTRIES PVT LTD	Abhesek Ghosh	Managing Director	16, COSSIPORE ROAD, KOLKATA-700 002	9831617997	MAIL@ABHAYAMD.COM	
12	SATYANARAYANENGINEERINGWORKS	NILANGSHU GHARUI	MANAGER	70/2,YOURIBANI LANE,KOLKATTA-04	7980278984	DATYANARAYANEGG@GMAIL.COM	
13	SHREE RADHA KRISHNA INDUSTRIES	MANI BHUSHAN SINGH	Proprieter	SHANPUR, DAONAGAR, HW-711105	9883368597	SHREERADHAKRISHNA21@GMAIL.COM	
14	NSCB AVIATION (P) LIMITED	SUBHASISH HALDER	DIRECTOR	1/1d, Joy Krishna Ghosal Road, Aríadaha, Rathtala, Kolkata-700 057	8910627096	subhasish.haldar@nscbaviation.com	
15	SSK PRECISION COMPONENTS Mfg. Put. LTD.	SOUVIK SINHA	DIRECTOR	34, Scout Para, Ganga Nagar, Kolkata 700132	9831065851	SSKCNC@REDIFFMAIL.COM	
16	SURAJ TOOLS AND ENGINEERING WORKS	DEIM	CEO	MIDC CHIKATHANA AURANGABAD	7447375273	SURAJTOOLS@GMAIL.COM	
17 18	ALLWIN UNITED ASSOCIATION PVT.LTD	MI PANKAJ	DIRECTOR	ALLWIN UNITED ASSOCIATION PVT.LIMITED	7588537412	CONTACT@TECHNOCADDAPL.COM	
19	MIS ANNA BLOCK BORING CENTER	MASIT KHAN	PROPRIETOR	MIS ANNA BLOCK BORING CENTER	9767375083		
20	LAXMI ENTERPRISES	RANJANA BHAYYA SAHEB PAWAR	MI.MANAGER	SAINAGAR GHANEGAON MIDC WALUJ, AURANGABAD	7387431128		
21	M/S HR INDUSTRIES	VASPUT JAUGELE	PROPRIETOR	SAJAPUR, AURANGABAD	9637384737		
22	GAYATRJ AUTO COMPONENTS, AURANGABAD	MR. RANJEET METE	MANAGER	AURANGABAD	7385613842	INFO@GAYATRIAUTO.IN	
23	SHARP TOOLS	MAHESH DORLE	SR.MANAGER		9689574563		
24	CHANCHAL ENGINEERING WORKS AURANGABAD	DRYHAEBHWAR	PROPRIETOR	AURANGABAD	9765499939	CHANCHALENGINEERINGWORKS@GMAIL.COM	
25	AKSHARA ENGINEERING WORKS	SHIVAJI GAIKWAD		WALUJ MIDC AURANGABAD	9096420857		
26	ARUSHI ENGINEERING AND BREEZING	VIJAYA PARADE	MANAGER	WALUJ MIDC AURANGABAD	9049596736		
27	SR INDUSTRIES	RAJENDRA	SR. MANAGER	AURANGABAD	8698145607		

Technician - Computer Hardware & Network Management

	AURANGABAD	SAUDAGAR MARE					
28	DEVA ENGINEERING AURANGABAD	ASHOK MOTINAM VEOR	SR. MANAGER	AURANGABAD	8459567793		
29	MAULI PATTERN AURANGABAD	MR.PANCHAL	PROFESSOR	AURANGABAD	9673067755		
30	NAVARATNA INDUSTRIES			WALUJ MIDC AURANGABAD			
31	PRANAW ENTERPRISES AURANGABAD	PANDRINATH DEVKAR	PROPRIETOR	AURANGABAD	9371671146	PRANAVENT@GMAIL.COM	
32	R.P INDUSTRIES	PRASHANT PATIL	CEO	MIDC CHIKATHANA AURANGABAD	8007222251	PRASHANTPATIL@GMAIL.COM	
33	TECHNO MOULD SOLUTION	MR.PANDA	PROPRIETOR	AURANGABAD	7774077907	TECHNOMOULD.SOLUTIONS@GMAIL.COM	
34	SANJAY THCHNO PRODUCTS	HEMANT CHAUDHURY	VP-MANUFACTURING	AURANGABAD	9158898090	HEMANT.CHAUDHARI@SANJAYTECHNOPRODUCTS.IN	
35	SPECIAL PRECISION	ASHIWINI TADHAV	PROPRIETOR	AURANGABAD		SPECIALASHIWIN@GMAIL.COM	
36	PARASON MACHINERY (INDIA) PVT LTD	GHAHU	GM	AURANGABAD	9325202860	AMOIL.MOGAL@PASASEN.COM	
37	PADMA INDUSTRIES	VITTHALKADOM	CEO	MIDC AURANGABAD	9421688212	VITTHALKADOM2525@GMAIL.COM	
38	VANI ENGINEERING CO.PVT LTD	SUBH	GENERAL MANAGER	AURANGABAD	9730729991	SKAPE@GMAIL.COM	
39	GLANCE ENGINEERING -6 PVT.LIMITED CHIKALTHANA	SUBH SK	GENERAL MANAGER	CHIKALTHANA	9730729991	S.KALE@GMAIL.COM	
40	JAI BHAVANI ENGINEERING WORKS		GENERAL MANAGER		9370251815		
41	RN INDUSTRIES		CEO	MIDC KALAGRAM AURANGABAD	9890718928	R.N.INDUSTRIES01@GMAIL.COM	
42	MADURA DIE CAST PVT LIMITD	MADHURA	CEO	SHENDRA AURANGABAD	9422204622	MADHRADIECAST@GMAIL.COM	
43	SWAGATI ENGINEERING WIS2		CEO	CHIKALTHNA,AURANGABAD	9763714369	SWAGATIENGG@GMAIL.COM	
44	S N ENGINEERINGWORKS	SNEHA	CEO	CH SAMBHAJINAGAR	9822859974	SNEHAG858@GMAIL.COM	
45	IDEAL ENTERPRISE		GENERAL MANAGER	CHIKALTHANA AURANGABAD	9763785199	IDEAL1993@GMAIL.COM	
46	INDEXABLE CUTTING TOOL	TOR	PROPRIETOR	BAJAJNAGAR,AURANGABAD			
47	INDOTURAN INDUSTRIES	USHAL SHINDE	PROPRIETOR	MIDC AURANGABAD WALUJ	9595280808		
48	CREATIVE CASTING	MR. SANJAY RANDIRE	PARTNER	K-30, MIDC WALUJ , AURANGABAD	9011001671	CREATIVECAST@REDIFFM	

Technician - Computer Hardware & Network Management

	INDUSTRIES				AIL.COM	
49	PYRAMID INDUSTRIES	MR. RAJENDRA KALE	PROPRIETOR			
50	RMG INDUSTRIES	RAOUAL	CEO	MIDC AURANGABAD WALUJ	9766699611	EAJUQANDA@RMGINDUSTRIES.COM

Annexure IV: Training & Employment Details

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	1600	400	320	-	-
25-26	2500	2000	500	400	-	-
26-27	3000	2400	600	480	-	-

Training and Employment Projections:

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
1.1	20-21	162	162	162	150	16	16	16	15	-	-	-	-
1.1	21-22	410	410	410	395	42	42	42	35	-	-	-	-
1.1	22-23	174	174	174	170	16	16	16	14	-	-	-	-

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

Annexure V: 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 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.	100:0
4	☒Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	MS-Office Software, VM Ware Software/Virtual Box,	100:0
5	☒Tutorials/ Assignments/ 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)	NA	100:0

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
NOS / Module: MSME/ADCHNM/01 Prepare Testing & Maintenance of Power Supply-SMPS	PC.1	Explain Multi-meter & Tools	100	100	-	-
	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 Resistors.				
	PC.6	Demonstrate and calculate the value of Resistor				
	PC.7	Understand Resistance in Ohms, Capacity in Farads, Inductance Henrys				
	PC.8	Demonstrate the testing procedure of Resistor.				
	PC.9	Identify the types of Capacitors				
	PC.10	Demonstrate the Testing procedure of Capacitor				
	PC.11	Demonstrate the testing procedure of inductor.				
	PC.12	Understand the Functions of Inductor.				
	PC.13	Understand the Characteristics of diode				
	PC.14	Demonstrate the Procedure to connect Diode				
	PC.15	Demonstrate the Testing Procedure of Diode				
	PC.16	Demonstrate the Use of Diode				
	PC.17	Identify the types of transistors				
	PC.18	Demonstrate the Testing of Transistor.				
	PC.19	Understand the Functions of Transistor				
	PC.20	Explain the Importance and Types of IC.				

	PC.21	Explain about the power supply,				
	PC.22	Explain the Types of power supply,				
	PC.23	Explain the Use of power supply.				
	PC.24	Differentiate the different section of SMPS,				
	PC.25	Demonstrate the Function of SMPS.				
	PC.26	Explain the Components used in different section of SMPS.				
	PC.27	Demonstrate about the Input section,				
	PC.28	Explain about the Circuit Diagram of Input section.				
	PC.29	Identify & Tracing of Input section.				
	PC.30	Demonstrate about the Switching Section,				
	PC.31	Explain about the Circuit Diagram of Switching Section.				
	PC.32	Demonstrate the Role and Functions of Switching Section.				
	PC.33	Identify & Tracing of Switching Section.				
	PC.34	Discuss about the Output Section,				
	PC.35	Explain about the Circuit Diagram of Output Section				
	PC.36	Demonstrate the Role and Function of Output Section.				
	PC.37	Identify & Tracing of Output Section.				
	PC.38	Discuss about the Driver Section,				
	PC.39	Explain about the Circuit Diagram of Driver Section				
	PC.40	Demonstrate the Role and Function of Driver Section.				
	PC.41	Identify & Tracing of Driver Section.				
	PC.42	Demonstrate about the Oscillator Section,				
	PC.43	Explain about the Circuit Diagram of Oscillator Section				
	PC.44	Demonstrate the Role and Function of Oscillator Section.				
	PC.45	Identify & Tracing of Oscillator Section.				
	PC.46	Discuss about the Standby Section,				
	PC.47	Explain about the Circuit Diagram of Standby Section				

Technician - Computer Hardware & Network Management

<table>
<tr><td></td><td colspan="2">PC.48   Demonstrate the Role and Function of Standby Section.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="2">PC.49   Identify & Tracing of Standby Section.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="2">PC.50   Demonstrate the Testing of different section.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="2">PC.51   Detect the fault and troubleshoot the fault.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="2">PC.52   Explain Voltage testing in the output connector of SMPS</td><td></td><td></td><td></td><td></td></tr>
<tr>
<td>NOS / Module:
MSME/ADCHNM/02
Assembly of PC Architecture &
their Troubleshooting</td>
<td colspan="2">
PC.1   Explain the Types of microprocessor and their technology.

PC.2   Explain about the Different types of motherboard

PC.3   Explain about the Different types of add- on cards.

PC.4   Explain Different types of port in motherboard

PC.5   Explain Different types of slot in motherboard

PC.6   Explain Different Types of memory of computer.

PC.7   Understand about ROM and it's used in computer system.

PC.8   Identify Different the type of HDD & Size of HDD

PC.9   Explain the physical and logical technology used   to read and write the data in HDD

PC.10   Discuss about the types of CDD & the types of DVD

PC.11   Explain the physical and logical technology used to read and write the data in Optical Drive.

PC.12   Demonstrate about the types Keyboard & types Of Mouse

PC.13   Explain the Problems in Keyboard and mouse.

PC.14   Explain the proper use of Joy Stick, Light pen, Track Ball, Scanner, Graphic Tablet, Microphone, Bar Code Reader

PC.15   Explain about different types of Monitor like: - CRT, LCD, LED etc.

PC.16   Explain the common issues and troubleshooting method.

PC.17   Explain about the Types of printer

PC.18   Explain the Printing technology of printer
</td>
<td>--</td><td>100</td><td>-</td><td>-</td>
</tr>
</table>

			-	100	-	-
	PC.19	Demonstrate about Role and function of different printers				
	PC.20	Explain common errors of printer and troubleshooting process.				
NOS / Module: MSME/ADCHNM/03 **Installing System Software & their Maintenance**	PC.1	Explain about the software and its type.	-	100	-	-
	PC.2	Explain Partition concept of hard disk and their limitation.				
	PC.3	Demonstrate about various operating systems and their features				
	PC.4	Understand to Setup the basic steps of installation process.				
	PC.5	Explain the Support of hardware base application and their uses.				
	PC.6	Explain about disk management tools, driver software and manage antivirus software				
	PC.7	Explain about the Application Software				
	PC.8	Explain and use of Installation process of Software.				
	PC.9	Demonstrate Basic of word processing tools & various menu.				
	PC.10	Explain about the Spreadsheet database.				
	PC.11	Explain the Use of Program skill to manage the report.				
	PC.12	Explain Power Point program to setup the slide & design				
	PC.13	Demonstrate to Use Power Point program to setup the layout and themes on organize way.				
	PC.14	Understand OS Missing issue, Blue Screen errors and resolving the issue.				
NOS / Module: MSME/ADCHNM/04 **Managing Network & Windows Server Configuration**	PC.1	Explain about the Computer Network	-	100	-	100
	PC.2	Demonstrate Network topology and transmission media.				
	PC.3	Understand the OSI Model and it's functions				
	PC.4	Demonstrate Protocol overview and uses.				
	PC.5	Explain about Use of IP address and Ranges of IP address				
	PC.6	Explain the Functions of end user devices (PC, MOBILE, etc.).				
	PC.7	Explain about the use of devices like: - (REPEATER, HUB, SWITCH, ROUTER, etc.).				

NOS / Module					
	PC.8	Explain to Create Peer to Peer networking and demonstrate their uses.			
	PC.9	Explain Concept of Client Server Architecture			
	PC.10	Create Workgroup and Domain Module			
	PC.11	Discuss Client Server security.			
	PC.12	Understand to Apply Group Policy Management			
	PC.13	Understand to manage ADDS, FTP, DNS, DHCP, WDS and wireless device and their configuration process			
	PC.14	Demonstrate various server configuration and their services.			
	PC.15	Explain about N-Computing devices and limitations.			
	PC.16	Demonstrate their functions and uses.			
NOS / Module: MSME/ADCHNM/05 **Understand & Operate LINUX Operating System & its Management**	PC.1	Discuss about the Linux Operating System and installation	-	100	-	-
	PC.2	Overview about Linux OSS and Linux file systems				
	PC.3	Use basic commands and limitations.				
	PC.4	Explain Concept of Linux file permission				
	PC.5	Understand Linux file permission & Disk Management.				
	PC.6	Explain Mount drive & external Storage				
	PC.7	Able to Install Packages and software up- gradation				
	PC.8	Explain to Implement the Group Policy Management				
	PC.9	Understand DHCP Server Configuration.				
	PC.10	Identify different server configuration services / packages.				
	PC.11	Create and Configure Apache web server.				
	PC.12	Explain to Configure FTP and SAMBA server.				
	PC.13	Understand to Edit boot process of Linux OS.				
	PC.14	Understand to Change password of root user in rescue mode.				
	PC.15	Install and upgrade packages as per service of server.				
NOS / Module:- **Employability Skill**	PC.1	Explain the major applications of MS Office	100	-	-	-

	PC.2	Explain the different types of e-commerce			
	PC.3	List the benefits of e-commerce for retailers and customers			
	PC.4	Discuss how the Digital India campaign will help boost e-commerce in India			
	PC.5	Write applications pertaining to various matters.			
	PC.6	Explain power of positive attitude and Importance of commitment			
	PC.7	Explain motivation and the Ways to motivate oneself and Personal goal setting			
	PC.8	Explain the Effective & Level of Communication			
	PC.9	Explain communication and Significance of technical communication?			
	PC.10	Explain the methods of listening Skills.			
	PC.11	Explain the differences between bio-data, CV and Resume.			
	PC.12	Explain verbal and non-verbal Communication			
	PC.13	Explain how to face an interview.			
	PC.14	Explain team work, group work, team formation process			
	PC.15	How to Minimize the team conflicts			
	PC.16	Explain Ethics & values			
	PC.17	Explain the concept of entrepreneurship, and entrepreneurship v/s Management			
	PC.18	Explain the process of project report preparation for setting up a new business			
	PC.19	Explain the role of various schemes and institute for self- employment i.e. MSME, DIC, NSIC, SIDBI etc.,			
	PC.20	Role of financial institution to support startup			
	PC.21	Discuss the importance of saving money			
	PC.22	Discuss the main types of bank accounts			
	PC.23	Differentiate between fixed and variable costs			
	PC.24	Describe the different types of insurance products			
	PC.25	Discuss the main types of electronic funds transfers			
Grand Total			200	500	-	100

Technician - Computer Hardware & Network Management

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:

Technician - Computer Hardware & Network Management

- 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.

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

Annexure VIII: 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 Qualification 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