



Qualification Pack

Jr. Technician (COMPUTER HARDWARE & NETWORK)

QP Code: MSME/ELE/Q1602

Version: 1.0

NSQF Level: 3

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Qualification Pack

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MSME/ELE/Q1602: Jr. Technician (COMPUTER HARDWARE & NETWORK)

Brief Job Description

Trouble shoots the systems such as printers, scanners and network devices.

Personal Attributes

Trouble shoots the systems such as printers, scanners and network devices.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [MSME/ELE/N1622: Employability Skill](#)
2. [MSME/ELE/N1626: Understand Basic Electronics & its Repairs.](#)
3. [MSME/ELE/N1625: Operates System Software Installation.](#)
4. [MSME/ELE/N1624: Install Computer Peripherals & their Maintenance.](#)
5. [MSME/ELE/N1623: Monitoring Network Setup & their Maintenance](#)
6. [MSME/ELE/N1620: Monitoring Network Setup & their Maintenance](#)
7. [MSME/ELE/N1619: Install Computer Peripherals & their Maintenance.](#)
8. [MSME/ELE/N1613: Operates System Software Installation](#)
9. [MSME/ELE/N1609: Understand Basic Electronics and its Repairs](#)

Qualification Pack (QP) Parameters

Sector	Electronics
Sub-Sector	Strategic Electronics
Occupation	Computer Networking
Country	India
NSQF Level	3



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Credits	23
Aligned to NCO/ISCO/ISIC Code	Field Technician - Computing and Peripherals
Minimum Educational Qualification & Experience	10th grade pass with NA of experience OR 9th Grade pass and pursuing continuous schooling in regular school with NA of experience OR Previous relevant Qualification of NSQF Level 2.5 with 1.5 years of experience OR 8th Class pass with 2 Years of experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	14 Years
Last Reviewed On	NA
Next Review Date	30/04/2027
NSQF Approval Date	30/04/2024
Version	1.0
Reference code on NQR	QG-03-EH-02380-2024-V1-MSME
NQR Version	1.0



Qualification Pack

MSME/ELE/N1622: Employability Skill

Description

Employability skill often called soft skills or job readiness skill are the essential, non-technical abilities and personal attributes that allow you to gain employment, fit into a workplace culture, and collaborate effectively with others

Scope

The scope covers the following :

- Employability skill often called soft skills or job readiness skill are the essential, non-technical abilities and personal attributes that allow you to gain employment, fit into a workplace culture, and collaborate effectively with others

Elements and Performance Criteria

Employability Skill

To be competent, the user/individual on the job must be able to:

- PC1.** Explain occupational health and Safety.
- PC2.** Explain about safety rules.
- PC3.**
 - State the name and location of people responsible for health and safety in the workplace
- PC4.**
 - Identify employability skills required for jobs in various industries. & Identify and explore learning and employability portals
- PC5.**
 - 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.
- PC6.**
 - Follow environmentally sustainable practices. & Recognize the significance of 21st Century Skills for employment
- PC7.**
 - 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
- PC8.**
 - Use Basic English for everyday conversation in different contexts, in person and over the telephone
- PC9.** How to minimize the team conflicts & explain Ethics & values
- PC10.**
 - Read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC11.**
 - Write short messages, notes, letters, e-mails etc. in English & Understand the difference between job and career
- PC12.**
 - Prepare a career development plan with short- and long-term goals, based on aptitude & Discuss the main types of electronic funds transfers
- PC13.**
 - Follow verbal and non-verbal communication etiquette and active listening techniques in various settings & work collaboratively with others in a team



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- PC14.** • Communicate and behave appropriately with all genders and PwD & escalate any
• issues related to sexual harassment at workplace according to POSH Act.
- PC15.** • Select financial institutions, products and services as per requirement & carry out
• offline and online financial transactions, safely and securely.
- PC16.** • 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
- PC17.** • 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
- PC18.** Use basic features of word processor, spreadsheets, and presentations
- PC19.** • 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
- PC20.** • Identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for
• the potential business opportunity
- PC21.** • Identify different types of customers & identify and respond to customer requests
• and needs in a professional manner



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Employability Skill</i>	100	-	-	-
PC1. Explain occupational health and Safety.	-	-	-	-
PC2. Explain about safety rules.	-	-	-	-
PC3. <ul style="list-style-type: none">• State the name and location of people responsible for health and safety in the• workplace	-	-	-	-
PC4. <ul style="list-style-type: none">• Identify employability skills required for jobs in various industries. & Identify and• explore learning and employability portals	-	-	-	-
PC5. <ul style="list-style-type: none">• 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.	-	-	-	-
PC6. <ul style="list-style-type: none">• Follow environmentally sustainable practices. & Recognize the significance of 21st• Century Skills for employment	-	-	-	-
PC7. <ul style="list-style-type: none">• 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	-	-	-	-
PC8. <ul style="list-style-type: none">• Use Basic English for everyday conversation in different contexts, in person and• over the telephone	-	-	-	-
PC9. How to minimize the team conflicts & explain Ethics & values	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. <ul style="list-style-type: none">• Read and understand routine information, notes, instructions, mails, letters etc.• written in English	-	-	-	-
PC11. <ul style="list-style-type: none">• Write short messages, notes, letters, e-mails etc. in English & Understand the• difference between job and career	-	-	-	-
PC12. <ul style="list-style-type: none">• Prepare a career development plan with short- and long-term goals, based on• aptitude & Discuss the main types of electronic funds transfers	-	-	-	-
PC13. <ul style="list-style-type: none">• Follow verbal and non-verbal communication etiquette and active listening• techniques in various settings & work collaboratively with others in a team	-	-	-	-
PC14. <ul style="list-style-type: none">• Communicate and behave appropriately with all genders and PwD & escalate any• issues related to sexual harassment at workplace according to POSH Act.	-	-	-	-
PC15. <ul style="list-style-type: none">• Select financial institutions, products and services as per requirement & carry out• offline and online financial transactions, safely and securely.	-	-	-	-
PC16. <ul style="list-style-type: none">• 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	-	-	-	-
PC17. <ul style="list-style-type: none">• 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	-	-	-	-
PC18. Use basic features of word processor, spreadsheets, and presentations	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC19. <ul style="list-style-type: none">Identify different types of Entrepreneurship and Enterprises and assessopportunities for potential business through research & develop a business planand a work model, considering the 4Ps of Marketing Product, Price, Place andPromotion	-	-	-	-
PC20. <ul style="list-style-type: none">Identify sources of funding, anticipate, and mitigate any financial/ legal hurdles forthe potential business opportunity	-	-	-	-
PC21. <ul style="list-style-type: none">Identify different types of customers & identify and respond to customer requestsand needs in a professional manner	-	-	-	-
NOS Total	100	-	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1622
NOS Name	Employability Skill
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	1
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQC Clearance Date	30/04/2024



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MSME/ELE/N1626: Understand Basic Electronics & its Repairs.

Description

Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Scope

The scope covers the following :

- Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Elements and Performance Criteria

MSME/CCCHNM/01

To be competent, the user/individual on the job must be able to:

- PC1.** Explain Multi-meter & Tools
- PC2.** Identify the Different types of terminals
- PC3.** Demonstrate the Testing procedure of V, I, R
- PC4.** Identify the tools and its functions.
- PC5.** Identify the types of Resistor.
- PC6.** Calculate the value of Resistor
- PC7.** Procedure to connect Resistor
- PC8.** Identify the types of Capacitor
- PC9.** Calculate the value of Capacitor
- PC10.** Procedure to connect Capacitor
- PC11.** Demonstrate the Testing procedure of Capacitor
- PC12.** Demonstrate the testing procedure of inductor.
- PC13.** Functions of Inductor
- PC14.** Characteristics of diode
- PC15.** Procedure to connect Diode
- PC16.** Demonstrate the Testing Procedure of Diode
- PC17.** Use of Diode
- PC18.** Identify the types of transistor
- PC19.** Demonstrate the Testing of Transistor.
- PC20.** Functions of Transistor
- PC21.** Explain the Importance and Types of IC.
- PC22.** Discuss about the power supply,
- PC23.** Types of power supply



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- PC24.** Explain the Use of power supply.
- PC25.** Discuss the Function of SMPS
- PC26.** Explain the Components used in different section of SMPS
- PC27.** Demonstrate the Testing of different section.
- PC28.** Detect the fault and troubleshoot the fault.
- PC29.** Explain Voltage testing in the output connector of SMPS



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCHNM/01</i>	-	100	-	-
PC1. Explain Multi-meter & Tools	-	-	-	-
PC2. Identify the Different types of terminals	-	-	-	-
PC3. Demonstrate the Testing procedure of V, I, R	-	-	-	-
PC4. Identify the tools and its functions.	-	-	-	-
PC5. Identify the types of Resistor.	-	-	-	-
PC6. Calculate the value of Resistor	-	-	-	-
PC7. Procedure to connect Resistor	-	-	-	-
PC8. Identify the types of Capacitor	-	-	-	-
PC9. Calculate the value of Capacitor	-	-	-	-
PC10. Procedure to connect Capacitor	-	-	-	-
PC11. Demonstrate the Testing procedure of Capacitor	-	-	-	-
PC12. Demonstrate the testing procedure of inductor.	-	-	-	-
PC13. Functions of Inductor	-	-	-	-
PC14. Characteristics of diode	-	-	-	-
PC15. Procedure to connect Diode	-	-	-	-
PC16. Demonstrate the Testing Procedure of Diode	-	-	-	-
PC17. Use of Diode	-	-	-	-
PC18. Identify the types of transistor	-	-	-	-
PC19. Demonstrate the Testing of Transistor.	-	-	-	-
PC20. Functions of Transistor	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. Explain the Importance and Types of IC.	-	-	-	-
PC22. Discuss about the power supply,	-	-	-	-
PC23. Types of power supply	-	-	-	-
PC24. Explain the Use of power supply.	-	-	-	-
PC25. Discuss the Function of SMPS	-	-	-	-
PC26. Explain the Components used in different section of SMPS	-	-	-	-
PC27. Demonstrate the Testing of different section.	-	-	-	-
PC28. Detect the fault and troubleshoot the fault.	-	-	-	-
PC29. Explain Voltage testing in the output connector of SMPS	-	-	-	-
NOS Total	-	100	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1626
NOS Name	Understand Basic Electronics & its Repairs.
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	2
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1625: Operates System Software Installation.

Description

Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Scope

The scope covers the following :

- Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Elements and Performance Criteria

MSME/CCCH NM/03

To be competent, the user/individual on the job must be able to:

PC1. Discuss about the software and its type.

PC2. Apply Partition concept of hard disk and their limitation

PC3. • Install the operating system and appropriate application software as per customer
• preference

PC4. Install additional software like application and utility software

PC5. Discuss about various operating systems and their features

PC6. Setup the basic steps of installation process.

PC7. Explain the Support of hardware base application and their uses.

PC8. Able to load the utility software as per the system configuration

PC9. Understand the concept of dual & triple booting



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCH NM/03</i>	-	100	-	-
PC1. Discuss about the software and its type.	-	-	-	-
PC2. Apply Partition concept of hard disk and their limitation	-	-	-	-
PC3. • Install the operating system and appropriate application software as per customer • preference	-	-	-	-
PC4. Install additional software like application and utility software	-	-	-	-
PC5. Discuss about various operating systems and their features	-	-	-	-
PC6. Setup the basic steps of installation process.	-	-	-	-
PC7. Explain the Support of hardware base application and their uses.	-	-	-	-
PC8. Able to load the utility software as per the system configuration	-	-	-	-
PC9. Understand the concept of dual & triple booting	-	-	-	-
NOS Total	-	100	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1625
NOS Name	Operates System Software Installation.
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	2
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1624: Install Computer Peripherals & their Maintenance.

Description

Computer peripherals are external devices like keyboards, mice, monitors, and printer that expand your system's functionality. Proper installation and regular maintenance are essential to ensure optimal performance, hardware longevity, and seamless communication between these devices and your computer's operating system

Scope

The scope covers the following :

- Computer peripherals are external device like keyboards, mice, monitors, and printer that expand your system's functionality. Proper installation and regular maintenance are essential to ensure optimal performance, hardware longevity, and seamless communication between these devices and your computer's operating system

Elements and Performance Criteria

MSME/CCCHNM/02

To be competent, the user/individual on the job must be able to:

- PC1.** Understand different components of Computer
- PC2.** Knowledge about to assembly of system
- PC3.** Understand the troubleshooting of computer
- PC4.** Understand the layout, component, form factors of motherboard.
- PC5.** Understand form factors, slot types & different memory types.
- PC6.** Able to explain the types of storage and to recognize the method of storage
- PC7.** Understand different hardware components used in storage
- PC8.**
 - Able to identify the types of hardware components in the computer and
 - differentiate it
- PC9.** Able To understand the methods of troubleshooting storage
- PC10.** understand types of printer and scanner To recognize features used
- PC11.** Understand the types of storage unit
- PC12.** Understand the concept of RAM & ROM
- PC13.**
 - understand the placement requirement of peripheral equipment such as printers,
 - modems, etc., as per customer preferences
- PC14.**
 - connect the peripheral devices with the system as per the standard procedure
 - followed for each equipment
- PC15.** Discuss about the types Keyboard & types Of Mouse
- PC16.** Able to fix the cable in Proper manner.
- PC17.** Recognize of the component of computer, troubleshooting
- PC18.** Explain Different Types of memory of computer.
- PC19.** Understand the safety procedures while handling and installing the equipment



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- PC20.**
- ensure that appropriate device and model specific procedure is followed as per
 - installation manual



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCHNM/02</i>	-	100	-	-
PC1. Understand different components of Computer	-	-	-	-
PC2. Knowledge about to assembly of system	-	-	-	-
PC3. Understand the troubleshooting of computer	-	-	-	-
PC4. Understand the layout, component, form factors of motherboard.	-	-	-	-
PC5. Understand form factors, slot types & different memory types.	-	-	-	-
PC6. Able to explain the types of storage and to recognize the method of storage	-	-	-	-
PC7. Understand different hardware components used in storage	-	-	-	-
PC8. <ul style="list-style-type: none"> • Able to identify the types of hardware components in the computer and • differentiate it 	-	-	-	-
PC9. Able To understand the methods of troubleshooting storage	-	-	-	-
PC10. understand types of printer and scanner To recognize features used	-	-	-	-
PC11. Understand the types of storage unit	-	-	-	-
PC12. Understand the concept of RAM & ROM	-	-	-	-
PC13. <ul style="list-style-type: none"> • understand the placement requirement of peripheral equipment such as printers, • modems, etc., as per customer preferences 	-	-	-	-
PC14. <ul style="list-style-type: none"> • connect the peripheral devices with the system as per the standard procedure • followed for each equipment 	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. Discuss about the types Keyboard & types Of Mouse	-	-	-	-
PC16. Able to fix the cable in Proper manner.	-	-	-	-
PC17. Recognize of the component of computer, troubleshooting	-	-	-	-
PC18. Explain Different Types of memory of computer.	-	-	-	-
PC19. Understand the safety procedures while handling and installing the equipment	-	-	-	-
PC20. <ul style="list-style-type: none">• ensure that appropriate device and model specific procedure is followed as per• installation manual	-	-	-	-
NOS Total	-	100	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1624
NOS Name	Install Computer Peripherals & their Maintenance.
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	3
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1623: Monitoring Network Setup & their Maintenance

Description

A network monitoring setup continuously tracks IT infrastructure health, bandwidth, and security, while network maintenance involves proactive tasks to prevent downtime. Together, they reduce latency, secure endpoints, and preemptively resolve hardware bottlenecks before they disrupt operations

Scope

The scope covers the following :

- A network monitoring setup continuously tracks IT infrastructure health, bandwidth, and security, while network maintenance involves proactive tasks to prevent downtime. Together, they reduce latency, secure endpoints, and preemptively resolve hardware bottlenecks before they disrupt operations

Elements and Performance Criteria

MSME/CCCHNM/04

To be competent, the user/individual on the job must be able to:

- PC1.** Explain about the Computer Network
- PC2.** Understand the transmission media & it's uses
- PC3.** Understand the different types of networking devices
- PC4.** Knowledge about crimping & punching technology
- PC5.** Understand the OSI Model in network architecture
- PC6.** Understand the concept of IP Address
- PC7.** Use of IP address and Ranges of IP address
- PC8.** Knowledge about IP Subnetting
- PC9.** Knowledge about different protocols & it's uses



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCHNM/04</i>	-	100	-	-
PC1. Explain about the Computer Network	-	-	-	-
PC2. Understand the transmission media & it's uses	-	-	-	-
PC3. Understand the different types of networking devices	-	-	-	-
PC4. Knowledge about crimping & punching technology	-	-	-	-
PC5. Understand the OSI Model in network architecture	-	-	-	-
PC6. Understand the concept of IP Address	-	-	-	-
PC7. Use of IP address and Ranges of IP address	-	-	-	-
PC8. Knowledge about IP Subnetting	-	-	-	-
PC9. Knowledge about different protocols & it's uses	-	-	-	-
NOS Total	-	100	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1623
NOS Name	Monitoring Network Setup & their Maintenance
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	4
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1620: Monitoring Network Setup & their Maintenance

Description

A network monitoring setup continuously tracks IT infrastructure health, bandwidth, and security, while network maintenance involves proactive tasks to prevent downtime. Together, they reduce latency, secure endpoints, and preemptively resolve hardware bottlenecks before they disrupt operations

Scope

The scope covers the following :

- A network monitoring setup continuously tracks IT infrastructure health, bandwidth, and security, while network maintenance involves proactive tasks to prevent downtime. Together, they reduce latency, secure endpoints, and preemptively resolve hardware bottlenecks before they disrupt operations

Elements and Performance Criteria

MSME/CCCHNM/04

To be competent, the user/individual on the job must be able to:

- PC1.** Explain about the Computer Network
- PC2.** Understand the transmission media & it's uses
- PC3.** Understand the different types of networking devices
- PC4.** Knowledge about crimping & punching technology
- PC5.** Understand the OSI Model in network architecture
- PC6.** Understand the concept of IP Address
- PC7.** Use of IP address and Ranges of IP address
- PC8.** Knowledge about IP Subnetting
- PC9.** Knowledge about different protocols & it's uses



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCHNM/04</i>	100	-	-	-
PC1. Explain about the Computer Network	-	-	-	-
PC2. Understand the transmission media & it's uses	-	-	-	-
PC3. Understand the different types of networking devices	-	-	-	-
PC4. Knowledge about crimping & punching technology	-	-	-	-
PC5. Understand the OSI Model in network architecture	-	-	-	-
PC6. Understand the concept of IP Address	-	-	-	-
PC7. Use of IP address and Ranges of IP address	-	-	-	-
PC8. Knowledge about IP Subnetting	-	-	-	-
PC9. Knowledge about different protocols & it's uses	-	-	-	-
NOS Total	100	-	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1620
NOS Name	Monitoring Network Setup & their Maintenance
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	4
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1619: Install Computer Peripherals & their Maintenance.

Description

Computer peripherals are external devices like keyboards, mice, monitors, and printer that expand your system's functionality. Proper installation and regular maintenance are essential to ensure optimal performance, hardware longevity, and seamless communication between these devices and your computer's operating system

Scope

The scope covers the following :

- Computer peripherals are external device like keyboards, mice, monitors, and printer that expand your system's functionality. Proper installation and regular maintenance are essential to ensure optimal performance, hardware longevity, and seamless communication between these devices and your computer's operating system

Elements and Performance Criteria

MSME/CCCHNM/02

To be competent, the user/individual on the job must be able to:

- PC1.** Understand different components of Computer
- PC2.** Knowledge about to assembly of system
- PC3.** Understand the troubleshooting of computer
- PC4.** Understand the layout, component, form factors of motherboard.
- PC5.** Understand form factors, slot types & different memory types.
- PC6.** Able to explain the types of storage and to recognize the method of storage
- PC7.** Understand different hardware components used in storage
- PC8.**
 - Able to identify the types of hardware components in the computer and
 - differentiate it
- PC9.** Able To understand the methods of troubleshooting storage
- PC10.** understand types of printer and scanner To recognize features used
- PC11.** Understand the types of storage unit
- PC12.** Understand the concept of RAM & ROM
- PC13.**
 - understand the placement requirement of peripheral equipment such as printers,
 - modems, etc., as per customer preferences
- PC14.**
 - connect the peripheral devices with the system as per the standard procedure
 - followed for each equipment
- PC15.** Discuss about the types Keyboard & types Of Mouse
- PC16.** Able to fix the cable in Proper manner.
- PC17.** Recognize of the component of computer, troubleshooting
- PC18.** Explain Different Types of memory of computer.
- PC19.** Understand the safety procedures while handling and installing the equipment



Qualification Pack

- PC20.**
- ensure that appropriate device and model specific procedure is followed as per
 - installation manual



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCHNM/02</i>	100	-	-	-
PC1. Understand different components of Computer	-	-	-	-
PC2. Knowledge about to assembly of system	-	-	-	-
PC3. Understand the troubleshooting of computer	-	-	-	-
PC4. Understand the layout, component, form factors of motherboard.	-	-	-	-
PC5. Understand form factors, slot types & different memory types.	-	-	-	-
PC6. Able to explain the types of storage and to recognize the method of storage	-	-	-	-
PC7. Understand different hardware components used in storage	-	-	-	-
PC8. <ul style="list-style-type: none">• Able to identify the types of hardware components in the computer and• differentiate it	-	-	-	-
PC9. Able To understand the methods of troubleshooting storage	-	-	-	-
PC10. understand types of printer and scanner To recognize features used	-	-	-	-
PC11. Understand the types of storage unit	-	-	-	-
PC12. Understand the concept of RAM & ROM	-	-	-	-
PC13. <ul style="list-style-type: none">• understand the placement requirement of peripheral equipment such as printers,• modems, etc., as per customer preferences	-	-	-	-
PC14. <ul style="list-style-type: none">• connect the peripheral devices with the system as per the standard procedure• followed for each equipment	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. Discuss about the types Keyboard & types Of Mouse	-	-	-	-
PC16. Able to fix the cable in Proper manner.	-	-	-	-
PC17. Recognize of the component of computer, troubleshooting	-	-	-	-
PC18. Explain Different Types of memory of computer.	-	-	-	-
PC19. Understand the safety procedures while handling and installing the equipment	-	-	-	-
PC20. <ul style="list-style-type: none">• ensure that appropriate device and model specific procedure is followed as per• installation manual	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1619
NOS Name	Install Computer Peripherals & their Maintenance.
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	3
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1613: Operates System Software Installation

Description

Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Scope

The scope covers the following :

- Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Elements and Performance Criteria

MSME/CCCH NM/03

To be competent, the user/individual on the job must be able to:

- PC1.** Discuss about the software and its type
- PC2.** Apply Partition concept of hard disk and their limitation.
- PC3.**
 - Install the operating system and appropriate application software as per customer preference
- PC4.** Install additional software like application and utility software.
- PC5.** Discuss about various operating systems and their features
- PC6.** Setup the basic steps of installation process.
- PC7.** Explain the Support of hardware base application and their uses.
- PC8.** Able to load the utility software as per the system configuration
- PC9.** Understand the concept of dual & triple booting.
- PC10.** Able to solve the basic software issues.



Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCH NM/03</i>	100	-	-	-
PC1. Discuss about the software and its type	-	-	-	-
PC2. Apply Partition concept of hard disk and their limitation.	-	-	-	-
PC3. <ul style="list-style-type: none">• Install the operating system and appropriate application software as per customer preference	-	-	-	-
PC4. Install additional software like application and utility software.	-	-	-	-
PC5. Discuss about various operating systems and their features	-	-	-	-
PC6. Setup the basic steps of installation process.	-	-	-	-
PC7. Explain the Support of hardware base application and their uses.	-	-	-	-
PC8. Able to load the utility software as per the system configuration	-	-	-	-
PC9. Understand the concept of dual & triple booting.	-	-	-	-
PC10. Able to solve the basic software issues.	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1613
NOS Name	Operates System Software Installation
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	2
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQF Clearance Date	30/04/2024



Qualification Pack

MSME/ELE/N1609: Understand Basic Electronics and its Repairs

Description

Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Scope

The scope covers the following :

- Understanding basic electronics and repairs involves learning how electrical energy is controlled identifying key components and using tools to diagnose and fix circuits. The field relies on manipulating electron flow using components like resistors capacitors and transistors.

Elements and Performance Criteria

MSME/CCCHNM/01

To be competent, the user/individual on the job must be able to:

- PC1.** Explain Multi-meter & Tools
- PC2.** Identify the Different types of terminals
- PC3.** Demonstrate the Testing procedure of V, I, R
- PC4.** Identify the tools and its functions.
- PC5.** Identify the types of Resistor.
- PC6.** Calculate the value of Resistor
- PC7.** Procedure to connect Resistor
- PC8.** Identify the types of Capacitor
- PC9.** Calculate the value of Capacitor
- PC10.** Procedure to connect Capacitor
- PC11.** Demonstrate the Testing procedure of Capacitor
- PC12.** Demonstrate the testing procedure of inductor.
- PC13.** Functions of Inductor
- PC14.** Characteristics of diode
- PC15.** Procedure to connect Diode
- PC16.** Demonstrate the Testing Procedure of Diode
- PC17.** Use of Diode
- PC18.** Identify the types of transistor
- PC19.** Demonstrate the Testing of Transistor.
- PC20.** Functions of Transistor
- PC21.** Explain the Importance and Types of IC.
- PC22.** Discuss about the power supply,
- PC23.** Types of power supply



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- PC24.** Explain the Use of power supply.
- PC25.** Discuss the Function of SMPS
- PC26.** Explain the Components used in different section of SMPS
- PC27.** Demonstrate the Testing of different section.
- PC28.** Detect the fault and troubleshoot the fault.
- PC29.** Explain Voltage testing in the output connector of SMPS



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>MSME/CCCHNM/01</i>	100	-	-	-
PC1. Explain Multi-meter & Tools	-	-	-	-
PC2. Identify the Different types of terminals	-	-	-	-
PC3. Demonstrate the Testing procedure of V, I, R	-	-	-	-
PC4. Identify the tools and its functions.	-	-	-	-
PC5. Identify the types of Resistor.	-	-	-	-
PC6. Calculate the value of Resistor	-	-	-	-
PC7. Procedure to connect Resistor	-	-	-	-
PC8. Identify the types of Capacitor	-	-	-	-
PC9. Calculate the value of Capacitor	-	-	-	-
PC10. Procedure to connect Capacitor	-	-	-	-
PC11. Demonstrate the Testing procedure of Capacitor	-	-	-	-
PC12. Demonstrate the testing procedure of inductor.	-	-	-	-
PC13. Functions of Inductor	-	-	-	-
PC14. Characteristics of diode	-	-	-	-
PC15. Procedure to connect Diode	-	-	-	-
PC16. Demonstrate the Testing Procedure of Diode	-	-	-	-
PC17. Use of Diode	-	-	-	-
PC18. Identify the types of transistor	-	-	-	-
PC19. Demonstrate the Testing of Transistor.	-	-	-	-
PC20. Functions of Transistor	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. Explain the Importance and Types of IC.	-	-	-	-
PC22. Discuss about the power supply,	-	-	-	-
PC23. Types of power supply	-	-	-	-
PC24. Explain the Use of power supply.	-	-	-	-
PC25. Discuss the Function of SMPS	-	-	-	-
PC26. Explain the Components used in different section of SMPS	-	-	-	-
PC27. Demonstrate the Testing of different section.	-	-	-	-
PC28. Detect the fault and troubleshoot the fault.	-	-	-	-
PC29. Explain Voltage testing in the output connector of SMPS	-	-	-	-
NOS Total	100	-	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MSME/ELE/N1609
NOS Name	Understand Basic Electronics and its Repairs
Sector	Electronics
Sub-Sector	
Occupation	Computer Networking
NSQF Level	3
Credits	2
Version	1.0
Last Reviewed Date	30/04/2024
Next Review Date	30/04/2027
NSQC Clearance Date	30/04/2024

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

as per qp

Minimum Aggregate Passing % at QP Level : 40

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS



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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MSME/ELE/N1622.Employability Skill	100	-	-	-	100	12
MSME/ELE/N1626.Understand Basic Electronics & its Repairs.	-	100	-	-	100	11
MSME/ELE/N1625.Operates System Software Installation.	-	100	-	-	100	11
MSME/ELE/N1624.Install Computer Peripherals & their Maintenance.	-	100	-	-	100	11
MSME/ELE/N1623.Monitoring Network Setup & their Maintenance	-	100	-	-	100	11
MSME/ELE/N1620.Monitoring Network Setup & their Maintenance	100	-	-	-	100	11
MSME/ELE/N1619.Install Computer Peripherals & their Maintenance.	100	-	-	-	100	11
MSME/ELE/N1613.Operates System Software Installation	100	-	-	-	100	11
MSME/ELE/N1609.Understand Basic Electronics and its Repairs	100	-	-	-	100	11
Total	500	400	-	-	900	100



Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training



Qualification Pack

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.



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Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.