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Facilitator Guide



Sector
Telecom

Sub-Sector
Network Managed Services

Occupation
Network Operation and Maintenance

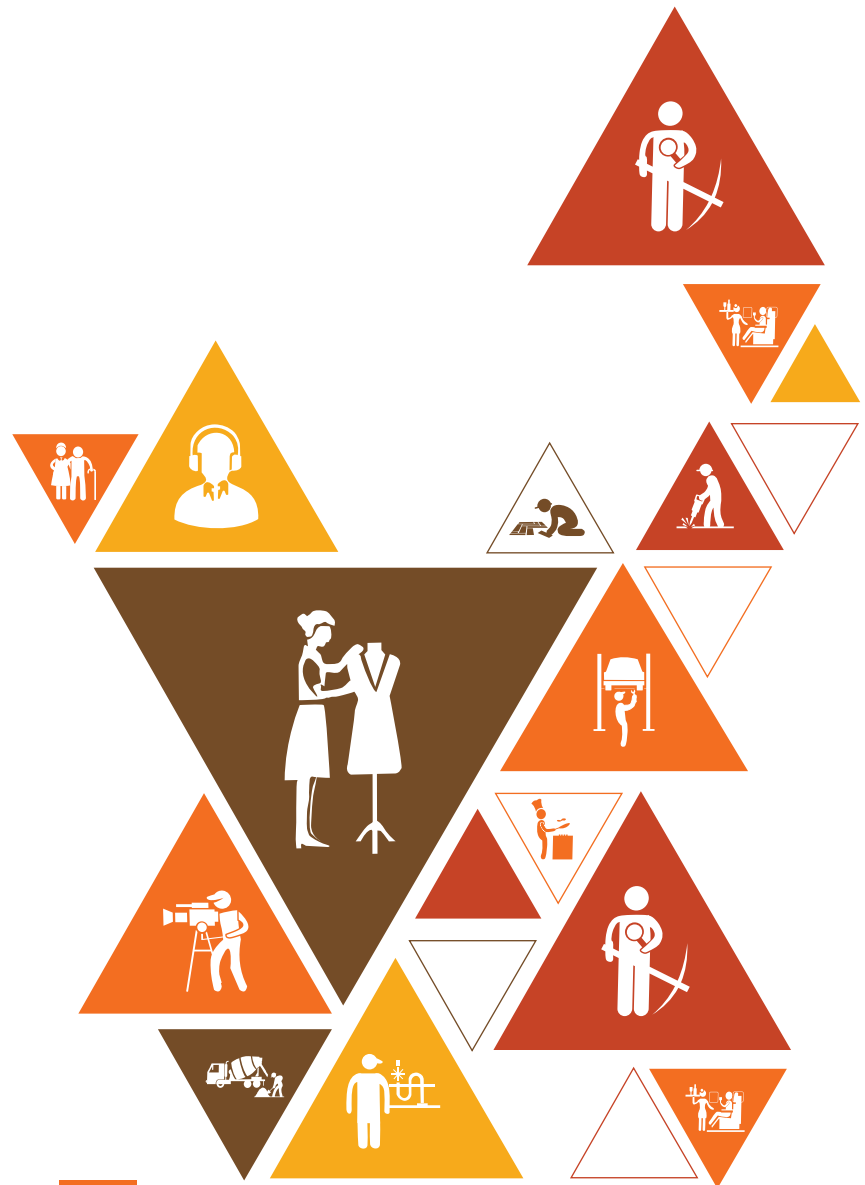
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**Information and
Communication
Technology
(ICT) Engineer –
5G Networks**



Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”



Acknowledgements

The Telecom Sector Skill Council (TSSC) would like to thank all the individuals and institutions who contributed in various ways towards the preparation of this facilitator guide. The guide could not have been completed without their active contribution. Special gratitude is extended to those who collaborated during the development of the different modules in the facilitator guide. Wholehearted appreciation is also extended to all who provided peer review for these modules.

The preparation of this guide would not have been possible without the telecom industry's support. Industry feedback has been extremely beneficial since inception to conclusion, and it is with the industry's guidance that we have tried to bridge the existing skill gaps in the industry. This facilitator guide is dedicated to the aspiring youth, who desire to achieve special skills that will be a lifelong asset for their future endeavours.

About this Guide

The facilitator guide (FG) for Information and Communication Technology (ICT) Engineer - 5G Networks is primarily designed to facilitate skill development and training of people, who want to become professional Information and Communication Technology (ICT) Engineer - 5G Networks in various stores. The facilitator guide is aligned to the Qualification Pack (QP) and the National Occupational Standards (NOS) as drafted by the Sector Skill Council (TSSC) and ratified by National Skill Development Corporation (NSDC).

It includes the following National Occupational Standards (NOSs)-

1. TEL/N6219– Supervise Preventive and Corrective Maintenance at ICT Nodes
2. TEL/N6220 – Carry out Change Management Activities at ICT Nodes
3. TEL/N6221 – Undertake Point of Interconnect (POI) Testing at ICT Nodes
4. TEL/N9103: Implement Effective Interaction at workplace
5. TEL/N9104: Manage Work, Resources and Safety at workplace
6. DGT/VSQ/N0103 - Employability Skills (90 Hours)

Post this training, the participants will be able to perform tasks as professional Information and Communication Technology (ICT) Engineer - 5G Networks. We hope that this Facilitator Guide provides a sound learning support to our young friends to build a lucrative career in the Telecom Skill Sector of our country.

Symbols Used



Ask



Explain



Elaborate



Notes



Objectives



Do



Demonstrate



Activity



Team Activity



Facilitation Notes



Practical



Say



Resources



Example



Summary



Role Play



Learning Outcomes

Table of Contents

S. No	Modules and Units	Page No
1.	Role and Responsibilities of ICT Engineer (Bridge Module)	1
	Unit 1.1 - Concepts of Information and Communication Technology (ICT)	3
	Unit 1.2 - Role and Responsibilities of Information and Communication Technology (ICT) Engineer	6
2.	Preventive and Corrective Maintenance at ICT Nodes (TEL/N6219)	9
	Unit 2.1 - Maintenance Procedures and Planning	11
	Unit 2.2 - Fault Identification and Resolution	13
	Unit 2.3 - Monitoring, Reporting, and Compliance	15
3.	Change Management Activities at ICT Nodes (TEL/N6220)	19
	Unit 3.1 - Change Management Policies and Processes	21
	Unit 3.2 - Implementation and Monitoring of Change Activities	24
4.	Point of Interconnect (POI) Testing (TEL/N6221)	29
	Unit 4.1 - Coordination and Execution Unit for Point of Interconnect (POI) Testing	31
5.	Communication and Interpersonal Skills (TEL/N9103)	35
	Unit 5.1 - Personal Hygiene and Dress Code	37
	Unit 5.2 - Importance of Effective Communication and Interpersonal skills	39
	Unit 5.3 - Gender and PWD Sensitisation	41
	Unit 5.4 - Work Ethics and Team Goals	43
6.	Manage Work, Resources and Safety at Workplace (TEL/N9104)	47
	Unit 6.1 - Workplace Health & Safety	49
	Unit 6.2 - Importance of Safe Working Practices	51
	Unit 6.3 - Optimal Utilisation of Resources	53
	Unit 6.4 - Waste Management	55



S. No	Modules and Units	Page No
7.	Employability Skills (DGT/VSQ/N0103) (90 Hrs.) Employability Skills is available at the following location : https://www.skillindiadigital.gov.in/content/list Scan the QR code below to access the ebook	59
8.	Annexures Annexure I: Training Delivery Plan Annexure II: Assessment Criteria Annexure III: List of QR Codes Used in PHB	61 62 76 83





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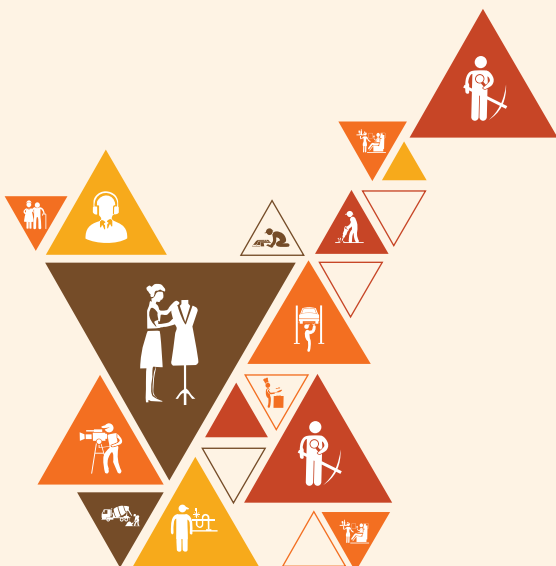
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1. Role and Responsibilities of ICT Engineer

Unit 1.1 - Concepts of Information and Communication Technology (ICT)

Unit 1.2 - Role and Responsibilities of Information and Communication Technology (ICT) Engineer



Bridge
Module

Key Learning Outcomes



By the end of this module, the participants will be able to:

1. Explain the role and responsibilities of ICT Engineer.
2. Describe the various electrical and electronic components.
3. Describe the standard operating procedures (SOP) to be followed for use of tools and equipment and for performing service and minor repairs.
4. Describe the safety, health and environmental policies and regulations for the workplace as well as for telecom sites in general.

Unit 1.1: Concepts of Information and Communication Technology (ICT)

Unit Objectives

By the end of this unit, the participants will be able to:

1. Underline the principles of ICT.
2. Discuss the concept of ICT.
3. Identify the Characteristics of ICT

Resources to be Used

Whiteboard and markers, projector and screen, presentation slides on introduction to ICT, printed handouts on concepts and meaning of ICT, videos showcasing ICT applications, computer or laptop for live demonstrations, flipchart and sticky notes for interactive activities

Say

- Hello, everyone! Welcome to today's session on Concepts of Information and Communication Technology (ICT).
- Our goal today is to understand the fundamental concepts of ICT, its convergence, scope, and applications. By the end of this session, you'll have a solid foundation in both Information and Communication Technology.
- In today's digital age, ICT is an integral part of our personal and professional lives. Understanding these concepts empowers us to navigate and contribute effectively to the rapidly evolving world of technology.

Activity

1. **Activity Name:** Name Game (Ice Breaker)
2. **Objective:** To help participants get to know each other in a fun and interactive way.
3. **Type of Activity:** Group
4. **Resources:** Pen/pencil, notebook
5. **Time Duration:** 15-20 minutes
6. **Instructions**
 - All participants sit in a circle or around a table.
 - Start by saying your name with an adjective that starts with the same letter (e.g., "I'm Joyful Jaharvi").
 - The person to your right repeats your name and adjective, and then introduces themselves in the same format.
 - Repeat this process around the circle, with each person adding their name and adjective while remembering those before them.

- Encourage participants to remember names and adjectives as they go, assisting anyone who forgets, until the circle completes the round.
7. **Outcome:** Participants will not only learn each other's names but also have a fun and engaging way to remember them. This icebreaker activity encourages creativity and interaction among participants, making it easier for them to get to know one another in a friendly and relaxed atmosphere.

Do

- Have participants share one interesting fact about their favorite technology tool or gadget.
- Encourage open discussions and questions throughout the session to keep participants engaged.
- Use live demonstrations to illustrate key ICT concepts and applications.

Ask

- What tech tools or devices do you use daily, and how do they impact your life?
- Can you share an example of a situation where effective communication technology made a significant difference?
- How has information technology changed the way you access and process information?

Elaborate

- Explore the intertwining of information and communication technologies in modern society.
- Explore how various technologies converge to enhance communication and information sharing.
- Investigate the broad range of applications and industries impacted by ICT.
- Differentiate Information Technology and Communication Technology

Activity

1. **Activity Name:** "Tech Exploration"
2. **Objective:** Explore various ICT tools and understand their practical applications.
3. **Type of Activity:** Group
4. **Resources:** Laptops, tablets, smartphones, and internet access.
5. **Time Duration:** 25 minutes
6. **Instructions**
 - In groups, research and identify different ICT tools.
 - Discuss real-life applications and implications of each tool.
 - Prepare a brief presentation to share findings with the class.
7. **Outcome:** Increased awareness of diverse ICT tools and their impact on daily life.

Notes for Facilitation



- Foster an inclusive and participatory learning environment.
- Encourage active engagement through questions and discussions.
- Emphasize the dynamic nature of ICT and the need for continuous learning.
- Highlight the ethical considerations associated with the use of ICT.
- Encourage participants to explore additional resources for a deeper understanding.

Unit 1.2: Role and Responsibilities of Information and Communication Technology (ICT) Engineer

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the role and responsibilities of ICT Engineer.
2. Describe the various electrical and electronic components.
3. Describe the standard operating procedures (SOP) to be followed for use of tools and equipment and for performing service and minor repairs.
4. Describe the safety, health and environmental policies and regulations for the workplace as well as for telecom sites in general.

Resources to be Used

Presentation slides, visual aids displaying electrical and electronic components, sop documents for tools and equipment, relevant safety, health, and environmental policies and regulations, demonstration materials

Say

- Hello, everyone! We will delve into the exciting world of Information and Communication Technology. Let's embark on this journey together.
- Our goal today is to understand the crucial role and responsibilities of an ICT engineer, explore the electrical and electronic components used in ICT, learn SOPs for tools and equipment, and grasp the importance of safety, health, and environmental policies in the ICT workplace.
- Understanding these aspects is not just about excelling in your profession. It's about becoming a responsible and efficient ICT engineer who contributes to a safe, healthy, and sustainable work environment. So, let's dive in and enhance our skills.

Do

- Begin with a brief overview of the session topics and their relevance.
- Encourage active participation and discussions during each segment.
- Incorporate live demonstrations of handling electrical components and following SOPs.

Ask

- What ICT devices do you use daily, and how do you think an engineer contributes to their functionality?
- Can you think of a situation where following safety procedures in the workplace prevented a potential accident?
- How do SOPs contribute to the efficiency of tasks in your daily life, both inside and outside the workplace?

Elaborate

- Discuss the key responsibilities of an ICT engineer.
- Examine various electrical and electronic components used in ICT.
- Explore SOPs for tools, equipment, service, and minor repairs.
- Understand and apply safety, health, and environmental policies in ICT.

Activity

1. **Activity Name:** ICT Engineering Challenge
2. **Objective:** Apply knowledge of electrical components, SOPs, and safety measures.
3. **Type of Activity:** Group
4. **Resources:** Electrical components, SOP documents, safety gear
5. **Time Duration:** 30 minutes
6. **Instructions**
 - In groups, design a mini ICT system considering electrical components, following SOPs, and implementing safety measures.
 - Each group will present their design, explaining the rationale behind their choices.
 - Evaluate other groups based on the accuracy of their design, adherence to SOPs, and creativity displayed.
 - Encourage discussions among groups to share insights and learn from each other's approaches.
7. **Outcome:** Participants will gain an enhanced understanding of practical applications in ICT engineering through hands-on design and evaluation.

Notes for Facilitation

- Foster a positive and inclusive learning environment.
- Encourage open communication and active participation.
- Electrical Components: Emphasize the importance of proper handling.
- Highlight specific SOPs relevant to common ICT tasks.
- Safety Policies: Stress the real-world implications of neglecting safety measures.

Answers to Exercises for PHB

Multiple-choice Question:

1. c. Overall ICT infrastructure functionality and security
2. c. Electronic components
3. c. Both handling and maintenance, ensuring safety
4. b. To ensure employee well-being and prevent accidents
5. c. To comply with regulations and reduce environmental impact

Descriptive:

1. Refer UNIT 1.2: Role and responsibilities of Information and Communication Technology (ICT) Engineer
Topic: 1.2.1 Role and Responsibilities of ICT Engineer
2. Refer UNIT 1.2: Role and responsibilities of Information and Communication Technology (ICT) Engineer
Topic: 1.2.2 Electrical and Electronic Components used in ICT
3. Refer UNIT 1.2: Role and responsibilities of Information and Communication Technology (ICT) Engineer
Topic: 1.2.3 Standard Operating Procedures (SOP) to be followed for use of Tools and Equipment and for Performing Service and Minor Repairs in the ICT Operations
4. Refer UNIT 1.2: Role and responsibilities of Information and Communication Technology (ICT) Engineer
Topic: 1.2.4 Safety, Health and Environmental Policies and Regulations for the Workplace as well as for Telecom
5. Refer UNIT 1.2: Role and responsibilities of Information and Communication Technology (ICT) Engineer
Topic: 1.2.4 Safety, Health and Environmental Policies and Regulations for the Workplace as well as for Telecom



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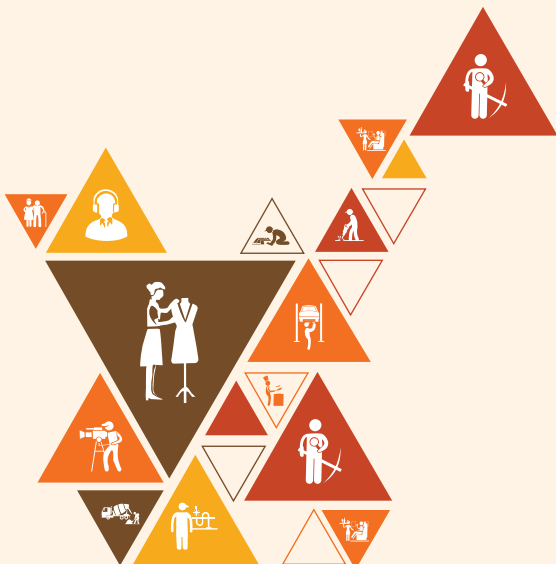


2. Preventive and Corrective Maintenance at ICT Nodes

Unit 2.1 - Maintenance Procedures and Planning

Unit 2.2 - Fault Identification and Resolution

Unit 2.3 - Monitoring, Reporting, and Compliance



TEL/N6219

Key Learning Outcomes



By the end of this module, the participants will be able to:

1. Discuss the standard operating procedures for preventive maintenance and asset layout.
2. Discuss the maintenance schedule with possible outage or deferral activity.
3. Explain the importance of reviewing maintenance activities.
4. Discuss the process of escalating the unresolved issues as per organisational policy.
5. Expound the need of coordinating with relevant vendors to maintain interconnectivity etc.
6. Identify various options to rectify the faults.
7. Discuss any delay in fault resolution as per organizational policy.
8. Explain the process of effective maintenance and monitoring of the site alarm status.
9. Discuss the different types of required documents/records and importance of their maintenance.
10. Prepare a sample preventive maintenance schedule and corresponding check list.
11. Demonstrate how to identify and resolve faults within alarm SLAs.
12. Perform monitoring activities for work performed by the riggers and other technicians within time

Unit 2.1: Maintenance Procedures and Planning

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Discuss the standard operating procedures for preventive maintenance and asset layout.
2. Discuss the maintenance schedule with possible outage or deferral activity.
3. Discuss the importance of informing Network Operation Centre (NOC) prior to maintenance activities.
4. Explain how to calculate power consumption, power cost and site uptime.
5. Discuss any unusual consumptions as predicted by the power consumption pattern using appropriate methods.
6. List the various types of alarms, alarm codes, indicators, and resolution SLAs/timelines.

Resources to be Used

Whiteboard and markers, projector and computer, planning sample preventive maintenance schedules, power consumption calculator, examples of alarm codes and indicators flip chart and sticky notes.

Say

- Welcome, everyone! Today we have assembled here to discuss about maintenance procedures and planning.
- We will explore the critical aspects of maintaining and planning ICT asset management. By the end, you'll understand the necessity, procedures, and the impact of effective maintenance on operations.
- Knowing how to plan and execute maintenance is like being the architect of a smooth-running system. It ensures everything stays in peak condition, minimizing downtime, and enhancing overall performance.

Do

- Emphasize the significance of preventive measures; they act as a shield, proactively averting potential issues and sustaining operational continuity.
- Guide participants in calculating power consumption, cost, and site uptime. This insight enables informed decision-making, optimizing resource allocation.
- Discuss methods for predicting unusual consumptions based on power consumption patterns. This proactive approach anticipates potential issues before they escalate.
- Introduce various alarms, their codes, indicators, and associated resolution SLAs/timelines. Quick response and resolution are paramount for maintaining system integrity.

Ask

- What are some daily events where planning is crucial for smooth operations?
- Can you think of a real-life scenario where preventive maintenance could have prevented a major issue?
- How often do you inform someone when you're planning to undertake maintenance at home or work?

Elaborate

- Identify the necessity of maintenance procedures and planning in ICT asset management.
- Outline standard operating procedures for preventive maintenance and asset layout.
- Explain the components of a maintenance schedule, including possible outages and deferral activities.
- Emphasize the importance of informing the NOC before conducting maintenance activities.
- Demonstrate the calculation of power consumption, power cost, and site uptime.
- Predict unusual consumptions based on power consumption patterns using appropriate methods.
- Describe various types of alarms, their codes, indicators, and associated resolution SLAs/timelines.

Activity

1. **Activity Name:** Power Consumption Simulation
2. **Objective:** Understand the impact of power consumption on ICT assets.
3. **Type of Activity:** Group
4. **Resources:** Power consumption calculator tools, sample data
5. **Time Duration:** 30 minutes
6. **Instructions**
 - Form groups and simulate various scenarios of power consumption affecting ICT assets.
 - Analyze the potential impact on system performance, reliability, and overall functionality.
 - Use power consumption calculator tools and provided sample data for realistic simulations.
 - Prepare a brief presentation of your findings to share with the class.
7. **Outcome:** Improved understanding of the correlation between power consumption scenarios and their potential impact on ICT assets.

Notes for Facilitation

- Encourage active participation and open discussions.
- Foster a collaborative and inclusive learning environment.
- Stress the proactive nature and long-term benefits.
- Emphasize the role of accurate data for precise calculations.
- Discuss the importance of timely response to alarms for system reliability.

Unit 2.2: Fault Identification and Resolution

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the various methods to identify the problem and cause in the network alarm.
2. Identify the required cables, tools, equipment, and/or spares for maintenance and arrange for the same in case not readily available in coordination with logistics team.
3. Explain the importance of reviewing maintenance activities.
4. Discuss the process of escalating the unresolved issues as per organizational policy.
5. Expound the need for coordinating with relevant vendors to maintain interconnectivity, etc.
6. Identify various options to rectify the faults.
7. Discuss any delay in fault resolution as per organizational policy.

Resources to be Used

Whiteboard and markers, projector and screen laptop or computer, network alarm simulation tools, various network cables and testing equipment, maintenance tools and spares, organizational maintenance policy document, contact information for relevant vendors, examples of unresolved issues and their escalation paths, demonstrable fault rectification options

Say

- Hello everyone! Welcome to today's session on Fault Identification and Resolution. I hope you're all ready to dive into the world of network maintenance and troubleshooting.
- Our goal today is to understand the methods of identifying and resolving faults in a network. By the end of this session, you should feel confident in addressing network issues and collaborating with various stakeholders.
- In today's interconnected world, network reliability is crucial. Understanding fault identification and resolution not only ensures smooth operations but also contributes to the overall success of the organization. Let's get started!

Do

- Discuss methods of identifying network problems and their causes.
- Highlight the importance of maintaining an inventory of cables, tools, and spares.
- Emphasize the significance of reviewing maintenance activities regularly.
- Explain the process of escalating unresolved issues as per organizational policy.
- Stress the need for coordinating with relevant vendors for maintaining interconnectivity.
- Present various options available to rectify network faults.
- Discuss organizational policies regarding delays in fault resolution.

Ask

- Can you recall a situation in your daily life where identifying a problem quickly was essential?
- How do you handle issues when you encounter them in your routine tasks?
- Have you ever faced a situation where a delay in problem resolution had significant consequences?

Elaborate

- Identify Network Problems and Causes
- Maintain Inventory of Cables, Tools, and Spares
- Review Maintenance Activities Regularly
- Escalate Unresolved Issues According to Policy
- Coordinate with Vendors for Interconnectivity
- Present Options to Rectify Network Faults
- Adhere to Organizational Policies on Delayed Resolution

Activity

1. **Activity Name:** Fault Rectification Challenge
2. **Objective:** Apply knowledge of fault identification and resolution.
3. **Type of Activity:** Group
4. **Resources:** Network simulation tools, cables, tools, and spares.
5. **Time Duration:** 25 minutes
6. **Instructions**
 - Distribute participants in a group of 4-5.
 - Provide each group with a simulated network issue.
 - Within the given time frame, groups are required to:
 - Identify the problem within the simulated network.
 - Propose a well-thought-out solution to address the identified issue.
 - Prepare a brief presentation outlining their findings and proposed solution
7. **Outcome:** Enhanced problem-solving skills and practical application of fault resolution techniques.

Notes for Facilitation

- Maintain a positive and interactive learning environment.
- Encourage active participation and open communication.
- Emphasize the real-world impact of effective fault identification and resolution.
- Discuss the importance of quick decision-making in resolving network issues.
- Remind participants of the collaborative nature of fault resolution, involving both internal teams and external vendors.

Unit 2.3: Monitoring, Reporting, and Compliance

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain the process of effective maintenance and monitoring of the site alarm status.
2. Discuss various administrative jobs like site clearance, return of test equipment, etc.
3. Discuss test results with relevant teams to achieve sign-off as per organization policy.
4. Discuss the importance of updating maintenance logs, activity logs, and spare tracker on time.
5. Discuss the disadvantages of not working within SLA.
6. Prepare a sample preventive maintenance schedule and corresponding checklist.
7. Implement a process to handle tools, repair and replace the faulty equipment.
8. Perform diagnostic tests in identifying the cause of the alarm within the Service Level Agreement (SLA).
9. Demonstrate how to respond to the alarms during service fault impact analysis.
10. Implement appropriate steps to install equipment-specific software.
11. Perform alarm configuration testing to check functionality in coordination with the NOC team.
12. Implement the complete procedure to maintain passive infrastructure at ICT nodes.
13. Demonstrate how to identify and resolve faults within alarm SLAs.
14. Perform monitoring activities for work performed by the riggers and other technicians within time.

Resources to be Used

Whiteboard and markers projector and screen laptop, activity logs, spare tracker templates sample alarm scenarios, diagnostic testing tools equipment, specific software installation guides equipment, and flip charts and sticky notes

Say

- Welcome, everyone! Today our point of discussion will be an important chapter named “Monitoring, Reporting, and Compliance.”
- Our goal today is to understand the processes involved in effective maintenance, monitoring of alarm status, and compliance with organizational policies.
- Understanding these processes is not just about meeting standards; it ensures a smooth workflow, minimizes downtime, and contributes to the overall efficiency of our operations.

Do

- Initiate an open discussion on the importance of monitoring and compliance.
- Use real-life examples to illustrate the consequences of not working within service level agreements.
- Conduct hands-on activities for installing equipment-specific software.

Ask

- What challenges have you faced in your previous experiences regarding monitoring and maintenance on-site?
- Can you share an instance where compliance with organizational policies made a significant difference in your work?
- How do you think not adhering to service level agreements can impact the overall workflow in a company?

Elaborate

- Discuss the process of effective maintenance and monitoring of the site alarm status.
- Explain administrative jobs like site clearance, return of test equipment, etc.
- Highlight the importance of updating maintenance logs, activity logs, and spare tracker on time.
- Explore the disadvantages of not working within service level agreements (SLA).
- Demonstrate the process to handle tools, repair, and replace faulty equipment.
- Examine diagnostic tests in identifying the cause of the alarm within SLA.
- Detail how to respond to alarms during service fault impact analysis.
- Outline steps to install equipment-specific software.
- Discuss alarm configuration testing in coordination with the NOC team.
- Explore how to identify and resolve faults within alarm SLAs.
- Highlight monitoring activities for work performed by riggers and technicians within time.

Demonstrate

Demonstrate the process of diagnostic tests in identifying the cause of an alarm within the SLA.

Activity

1. **Activity Name:** Compliance Challenge
2. **Objective:** Reinforce the importance of compliance with organizational policies.
3. **Type of Activity:** Group
4. **Resources:** Compliance checklist, scenarios, flip charts
5. **Time Duration:** 25 minutes
6. **Instructions**
 - Participants will be divided into groups of 4-5.
 - Each group will be provided with compliance scenarios.
 - Groups are required to review and discuss the given scenarios.
 - Identify potential issues related to compliance within the scenarios.
 - Propose practical and feasible solutions to address the identified issues.
 - Utilize the provided compliance checklist and other resources as needed.

- Encourage active participation and collaborative problem-solving within each group.
 - Allocate sufficient time for group discussions and idea generation.
 - After the discussion phase, each group will present their findings to the entire class.
7. **Outcome:** The “Compliance Challenge” activity enhances organizational policy understanding through collaborative exploration, critical thinking, teamwork, diverse perspectives, and experiential learning through compliance scenarios.

Notes for Facilitation

- Encourage active participation and open dialogue.
- Foster a collaborative and inclusive learning environment.
- Emphasize the real-world impact of non-compliance during discussions.
- Encourage participants to share their experiences related to monitoring and maintenance.
- Highlight the significance of accurate record-keeping for future reference and audits.

Answers to Exercises for PHB

Multiple-choice Question:

1. c. Vendor troubleshooting and repair
2. a. To plan and schedule preventive maintenance tasks
3. a. To identify areas for improvement and optimize resource allocation
4. d. All of the above
5. c. To ensure compatibility and seamless operation of multi-vendor environments

Descriptive:

1. Refer UNIT 2.1: Maintenance Procedures and Planning
Topic: 2.1.1 Necessity of Maintenance Procedure and Planning of ICT Asset Management
2. Refer UNIT 2.1: Maintenance Procedures and Planning
Topic: 2.1.1 Necessity of Maintenance Procedure and Planning of ICT Asset Management
3. Refer UNIT 2.1: Maintenance Procedures and Planning
Topic: 2.1.2 Standard Operating Procedures for Preventive Maintenance and Asset Layout
4. Refer UNIT 2.1: Maintenance Procedures and Planning
Topic: 2.1.2 Standard Operating Procedures for Preventive Maintenance and Asset Layout
5. Refer UNIT 2.1: Maintenance Procedures and Planning
Topic: 2.1.4 Importance of Informing Network Operation Centre (NOC) prior to Maintenance Activities



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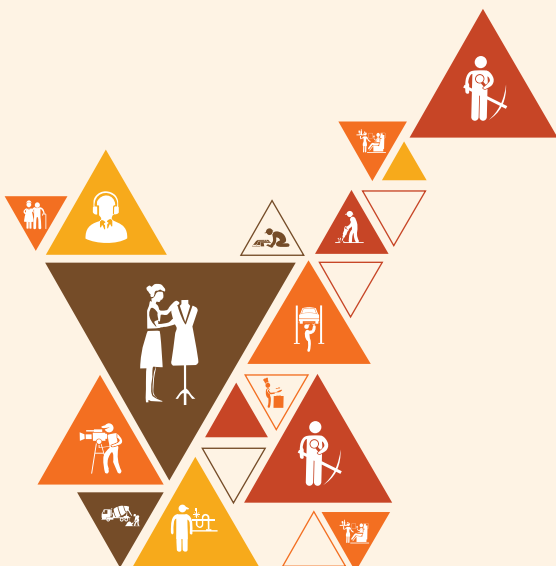
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3. Change Management Activities at ICT Nodes

Unit 3.1 - Change Management Policies and Processes

Unit 3.2 - Implementation and Monitoring of Change Activities



TEL/N6220

Key Learning Outcomes



By the end of this module, the participants will be able to:

1. Discuss the organisation's ICT change management policies and processes.
2. Identify change requests and collect relevant information from the concerned department.
3. Discuss the plan and timelines depending on the criticality of changes with concerned teams and plan for any outages or unexpected impacts.
4. Explain the change activity and its impact on services to the customer to gain their approval.
5. Outline the major tasks involved in the upgradation activity to the NOC team beforehand.
6. List the necessary equipment such as login cables and/or spare hardware equipment to arrange for the same in case not readily available.
7. Discuss the issues/problems encountered during change activities and take necessary action (abort/continue).
8. Describe the post-completion administrative tasks performed after change activities.
9. Discuss results of change management activities with appropriate teams to achieve the sign-off from relevant authority.
10. Implement proper techniques to take back- up of ICT nodes before change activities.
11. Perform monitoring of site's alarm status to test effectiveness of the change process using appropriate methods.

Unit 3.1: Change Management Policies and Processes

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Discuss the standard operating procedures for preventive maintenance and asset layout.
2. Discuss the maintenance schedule with possible outage or deferral activity.
3. Discuss the importance of informing Network Operation Centre (NOC) prior to maintenance activities.
4. Explain how to calculate power consumption, power cost and site uptime.
5. Discuss any unusual consumptions as predicted by the power consumption pattern using appropriate methods.
6. List the various types of alarms, alarm codes, indicators, and resolution SLAs/timelines.

Resources to be Used

A presentation covering key points on Change Management Policies and Processes, case, whiteboard and markers, for interactive discussions and visual aids, printed materials summarizing key concepts for participants to refer to.

Say

- Hello, everyone! I'm excited to dive into the world of Change Management Policies and Processes with you today.
- Our goal is to understand the critical components of change management and why it's pivotal for effective ICT operations.
- In today's dynamic tech landscape, being adept at managing change ensures our organization stays agile, resilient, and ahead of the curve.

Do

- Encourage open dialogue about participants' experiences with change management.
- Use the slide deck to cover each topic thoroughly.
- Engage participants in discussions, group activities, and case study analyses.

Ask

- What changes have you witnessed recently in your work environment, and how were they managed?
- Can you share an example of when a change in ICT had a significant impact on your daily tasks?
- How do you think effective change management can improve overall organizational efficiency?

Elaborate

- Discuss Organization's ICT Change Management Policies and Processes
- Analyze Change Requests and Collect Relevant Information
- Evaluate Timelines and Impact Assessment in Change Planning
- Highlight Customer Approval and Communication Strategies
- Outline Tasks Involved in Upgradation Activity for the NOC Team
- Emphasize Equipment Preparedness for Change Activities
- Address Issue Resolution in Change Management
- Explain Post-completion Administrative Tasks After Change Activities
- Stress Stakeholder Communication and Approval Protocols
- Detail Documentation and Record-Keeping Practices in Change Management
- Examine Risks/Impact of Not Following Organization's Work Procedures
- Review Change Management Planning Strategies

Demonstrate

Model a Change Request Analysis: Showcase how to gather relevant information and assess the impact of a proposed change.

Activity

1. **Activity Name:** Change Simulation Challenge
2. **Objective:** Apply change management concepts practically.
3. **Type of Activity:** Group
4. **Resources:** Case studies, whiteboard, markers.
5. **Time Duration:** 30 minutes
6. **Instructions**
 - Form groups of 4-5 participants.
 - Instruct each group to thoroughly review and analyse the provided case study illustrating a change scenario within the organization.
 - Guide the groups to identify and compile a list of key steps involved in effectively managing the proposed change.
 - Encourage groups to assess potential risks associated with the change and facilitate a discussion on appropriate mitigation strategies.
 - Instruct groups to collaboratively propose a comprehensive change management plan. This plan should incorporate the identified key steps and outline strategies for mitigating the assessed risks.
 - Direct each group to utilize the whiteboard and markers to visually represent their analysis and change management plan. This could include flowcharts, diagrams, or other visual aids.
 - Guide groups to prepare a brief presentation summarizing their findings. Emphasize that the presentation should highlight the rationale behind their proposed change management plan.
 - Allocate time for each group to present their analysis and change management plan to the class. Encourage a dynamic discussion and questions from the class following each presentation.
7. **Outcome:** Improved understanding of change management through practical application.

Notes for Facilitation

- Foster an inclusive environment encouraging active participation.
- Keep the pace dynamic to sustain engagement.
- Emphasize the importance of thorough documentation in change management.
- Relate each topic to real-world scenarios for better comprehension.
- Encourage participants to share their experiences and insights during discussions.

Unit 3.2: Implementation and Monitoring of Change Activities

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Perform the necessary steps for accurate installation of Network Management tool or application in the system.
2. Employ appropriate pre-testing techniques to analyse the output of configuration changes in live environment before actual deployment.
3. Perform required change activities and configurations changes as per the plan and timelines.
4. Demonstrate how to monitor the progress of the change activities to ensure timely completion as per requirement.
5. Implement proper techniques to take back- up of ICT nodes before change activities.
6. Perform monitoring of site's alarm status to test effectiveness of the change process using appropriate methods

Resources to be Used

A presentation covering key points on Change Management Policies and Processes, case, whiteboard and markers, for interactive discussions and visual aids, printed materials summarizing key concepts for participants to refer to.

Say

- Hello, everyone! I'm excited to dive into the world of Change Management Policies and Processes with you today.
- Our goal is to understand the critical components of change management and why it's pivotal for effective ICT operations.
- In today's dynamic tech landscape, being adept at managing change ensures our organization stays agile, resilient, and ahead of the curve.

Do

- Encourage open dialogue about participants' experiences with change management.
- Use the slide deck to cover each topic thoroughly.
- Engage participants in discussions, group activities, and case study analyses.

Ask

- What changes have you witnessed recently in your work environment, and how were they managed?
- Can you share an example of when a change in ICT had a significant impact on your daily tasks?
- How do you think effective change management can improve overall organizational efficiency?

Elaborate

- Discuss Organization's ICT Change Management Policies and Processes
- Analyze Change Requests and Collect Relevant Information
- Evaluate Timelines and Impact Assessment in Change Planning
- Highlight Customer Approval and Communication Strategies
- Outline Tasks Involved in Upgradation Activity for the NOC Team
- Emphasize Equipment Preparedness for Change Activities
- Address Issue Resolution in Change Management
- Explain Post-completion Administrative Tasks After Change Activities
- Stress Stakeholder Communication and Approval Protocols
- Detail Documentation and Record-Keeping Practices in Change Management
- Examine Risks/Impact of Not Following Organization's Work Procedures
- Review Change Management Planning Strategies

Demonstrate

Model a Change Request Analysis: Showcase how to gather relevant information and assess the impact of a proposed change.

Activity

1. **Activity Name:** Change Simulation Challenge
2. **Objective:** Apply change management concepts practically.
3. **Type of Activity:** Group
4. **Resources:** Case studies, whiteboard, markers.
5. **Time Duration:** 30 minutes
6. **Instructions**
 - Form groups of 4-5 participants.
 - Instruct each group to thoroughly review and analyse the provided case study illustrating a change scenario within the organization.
 - Guide the groups to identify and compile a list of key steps involved in effectively managing the proposed change.
 - Encourage groups to assess potential risks associated with the change and facilitate a discussion on appropriate mitigation strategies.

- Instruct groups to collaboratively propose a comprehensive change management plan. This plan should incorporate the identified key steps and outline strategies for mitigating the assessed risks.
 - Direct each group to utilize the whiteboard and markers to visually represent their analysis and change management plan. This could include flowcharts, diagrams, or other visual aids.
 - Guide groups to prepare a brief presentation summarizing their findings. Emphasize that the presentation should highlight the rationale behind their proposed change management plan.
 - Allocate time for each group to present their analysis and change management plan to the class. Encourage a dynamic discussion and questions from the class following each presentation.
7. **Outcome:** Improved understanding of change management through practical application.

Notes for Facilitation

- Foster an inclusive environment encouraging active participation.
- Keep the pace dynamic to sustain engagement.
- Emphasize the importance of thorough documentation in change management.
- Relate each topic to real-world scenarios for better comprehension.
- Encourage participants to share their experiences and insights during discussions.

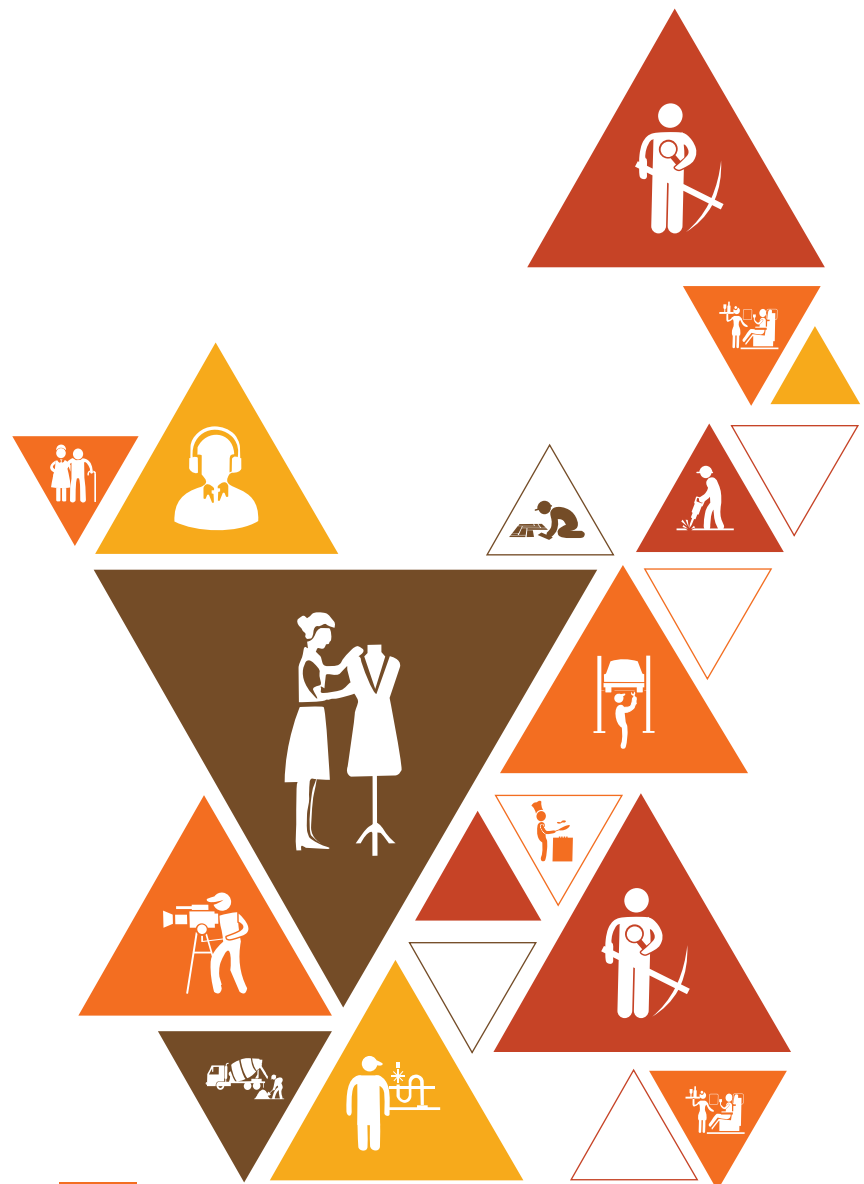
Answers to Exercises for PHB

Multiple-choice Question:

1. d. Optimizing ICT resource utilization and cost-efficiency
2. d. All of the above
3. d. All of the above
4. a. To provide a means of reverting to the previous state in case of unforeseen issues
5. d. All of the above

Descriptive:

1. Refer UNIT 3.1: Change Management Policies and Processes
Topic: 3.1.1 Organisation's ICT Change Management Policies and Processes
2. Refer UNIT 3.1: Change Management Policies and Processes
Topic: 3.1.1 Organisation's ICT Change Management Policies and Processes
3. Refer UNIT 3.1: Change Management Policies and Processes
Topic: 3.1.4 Customer Approval and Communication
4. Refer UNIT 3.1: Change Management Policies and Processes
Topic: 3.1.4 Customer Approval and Communication
5. Refer UNIT 3.1: Change Management Policies and Processes
Topic: 3.1.2 Change Requests and Collect Relevant Information from the Concerned Department in ICT Management





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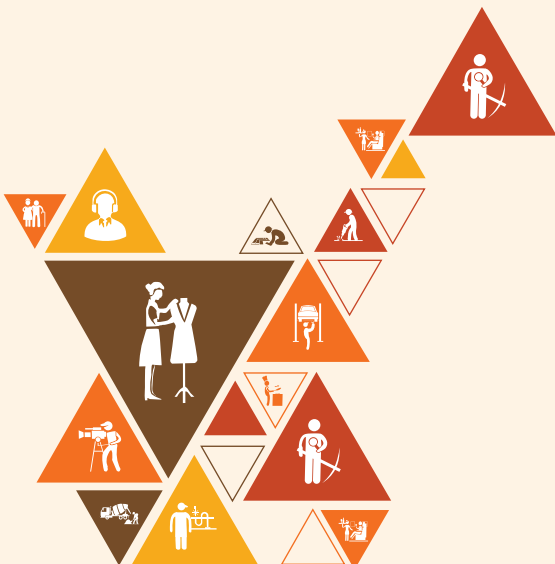
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4. Point of Interconnect (POI) Testing

Unit 4.1 - Coordination and Execution Unit for Point of Interconnect (POI) Testing



TEL/N6221

Key Learning Outcomes



By the end of this module, the participants will be able to:

1. Discuss the organization's standard operating procedures to conduct POI test.
2. Describe the importance of coordinating with the interconnect vendors to carry out the required activities.
3. Discuss the importance of following organizational reporting process.
4. Discuss the importance of completing required documentation in the specified format and within timelines.
5. Prepare a task list for POI testing of different components along with the timelines.
6. Employ proper techniques to check the tools and equipment required for POI testing.
7. Monitor and supervise the procedure of physical, performance and logical tests of POI.
8. Prepare a status report of the conducted tests.
9. Implement steps to obtain sign-off from relevant authority.

Unit 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Discuss the organization's standard operating procedures to conduct POI test.
2. Describe the importance of coordinating with the interconnect vendors to carry out the required activities.
3. Discuss the importance of following organizational reporting process.
4. Discuss the importance of completing required documentation in the specified format and within timelines.
5. Prepare a task list for POI testing of different components along with the timelines.
6. Employ proper techniques to check the tools and equipment required for POI testing.
7. Monitor and supervise the procedure of physical, performance and logical tests of POI.
8. Prepare a status report of the conducted tests.
9. Implement steps to obtain sign-off from relevant authority

Resources to be Used

Presentation slides on, guidelines for sample documentation in the specified format, task list templates for POI testing tools and equipment, checklist Procedure documents for physical, performance, and logical tests status and report templates along with sign-off authorization forms.

Say

- Hello, everyone! I hope you're all doing well today. Today we will dive into our session on the Implementation and Monitoring of Change Activities. This is a crucial topic that directly impacts the efficiency of our operations.
- Our goal today is to understand the essential steps involved in implementing and monitoring change activities, with a focus on POI testing. By the end of this session, you'll be equipped with the knowledge to ensure smooth transitions and efficient testing processes.
- Knowing how to follow standard procedures, coordinate with vendors, report effectively, and complete documentation within timelines is vital for the success of our projects. It ensures accuracy, compliance, and ultimately, the seamless execution of change activities.

Do

- Begin with an overview of the importance of change activities.
- Dive into each topic, encouraging questions and discussions.
- Use real-life examples to illustrate concepts.
- Conclude with a recap of key takeaways.

Ask

- What challenges do you think may arise when coordinating with external vendors for change activities?
- Can you share an experience where following organizational reporting processes was crucial in your previous role?
- How do you prioritize tasks when faced with completing required documentation within a tight timeline?

Elaborate

- Review and explain the standard procedures for POI testing.
- Highlight the Importance of Coordinating with Interconnect Vendors:
- Emphasize the collaboration required for successful change activities.
- Emphasize Following Organizational Reporting Process:
- Discuss the significance of accurate and timely reporting.
- Explain the specified format and the impact of meeting timelines.
- Break down the components and timelines for effective testing.
- Walk through the steps involved in each type of test.
- Clarify what should be included in a comprehensive status report.
- Outline the process of obtaining approval from relevant authorities.

Demonstrate

Show how to fill out a sample status report for a conducted test.

Activity

1. **Activity Name:** POI Testing Simulation
2. **Objective:** Apply knowledge of POI testing components and timelines.
3. **Type of Activity:** Group
4. **Resources:** Task list templates, tools and equipment checklist
5. **Time Duration:** 30 minutes
6. **Instructions**
 - Divide participants into groups of manageable size.
 - Assign specific roles to each group member (e.g., tester, coordinator, recorder).
 - Distribute task list templates and tools/equipment checklists to each group.
 - Ensure that each group has access to the necessary resources for simulation.
 - Instruct groups to simulate the POI testing process based on the provided templates.
 - Emphasize the importance of adhering to the timelines and components outlined in the task list.
 - Ask groups to assign roles to their members (e.g., one responsible for testing, one for coordination, and one for documentation).

- Emphasize the use of the tools and equipment checklist to ensure all necessary resources are ready for testing.
- After the simulation, allocate time for groups to discuss the challenges they faced.
- Encourage groups to share insights into effective collaboration, time management, and problem-solving.

7. **Outcome:** Improved understanding of POI testing procedures and teamwork.

Notes for Facilitation

- Encourage active participation and questions.
- Foster a collaborative learning environment.
- Emphasize the real-world implications of following procedures.
- Clarify the consequences of inadequate coordination with vendors.
- Remind participants of the importance of detailed and timely documentation.

Answers to Exercises for PHB

Multiple-choice Question:

1. c. Obtain sign-off from relevant authority.
2. c. To identify any potential compatibility issues.
3. b. To comply with regulatory requirements.
4. a. To provide a record of the tests and their results.
5. a. Ensuring that the tests are conducted in accordance with the test plan.

Descriptive:

1. Refer UNIT 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing
Topic: 4.1.1 Organization's Standard Operating Procedures to Conduct POI Test
2. Refer UNIT 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing
Topic: 4.1.2 Importance of Coordinating with the Interconnect Vendors to Carry out the Required Activities
3. Refer UNIT 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing
Topic: 4.1.3 Importance of Following Organizational Reporting Process
4. Refer UNIT 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing
Topic: 4.1.4 Importance of Completing Required Documentation in the Specified Format and within Timelines
5. Refer UNIT 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing
Topic: 4.1.5 Task List for POI Testing of Different Components Along with the Timelines



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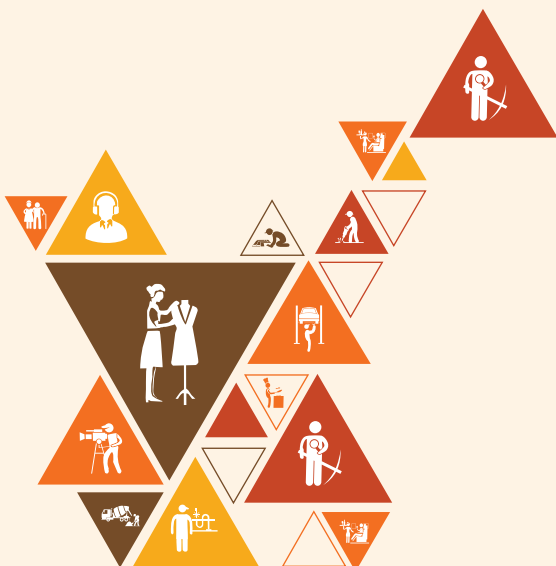
5. Communication and Interpersonal Skills

Unit 5.1 - Personal Hygiene and Dress Code

Unit 5.2 - Importance of Effective Communication and Interpersonal skills

Unit 5.3 - Gender and PWD Sensitisation

Unit 5.4 - Work Ethics and Team Goals



TEL/N9103

Key Learning Outcomes



By the end of this module, the trainees will be able to:

1. List organisational guidelines for dress code, time schedules, language and other soft skill aspects
2. Explain the importance of effective communication and interpersonal skills
3. Demonstrate appropriate communication skills and etiquette while interacting with others.
4. Discuss the common reasons for interpersonal conflicts and ways of managing them effectively
5. Discuss the need for implementing standards, guidelines and practices regarding gender sensitivity
6. Explain the work ethics, workplace etiquette, standards and guidelines to make communication inclusive for all genders and PwD.
7. List the health and safety requirements mandatory and recommended at the workplace for persons with disability
8. Describe the process of recruiting people with disability for a specific job
9. Demonstrate appropriate behaviour towards all genders and differently-abled people
10. Demonstrate appropriate behaviour towards all genders and differently-abled people
11. Illustrate the importance of team goals over individual goals.

Unit 5.1: Personal Hygiene and Dress Code

Unit Objectives

By the end of this unit, the trainees will be able to:

1. List the organisation guidelines for personal hygiene and dress code

Resources to be Used

Whiteboard and markers, visual aids (charts, posters), sample uniforms, a mirror, handouts on specific uniform guidelines, timer

Say

- Welcome everyone! It's good to see you all here today for our session on Personal Hygiene and Dress Code.
- Today, we're going to delve into the importance of personal hygiene and explore specific guidelines for uniforms. By the end, you'll understand how these aspects contribute to a professional image and well-being.
- Maintaining good personal hygiene and following dress code guidelines is not just about appearance; it significantly impacts our confidence, health, and how we are perceived in personal and professional settings.

Do

- Begin the session by discussing the importance of personal hygiene and grooming. Provide practical tips for maintaining cleanliness and a well-groomed appearance.
- Transition into the specifics of dress code, covering elements like appropriate attire, grooming standards, and any industry-specific requirements.
- Encourage questions and create a participative environment. Use real-life examples to emphasize key points and make the session engaging.

Ask

- What daily habits contribute to your personal hygiene routine?
- Can you share an instance where someone's attire positively or negatively influenced your perception of them?
- How do you think adhering to a dress code might impact your professional life?

Elaborate

- Illustrate correct techniques for personal grooming, including hair care, skincare, and maintaining oral hygiene.
- Outline the specific guidelines related to uniforms, emphasizing the importance of adhering to organizational standards.

Demonstrate

Demonstrate the correct way to wash hands thoroughly, highlighting the importance of this simple yet crucial hygiene practice.

Activity

1. **Activity Name:** Dress for Success
2. **Objective:** Understand the impact of appropriate attire on self-confidence and professional image.
3. **Type of Activity:** Individual
4. **Resources:** Mirror, sample uniforms, fashion magazines
5. **Time Duration:** 25 minutes
6. **Instructions**
 - Participants will individually assess and select an outfit from the provided sample uniforms.
 - They will then analyze their chosen outfit in front of a mirror, considering how it aligns with professional standards.
 - Each participant will share their thoughts on the chosen attire and its perceived impact on their confidence and professional image.
7. **Outcome:** Participants gain practical insights into the connection between attire and self-confidence.

Notes for Facilitation

- Foster an inclusive and respectful environment for open discussions.
- Encourage active participation by addressing individuals by name.
- Emphasize the link between personal hygiene, professional appearance, and workplace success.
- Be prepared to provide industry-specific examples related to dress code guidelines.
- Reinforce the importance of participants applying the learning to their daily lives.

Unit 5.2: Importance of Effective Communication and Interpersonal skills

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Discuss about different methods of effective communication
2. Explain the importance of effective communication and interpersonal skills in the workplace
3. Identify the common reasons for interpersonal conflicts and ways to avoid them
4. Discuss ways to interact with the supervisor regarding escalations, reporting and receiving feedback

Resources to be Used

Whiteboard and markers, visual aids (charts, posters), sample uniforms, a mirror, handouts on specific uniform guidelines, timer

Say

- Hello everyone! Welcome to today's session on the "Importance of Effective Communication and Interpersonal Skills."
- Our goal today is to understand the fundamentals of communication, recognize the importance of effective communication in various contexts, address interpersonal conflicts, explore communication with supervisors, and identify barriers to effective communication.
- Effective communication is not just a skill; it's the foundation of successful relationships, both personally and professionally. In today's competitive world, those who can communicate well have a distinct advantage. So, let's dive in and explore how we can enhance our communication and interpersonal skills.

Do

- Introduce the topics gradually, ensuring active participation.
- Encourage open discussions and group activities.
- Use real-life examples to illustrate key concepts.

Ask

- What was a recent situation where effective communication played a crucial role in your life?
- Can you share an experience when you faced a communication barrier, and how did you overcome it?
- Think about a conflict you had recently. How did you handle it, and what could you have done differently in terms of communication?

Elaborate

- Explore the various forms of communication, including verbal, non-verbal, and written communication.
- Discuss how effective communication enhances teamwork, boosts productivity, and builds strong relationships.
- Analyse common causes of conflicts, methods of resolution, and the role of communication in conflict management.
- Explore the dynamics of communication with supervisors, emphasizing the importance of clarity and professionalism.
- Identify and discuss common barriers, such as language differences, cultural nuances, and emotional states.

Activity

1. **Activity Name:** Effective Communication Challenge
2. **Objective:** Enhance verbal and non-verbal communication skills.
3. **Type of Activity:** Group activity.
4. **Resources:** Flip chart, markers, and a list of challenging communication scenarios.
5. **Time Duration:** 25 minutes.
6. **Instructions**
 - Form a group equally as per class size.
 - Each group will receive a challenging communication scenario.
 - Scenarios may involve workplace conflicts, misunderstandings, or diverse communication styles.
 - Groups will collaborate to devise a solution using effective communication strategies.
 - Emphasize the importance of considering different perspectives and finding common ground.
 - Each group will present their devised solution to the entire class.
 - Encourage creativity and practicality in their proposed communication approaches.
 - Following each presentation, initiate a group discussion.
 - Encourage participants to provide constructive feedback and share alternative approaches.
7. **Outcome:** Improved understanding of communication nuances, problem-solving skills, and teamwork.

Notes for Facilitation

- Foster a safe and inclusive environment.
- Encourage active participation from all participants.
- Effective communication is a two-way street; emphasize the importance of both speaking and listening.
- When addressing conflicts, stress the significance of empathy and understanding.
- During the supervisor communication segment, highlight the importance of clear expectations and feedback.

Unit 5.3: Gender and PWD Sensitisation

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Illustrate the guidelines for gender-neutral behaviour in communication with clients and colleagues
2. Discuss about PWD sensitisation at the workplace
3. List the rights, duties and benefits available at the workplace for persons with a disability

Resources to be Used

Flipchart and markers presentation, videos depicting inclusive workplace practices, handouts on non-discrimination policies guidelines for gender-neutral behavior, accessibility tools for PwD sensitization recruitment guidelines, and whiteboard for brainstorming

Say

- Hello everyone! Today as we dive into an important discussion on Gender and PwD Sensitisation. I would like to say that your engagement is crucial, and I look forward to a dynamic session.
- Today, we aim to understand the significance of non-discrimination policies, gender-neutral behavior, and PwD sensitization at the workplace. This knowledge is essential for fostering an inclusive and supportive environment.
- By understanding these concepts, you'll be better equipped to contribute to a workplace that values diversity, ensuring equal opportunities for all, irrespective of gender or abilities.

Do

- Establish a safe and open environment for discussions.
- Encourage active participation and respectful sharing of experiences.
- Share real-life examples and case studies to illustrate key concepts.

Ask

- What are some instances of discrimination you've observed or experienced at work or in daily life?
- Can you think of a situation where gender-neutral behavior was essential for maintaining a positive work environment?
- Have you ever encountered challenges related to the safety of people with disabilities in your surroundings?

Elaborate

- Discuss the importance of policies that promote fairness and equal opportunities.
- Explore ways to foster a workplace free from gender bias.
- Address misconceptions and provide insights into creating an inclusive environment.
- Emphasize the significance of accessible infrastructure and inclusive safety measures.
- Highlight the benefits of diverse teams and the role of inclusive hiring practices.

Demonstrate

Conduct an Inclusive Meeting: Model how to conduct a meeting that accommodates different abilities, ensuring everyone can actively participate.

Activity

1. **Activity Name:** Inclusive Workplace Simulation
2. **Objective:** Understand challenges faced by different genders and PwD in the workplace.
3. **Type of Activity:** Group
4. **Resources:** Case studies, flipchart, markers
5. **Time Duration:** 30 minutes
6. **Instructions**
 - Divide participants into groups.
 - Provide each group with workplace scenarios highlighting challenges related to gender and disabilities.
 - Instruct groups to discuss and devise solutions that promote inclusivity.
 - Groups present their solutions to the whole class.
 - Facilitate a debrief session to share insights and discuss the effectiveness of the proposed solutions.
7. **Outcome:** Improved understanding of communication nuances, problem-solving skills, and teamwork.

Notes for Facilitation

- Encourage open dialogue and active listening.
- Foster a non-judgmental atmosphere to promote honest discussions.
- Emphasize the role of bystander intervention in addressing discrimination.
- Highlight the business benefits of diversity in recruitment.
- Remind participants to consider both visible and invisible disabilities in workplace accommodations.

Unit 5.4: Work Ethics and Team Goals

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Illustrate the guidelines for gender-neutral behaviour in communication with clients and col-leagues
2. Discuss about PwD sensitisation at the workplace
3. List the rights, duties and benefits available at the workplace for persons with disability

Resources to be Used

Flipchart and markers presentation, videos depicting inclusive workplace practices, handouts on non-discrimination policies guidelines for gender-neutral behavior, accessibility tools for PwD sensitization recruitment guidelines, and whiteboard for brainstorming

Say

- Hello everyone! Today as we dive into an important discussion on Gender and PwD Sensitisation. I would like to say that your engagement is crucial, and I look forward to a dynamic session.
- Today, we aim to understand the significance of non-discrimination policies, gender-neutral behavior, and PwD sensitization at the workplace. This knowledge is essential for fostering an inclusive and supportive environment.
- By understanding these concepts, you'll be better equipped to contribute to a workplace that values diversity, ensuring equal opportunities for all, irrespective of gender or abilities.

Do

- Establish a safe and open environment for discussions.
- Encourage active participation and respectful sharing of experiences.
- Share real-life examples and case studies to illustrate key concepts.

Ask

- What are some instances of discrimination you've observed or experienced at work or in daily life?
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Elaborate

- Discuss the importance of policies that promote fairness and equal opportunities.
- Explore ways to foster a workplace free from gender bias.
- Address misconceptions and provide insights into creating an inclusive environment.
- Emphasize the significance of accessible infrastructure and inclusive safety measures.
- Highlight the benefits of diverse teams and the role of inclusive hiring practices.

Demonstrate

Conduct an Inclusive Meeting: Model how to conduct a meeting that accommodates different abilities, ensuring everyone can actively participate.

Activity

1. **Activity Name:** Inclusive Workplace Simulation
2. **Objective:** Understand challenges faced by different genders and PwD in the workplace.
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 - Divide participants into groups.
 - Provide each group with workplace scenarios highlighting challenges related to gender and disabilities.
 - Instruct groups to discuss and devise solutions that promote inclusivity.
 - Groups present their solutions to the whole class.
 - Facilitate a debrief session to share insights and discuss the effectiveness of the proposed solutions.
7. **Outcome:** Improved understanding of communication nuances, problem-solving skills, and teamwork.

Notes for Facilitation

- Encourage open dialogue and active listening.
- Foster a non-judgmental atmosphere to promote honest discussions.
- Emphasize the role of bystander intervention in addressing discrimination.
- Highlight the business benefits of diversity in recruitment.
- Remind participants to consider both visible and invisible disabilities in workplace accommodations.

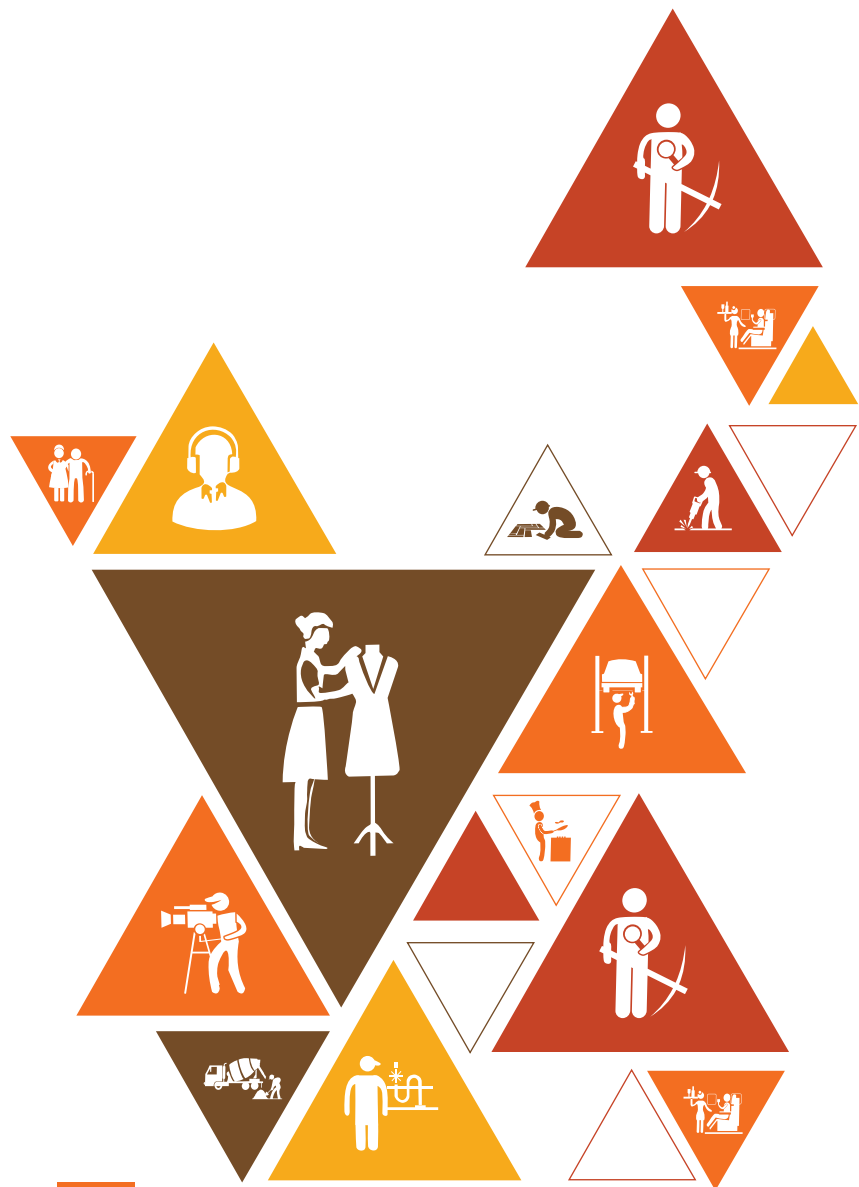
Answers to Exercises for PHB

Multiple Choice Questions

1. b. Polite
2. a. Gestures
3. a. Professionalism
4. d. Accountability
5. a. Communication

Answer the following:

1. UNIT 5.2: Importance of Effective Communication and Interpersonal skills
5.2.1 What is Communication?
2. UNIT 5.3: Gender and PwD Sensitisation
5.3.3 PwD Sensitisation at Workplace
3. UNIT 5.2: Importance of Effective Communication and Interpersonal skills
5.2.3 Interpersonal Conflicts
4. UNIT 5.3: Gender and PwD Sensitisation
5.3.1 Non Discrimination Policies
5. UNIT 5.4: Work Ethics and Team Goals
5.4.3 Individual Goals vs Team Goals





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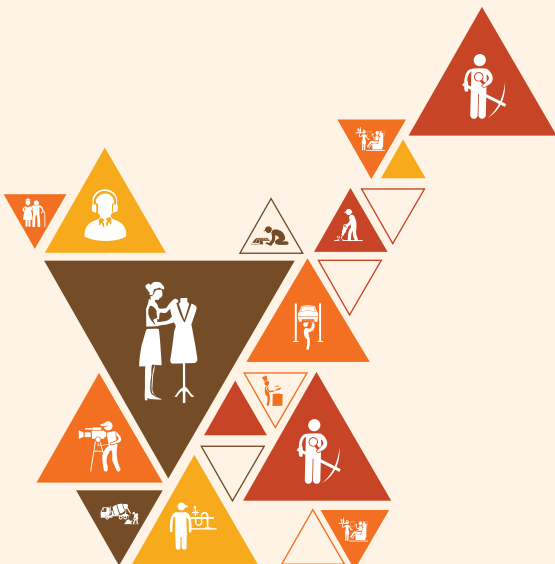
6. Manage Work, Resources and Safety at Workplace

Unit 6.1 - Workplace Health & Safety

Unit 6.2 - Importance of Safe Working Practices

Unit 6.3 - Optimal Utilisation of Resources

Unit 6.4 - Waste Management



TEL/N9104

Key Learning Outcomes



By the end of this module, the trainees will be able to:

1. Explain about workplace health and safety
2. Differentiate various health hazards
3. Demonstrate various first-aid techniques
4. Importance of safety at the workplace
5. Understand Basic hygiene Practices and hand-washing techniques
6. Explain the need for social distancing
7. Understand the reporting of hazards at the workplace
8. Explain e-waste and the process of disposing of them
9. Explain the greening of jobs

Unit 6.1: Workplace Health & Safety

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Discuss about workplace safety
2. Explain workplace hazards and how to treat workplace hazards
3. Elaborate the process of reporting hazards
4. Demonstrate workplace hygiene
5. Explain ways to handle poor hygiene at the workplace

Resources to be Used

Presentation slides, handouts with key informations, visual aids (posters, videos, or images) illustrating safety procedures, whiteboard and markers, Cleaning and sanitizing supplies

Say

- Hello everyone! Welcome to today's session on Workplace Hygiene and Safety.
- Our goal today is to understand the various aspects of workplace safety, from identifying hazards to implementing hygiene practices. By the end, you'll have the knowledge needed to create a safer work environment.
- Ensuring workplace safety isn't just a legal requirement; it's a commitment to the well-being of everyone in the organization. As we understand and apply these principles, we contribute to a healthier and more productive work environment.

Do

- Begin with an overview of the session's agenda.
- Encourage active participation and questions throughout the session.
- Relate concepts to real-life examples for better understanding.

Ask

- Can you share a personal experience where you felt workplace safety was compromised?
- What safety measures do you think are most critical in a workplace?
- How can maintaining workplace hygiene positively impact overall productivity?

Elaborate

- Identify potential risks within the workplace to mitigate accidents and injuries.
- Implement and adhere to safety policies to maintain a secure working environment.
- Train participants to recognize and report hazards promptly to prevent accidents.
- Emphasize the importance of personal and workspace cleanliness for health and well-being.
- Instruct on proper methods to sanitize and disinfect workspaces to prevent the spread of infections.

Demonstrate

Demonstrate proper handwashing techniques relevant to workplace hygiene.

Activity

1. **Activity Name:** Safety Inspection Challenge
2. **Objective:** Enhance participants' ability to identify hazards and apply safety measures.
3. **Type of Activity:** Group
4. **Resources:** Safety checklists, visual aids, and mock workstations.
5. **Time Duration:** 25 minutes
6. **Instructions**
 - Divide participants into small groups.
 - Provide safety checklists and ask each group to inspect a designated workspace.
 - Groups identify hazards and propose safety measures.
 - Facilitate a group discussion on findings.
7. **Outcome:** Improved hazard awareness and practical application of safety measures.

Notes for Facilitation

- Foster an inclusive and open learning environment.
- Encourage active participation and questions.
- Highlight the importance of regular hazard assessments.
- Emphasize the role of every employee in upholding safety policies.
- Discuss the impact of hygiene on employee well-being and overall productivity.

Unit 6.2: Importance of Safe Working Practices

Unit Objectives

By the end of this unit, the trainees will be able to:

1. Understand the health hazards
2. Demonstrate First Aid Techniques

Resources to be Used

Whiteboard or flip chart, markers, and a projector for presentations, handouts summarizing key points, and access to any relevant audio-visual materials on workplace safety.

Say

- Hello everyone! I hope you're all doing well today. Today we will dive into the importance of safe working practices.
- Our goal today is to understand the crucial aspects of safe working practices, including basic hygiene, social distancing, safe workplace practices, and stress management.
- Knowing how to maintain a safe working environment is not just about compliance; it's about ensuring everyone's well-being and creating a positive workplace. It directly impacts our health, productivity, and the overall success of our organization.

Do

- Start with an overview of basic hygiene practices, emphasizing their role in preventing illnesses and maintaining a healthy work environment.
- Discuss the importance of social distancing, considering current events and its relevance to workplace safety.
- Provide guidelines on maintaining a safe workspace, covering areas like ergonomics, emergency procedures, and equipment handling.
- Share practical strategies for stress management, such as mindfulness exercises and time management tips.

Ask

- What hygiene practices do you follow in your daily routine?
- Can you share an experience where social distancing played a role in ensuring safety?
- How do you currently manage stress in the workplace?

Elaborate

- Demonstrate proper handwashing, sanitation, and personal hygiene practices to prevent the spread of infections.
- Plan and enforce practical ways to ensure social distancing in the workplace, including desk arrangements and meeting protocols.
- Showcase examples of safe practices, from using safety equipment to reporting hazards promptly.
- Encourage activities like short breaks, deep breathing exercises, and effective time management to alleviate stress.

Demonstrate

Conduct a live demonstration of the correct handwashing technique, emphasizing the importance of thorough cleaning.

Activity

1. **Activity Name:** Safe Space Challenge
2. **Objective:** Reinforce understanding of social distancing and safe workplace practices.
3. **Type of Activity:** Group
4. **Resources:** Markers, large sheets of paper, and a designated workspace.
5. **Time Duration:** 30 minutes
6. **Instructions**
 - Divide participants into groups, ensuring diversity in each group.
 - Instruct each group to create visual representations (diagrams or drawings) of an ideal, safe workspace considering social distancing guidelines.
 - After completion, each group presents their design to the whole class, explaining the rationale behind their choices.
7. **Outcome:** Improved understanding of practical applications of safe workplace practices.

Notes for Facilitation

- Encourage open communication and questions.
- Highlight the legal implications of not following safe working practices.
- Emphasize the role of each individual in maintaining a safe workplace.
- Discuss any specific industry-related challenges and solutions.

Unit 6.3: Optimal Utilisation of Resources

Unit Objectives

At the end of this unit, the trainees will be able to:

1. Discuss about efficient utilisation of material and water
2. State ways for efficient energy conservation

Resources to be Used

Whiteboard or flip chart, markers, a projector, a laptop for multimedia presentations, printed handouts on efficient water utilization and recycling practices, and props for the demonstration and activity.

Say

- Hello everyone! Welcome to today's session on Optimal Utilization of Resources.
- Today, we'll delve into two crucial aspects - Efficient Utilization of Water and the principles of Reduce, Reuse, and Recycle. Our goal is to understand the significance of these practices in preserving our resources and environment.
- By the end of this session, you'll not only grasp the importance of responsible resource use but also gain practical insights to implement these practices in your daily routines.

Do

- Start with a brief overview of the session topics - Efficient Utilization of Water and Reduce, Reuse, Recycle.
- Encourage active participation through discussions and sharing of personal experiences.
- Utilize multimedia presentations to reinforce key points and showcase real-life examples.
- Organize interactive group activities to promote collaborative learning.
- Create an open environment for questions and discussions throughout the session.

Ask

- Can you share a daily activity where you think water is used inefficiently?
- Think of a recent situation where you could have reduced, reused, or recycled something. What was it, and how could it have been done differently?
- How do you think our individual actions, related to resource utilization, impact the larger environment?

Elaborate

- Identify methods for efficient water utilization, emphasizing smart practices in households and industries.
- Integrate principles of reducing, reusing, and recycling into daily habits, showcasing their environmental impact.

Demonstrate

Conduct a live demonstration on creating a DIY recycled product, emphasizing the simplicity and effectiveness of recycling materials.

Activity

1. **Activity Name:** Resource Relay
2. **Objective:** Reinforce understanding of both water utilization and recycling principles.
3. **Type of Activity:** Group
4. **Resources:** Coloured markers, recycled materials, charts, and a timer.
5. **Time Duration:** 25 minutes
6. **Instructions**
 - Divide participants into small groups of 3-5 members.
 - Assign each group the task of designing a poster that illustrates efficient water usage and creative ways to recycle.
 - Provide recycled materials like paper, cardboard, and plastic for the poster creation.
 - Supply colored markers for creative expression.
 - Allocate 15 minutes for groups to collaboratively design their posters.
 - Encourage them to use visuals, symbols, and text to convey key concepts.
 - Instruct each group to prepare a brief explanation of their poster.
 - Emphasize that the presentation should highlight the ideas conveyed in their design.
 - Allocate 10 minutes for each group to present their posters to the entire class.
 - Encourage creativity, effective communication, and the incorporation of learned principles.
 - After each presentation, open the floor for questions and discussions.
 - Encourage participants to share insights and commendations.
7. **Outcome:** Enhanced awareness and creative application of resource utilization concepts.

Notes for Facilitation

- Encourage active listening and open communication.
- Highlight the economic benefits of optimal resource utilization.
- Emphasize the role of individuals in driving positive change.
- Discuss local initiatives and success stories related to resource optimization.

Unit 6.4: Waste Management

Unit Objectives

At the end of this unit, the trainees will be able to:

1. Understand what is e-waste
2. Understand the concept of waste management
3. Explain the process of recycling e-waste

Resources to be Used

Presentation slides on E-Waste and it's Management Samples of E-Waste (old electronic gadgets for demonstration), waste collecting bins with different color codes, whiteboard and markers Handouts on Waste Disposal Methods Videos or images depicting pollution caused by improper waste management

Say

- Good [morning/afternoon/evening] everyone! I hope you're all doing well today
- Today, we'll delve into the critical topic of E-Waste Management. Our goal is to understand what E-Waste is, why it matters, and how we can contribute to proper waste disposal.
- E-Waste is a growing concern globally, and understanding how to manage it is crucial for our environment and our health. By the end of this session, you'll be equipped with knowledge to make a positive impact.

Do

- Discuss the lifecycle of electronic goods and gadgets, emphasizing the need for proper disposal.
- Differentiate between materials that can and cannot be recycled, encouraging responsible choices.
- Explain the significance of different colors and how they guide proper waste segregation.
- Cover various methods, including recycling, landfill, and incineration, with their environmental implications.

Ask

- What electronic devices do you use daily, and can you name one potential environmental impact of improper disposal?
- Have you ever thought about what happens to your old mobile phones or computers when you replace them?
- Can you share a personal experience or observation related to waste management in your community?

Elaborate

- Recognize the hazardous components in electronic waste and their potential harm.
- Categorize electronic gadgets under three major heads: small appliances, large appliances, and IT devices.
- Identify key sources contributing to environmental pollution.
- Distinguish between air, water, and soil pollution caused by improper waste management.

Demonstrate

Illustrate the process of dismantling an old gadget to highlight recyclable components.

Activity

1. **Activity Name:** Recycling Relay Race
2. **Objective:** Understand the importance of quick and proper waste disposal.
3. **Type of Activity:** Group
4. **Resources:** Waste collecting bins, samples of recyclable and non-recyclable waste
5. **Time Duration:** 20 minutes
6. **Instructions**
 - Arrange the waste collecting bins in a designated area, ensuring each bin is clearly labeled with its color code.
 - Place the samples of recyclable and non-recyclable waste items on a table nearby.
 - Divide participants into teams, ensuring an even distribution of members in each team.
 - Briefly explain the color codes of the bins and the types of items that should be disposed of in each bin.
 - Each team member takes turns running to the table, selecting an item, and disposing of it in the correct bin.
 - Emphasize the importance of accuracy in placing items in the right bins.
 - Award points for each correctly disposed item, deducting points for mistakes.
 - Encourage teams to strategize for speed and accuracy.
 - Continue the race until all team members have had a chance to participate.
 - Consider incorporating multiple rounds for added engagement.
 - Gather participants to discuss their experience and observations during the activity.
 - Emphasize the significance of proper waste disposal and the impact of individual actions.
7. **Outcome:** Reinforced understanding of waste segregation and disposal.

Notes for Facilitation



- Maintain an inclusive and engaging atmosphere.
- Encourage active participation and open discussions.
- Emphasize the consequences of improper waste management on ecosystems.
- Share information on nearby disposal centers to promote responsible actions.
- Discuss local laws and regulations concerning waste management to create awareness and compliance.
- Urge participants to take individual actions, like recycling old devices or promoting awareness in their communities.

Answers to Exercises for PHB

Multiple Choice Questions

1. c. Central Pulmonary Resuscitation
2. a. Incineration
3. c. Composting
4. d. All of the above
5. a. Eyestrain

Answer the following:

1. Refer UNIT 6.2: Importance of Safe Working Practices
Topic - 6.2.3 Safe Workplace Practices
2. Refer UNIT 6.1: Workplace Hygiene and Safety
Topic - 6.1.1 Organisational Hazards
3. Refer UNIT 6.1: Workplace Hygiene and Safety
Topic - 6.1.5 Sanitising and Disinfecting Work Area
4. Refer UNIT 6.3: Optimal Utilisation of Resources
Topic - 6.3.1 Efficient Utilisation of Water
5. Refer UNIT 6.4: Waste Management
Topic - 6.4.7 Waste Disposal Methods



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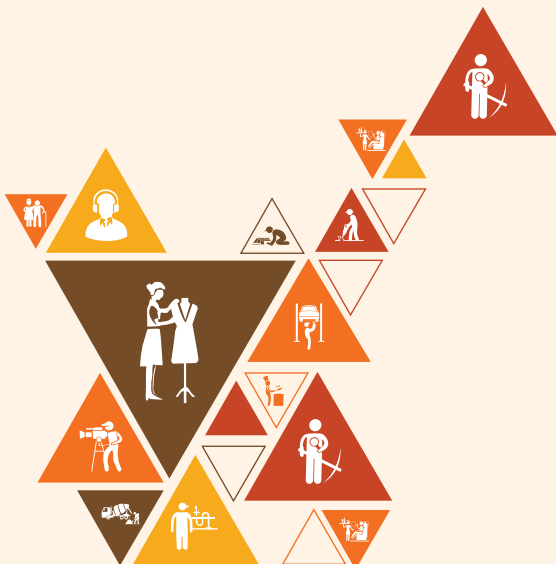


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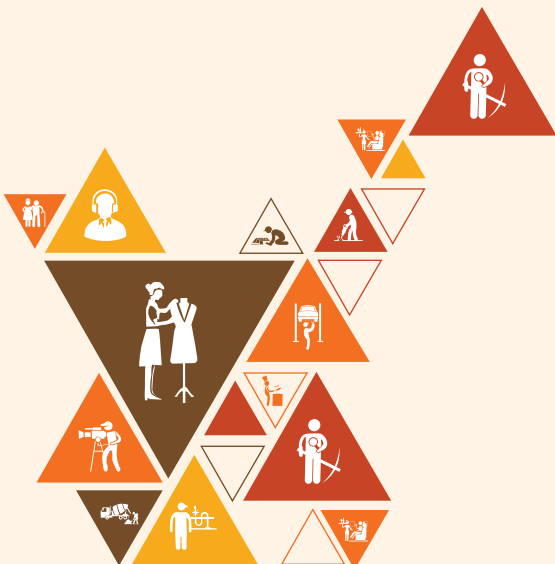


8. Annexures

Annexure I: Training Delivery Plan

Annexure II: Assessment Criteria

Annexure III: List of QR Codes Used in PHB



Annexure I

Training Delivery Plan

Training Delivery Plan			
Program Name:	Information and Communication Technology (ICT) Engineer - 5G Networks		
Qualification Pack Name & Ref. ID	TEL/6205, V3.0		
Version No.	3.0	Version Update Date	30/12/2021
Pre-requisites to Training (if any)	Not Applicable		
Training Outcomes	<p>By the end of this program, the participants will be able to:</p> <ol style="list-style-type: none"> 1. Carry out preventive and corrective maintenance. 2. Perform change management and upgradation activities. 3. Perform POI testing. 4. Report and record the test results. 5. Plan work effectively, implement safety practices and optimize use of resources. 6. Communicate, develop interpersonal skills and develop sensitization towards gender and person with disability 		

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
1	Role and Responsibilities of ICT Engineer	Introduction to ICT Engineer	<ul style="list-style-type: none"> Explain the role and responsibilities of ICT Engineer. 	Bridge Module	Classroom lecture / PowerPoint Presentation / Question & Answer / Group Discussion	White-board and markers, Chart paper and sketch pens, LCD Projector and Laptop for presentations, PCs/Laptops, Internet with Wi-Fi (Min 2 Mbps Dedicated), documents of standard operating procedures, code of conduct, checklists,	8 Theory (3:00) Practical (5:00)
		Understanding electrical and electronic components	<ul style="list-style-type: none"> Describe the various electrical and electronic components. 				8 Theory (2:00) Practical (6:00)
		SOPs For Use of Tools and Equipment	<ul style="list-style-type: none"> Describe the standard operating procedures (SOP) to be followed for use of tools and equipment and for performing service and minor repairs. 				8 Theory (3:00) Practical (5:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Safety, Health and Environmental policies	<ul style="list-style-type: none"> Describe the safety, health and environmental policies and regulations for the workplace as well as for telecom sites in general. 			schedules, tools and equipment, status report	6 Theory (2:00) Practical (4:00)
2	Preventive and Corrective Maintenance at ICT Nodes	Understanding Maintenance Planning	<ul style="list-style-type: none"> Plan preventive maintenance schedule with the Network Operation Center (NOC) team. Evaluate site criticality, capacity, and frequency of faults on the site and suggest changes to the planned maintenance schedule, if required. Assess the potential impact of the proposed maintenance on customers and the network, including 5G networks. 	TEL/N6219 PC1, PC2, PC3	Classroom lecture / PowerPoint Presentation / Question & Answer / Group Discussion	Laptop, White board, Marker, Projector, Tools/ equipment like pliers, power drill, screw-drivers, spanner, cables like RJ45, RS232, Hi-speed USB, ethernet cables and optical fibres, cable ties, maintenance logs, activity logs, spare tracker, etc.	8 Theory (4:00) Practical (4:00)
		Strategic Maintenance Planning	<ul style="list-style-type: none"> Plan for possible outage or deferral of maintenance, if required. Notify NOC team prior to undertaking the maintenance activities. 	TEL/N6219 PC4, PC5			8 Theory (4:00) Practical (4:00)
		Power Consumption Analysis	<ul style="list-style-type: none"> Check power consumption patterns and report any unusual consumptions to the manager and NOC team. 	TEL/N6219 PC6			8 Theory (4:00) Practical (4:00)
		Network Alarm Assessment	<ul style="list-style-type: none"> Assess network alarm severity, Service Level Agreement (SLA), and affected network elements for all networks, including 5G networks. 	TEL/N6219 PC7, PC8			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			<ul style="list-style-type: none"> Provide information to and seek advice from other relevant parties in identifying the problem and cause of the network alarm. 				
		Prioritizing Actions	<ul style="list-style-type: none"> Prioritize actions on alarms based on fault service impact analysis. Ensure availability of login cables (RJ-45, RS-232, Hi-speed USB) and other necessary tools and equipment. 	TEL/N6219 PC9, PC10			8 Theory (4:00) Practical (4:00)
		Software and Hardware Management	<ul style="list-style-type: none"> Ensure installation of equipment-specific software like Network Management Server (NMS) client in the system. Raise requests for spares, following the organization's process. 	TEL/N6219 PC11, PC12			8 Theory (4:00) Practical (4:00)
		Logistics and Task Monitoring	<ul style="list-style-type: none"> Follow-up with the report and record team/logistics team in case of delay in completion of spare requisition. Monitor completion of physical maintenance tasks like checking temperatures, routing of Ethernet cables and optical fibers, cable ties, fan working condition, earthing, equipment grouting, distribution of cables. 	TEL/N6219 PC13, PC14			8 Theory (4:00) Practical (4:00)
		Supervision of Logical Maintenance	<ul style="list-style-type: none"> Supervise logical maintenance tasks like PM counter checking, checking alarm status, system availability parameters, logical redundancy line uptime. 	TEL/N6219 PC15			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Alarm Configuration Testing and Emergency Escalation	<ul style="list-style-type: none"> Conduct alarm configuration testing in coordination with NOC team to ensure their functionality. Escalate emergency/unresolved issues according to Standard Operating Procedure (SOP) of the organization. 	TEL/N6219 PC16, PC17			6 Theory (2:00) Practical (4:00)
		Collaboration with Technical Team and Vendors	<ul style="list-style-type: none"> Implement steps to collaborate with the technical team for maintenance of passive infrastructure at ICT nodes/customer premises. Coordinate with vendors to ensure interconnectivity and lease line uptime. 	TEL/N6219 PC18, PC19			6 Theory (2:00) Practical (4:00)
		Fault Identification and Diagnostic Testing	<ul style="list-style-type: none"> Determine the faults based on alarm details after logging on to the ICT nodes. Carry out initial diagnostic tests to identify the root cause of the alarm within the defined Service Level Agreement (SLA). 	TEL/N6219 PC20, PC21			7 Theory (3:00) Practical (4:00)
		Options Analysis and Fault Resolution	<ul style="list-style-type: none"> Analyze the options to rectify the fault and confirm with supervisors if required. Resolve faults pertaining to the network alarms, including 5G networks. 	TEL/N6219 PC22, PC23			7 Theory (3:00) Practical (4:00)
		Escalation Procedures and Collaboration	<ul style="list-style-type: none"> Escalate unresolved faults/instances of delays in resolution as per organization policy. Ensure timely completion of work by monitoring activities performed by the riggers and other technicians. 	TEL/N6219 PC24, PC25			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Process Effectiveness and Administrative Tasks	<ul style="list-style-type: none"> Confirm effectiveness of the maintenance process by monitoring site alarm status in coordination with NOC team. Ensure completion of administrative jobs like site clearance, return of test equipment. 	TEL/N6219 PC26, PC27			6 Theory (2:00) Practical (4:00)
		Results Communication and Compliance	<ul style="list-style-type: none"> Inform all relevant parties (including NOC team, project team, and other supervisors) of the test results. Obtain sign-off from the required authority as per organization policy. Complete routine maintenance logs, activity logs, and spare tracker within stipulated timelines. 	TEL/N6219 PC28, PC29, PC30			6 Theory (2:00) Practical (4:00)
3	Change Management Activities at ICT Nodes	Knowledge Acquisition	<ul style="list-style-type: none"> Understand the process of receiving change requests from various teams 	TEL/N6220 PC1	Classroom lecture / PowerPoint Presentation / Question & Answer / Group Discussion	White-board and markers, Chart paper and sketch pens, LCD Projector and Laptop for presentations, Transmission equipment such as multiplexers, microwave radio-TDM, optical light meter,	8 Theory (4:00) Practical (4:00)
		Comprehension of Critical Analysis	<ul style="list-style-type: none"> Analyze criticality and timelines associated with change requests Comprehend the importance of assessing potential impacts and planning for outage conditions 	TEL/N6220 PC2, PC4			8 Theory (4:00) Practical (4:00)
		Work Planning and Dependency Identification	<ul style="list-style-type: none"> Develop a work plan and identify dependencies for change implementation 	TEL/N6220 PC3			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Stakeholder Communication Skill	<ul style="list-style-type: none"> Recognize the significance of obtaining customer approval for service-impacting changes Communicate changes and encountered problems to relevant parties 	TEL/N6220 PC5, PC16		power meter, optical time domain reflectometer (OTDR), connectors, connecting cables, optical fiber, maintenance/activity logs, spare tracker, anti-static bands, anti-static packaging, organizational documents	8 Theory (4:00) Practical (4:00)
		Equipment and Resource Management	<ul style="list-style-type: none"> Ensure Providing necessary information to NOC Arrange necessary equipment for change activities Ensure availability of spare hardware equipment and generate requests for spares 	TEL/N6220 PC6, PC7, PC8, PC9			8 Theory (4:00) Practical (4:00)
		Technical Skills - Installation and Configuration	<ul style="list-style-type: none"> Perform installation of equipment-specific Network Management tools or applications Implement configuration changes for various network elements, including 5G networks 	TEL/N6220 PC10, PC13			8 Theory (4:00) Practical (4:00)
		Change Management Mastery	<ul style="list-style-type: none"> Ensure completion of the requested change task as per the requirement. Ensure pre-testing to observe the output of configuration changes prior to deployment in a live environment. Apply learning to ensure effective pre-testing and completion of change tasks in real-world scenarios. 	TEL/N6220 PC11, PC14			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Change Activity Execution	<ul style="list-style-type: none"> Execute change activities such as traffic migrations, capacity augmentation, and feature activations Implement configuration changes like routing plans, IP, VLAN, etc., as per requirements 	TEL/N6220 PC12, PC13			8 Theory (4:00) Practical (4:00)
		Monitoring and Progress Assessment	<ul style="list-style-type: none"> Monitor progress of change continuously Confirm effectiveness of the change process through continuous monitoring and testing 	TEL/N6220 PC15, PC20			6 Theory (2:00) Practical (4:00)
		Contingency Planning	<ul style="list-style-type: none"> Abort changes and implement contingency plans in case of issues 	TEL/N6220 PC17			6 Theory (2:00) Practical (4:00)
		Data Management and Back-Up Procedures	<ul style="list-style-type: none"> Obtain back-up of ICT nodes pre and post-performance of change activities 	TEL/N6220 PC18			7 Theory (3:00) Practical (4:00)
		Administrative and Documentation Skills	<ul style="list-style-type: none"> Ensure completion of administrative tasks like site clearance and return of test equipment Complete routine maintenance logs, activity logs, and spare tracker within stipulated timelines 	TEL/N6220 PC19, PC23			7 Theory (3:00) Practical (4:00)
		Stakeholder Notification and Sign-off	<ul style="list-style-type: none"> Notify relevant parties of the results of change management activities Obtain sign-off from relevant personnel for completed change tasks 	TEL/N6220 PC21			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Inspection Preparation	<ul style="list-style-type: none"> Prepare documents for inspection 	TEL/N6220 PC22			6 Theory (2:00) Practical (4:00)
		Evaluation and Synthesis	<ul style="list-style-type: none"> Synthesize and apply knowledge across the entire change management process for effective execution. 	TEL/N6220 PC22			6 Theory (2:00) Practical (4:00)
4	Point of Interconnect (POI) testing	Knowledge Acquisition	<ul style="list-style-type: none"> After training, learners should be able to recall and list the items on the POI testing checklist obtained from supervisors Learners will be able to explain the importance of verifying the POI testing checklist before conducting tests 	TEL/N6221 (PC1)	Classroom lecture / PowerPoint Presentation / Question & Answer / Group Discussion	White-board and markers, Chart paper and sketch pens, LCD Projector and Laptop for presentations, Transmission equipment such as multiplexers, microwave radio -TDM, optical light meter, power meter, optical time domain reflectometer (OTDR), connectors, connecting cables, optical fiber, maintenance/ activity logs, spare tracker, anti-static bands, anti-static packaging, organizational documents	8 Theory (4:00) Practical (4:00)
		Schedule Management	<ul style="list-style-type: none"> Learners should be able to demonstrate understanding of the testing schedule and its significance in avoiding delays After training, participants will be able to organize and prioritize tasks to adhere to the testing schedule 	TEL/N6221 PC2			8 Theory (4:00) Practical (4:00)
		Equipment Familiarization	<ul style="list-style-type: none"> Participants will identify and describe the test equipment required for Acceptance Test (AT) Learners will demonstrate proficiency in checking for the availability of the necessary test equipment 	TEL/N6221 PC3			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Testing Proficiency	<ul style="list-style-type: none"> After training, participants will be able to perform physical and logical tests on the POI according to the checklist Learners will analyze and evaluate the results of tests, including connectivity, redundancy, and power levels 	TEL/N6221 PC4			8 Theory (4:00) Practical (4:00)
		Vendor Collaboration	<ul style="list-style-type: none"> Participants will describe and justify the need to coordinate with third-party vendors for necessary changes Learners will be able to communicate effectively with third-party vendors to facilitate required modifications 	TEL/N6221 PC5			8 Theory (4:00) Practical (4:00)
		Communication Skills	<ul style="list-style-type: none"> After training, participants will report and update team members and clients on the status of tests Learners will utilize effective communication to convey complex technical information to non-technical stakeholders 	TEL/N6221 PC6			8 Theory (4:00) Practical (4:00)
		Authorization Attainment	<ul style="list-style-type: none"> Attain comprehensive Stakeholder Engagement 	TEL/N6221 PC7			8 Theory (4:00) Practical (4:00)
		Adherence to Reporting Procedures	<ul style="list-style-type: none"> Participants will outline and explain the process of obtaining sign-off from required authorities/ stakeholders 	TEL/N6221 PC8			8 Theory (4:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			<ul style="list-style-type: none"> After training, learners will be able to demonstrate adherence to the necessary steps for obtaining authorization 				
		Documentation Mastery	<ul style="list-style-type: none"> After training, participants will be able to complete and organize all relevant documentation as per organization policy Learners will justify and defend the importance of thorough documentation in a network testing environment 	TEL/N6221 PC9			8 Theory (4:00) Practical (4:00)
		Log Maintenance	<ul style="list-style-type: none"> Participants will update and maintain routine issue logs, activity logs, and spare tracker in the specified format within stipulated timelines Learners will demonstrate proficiency in ensuring the availability of documents for inspection by appropriate authorities 	TEL/N6221 PC10, PC11			8 Theory (4:00) Practical (4:00)
5	Communication and Interpersonal skills	Interpreting and Reporting Work Requirements	<ul style="list-style-type: none"> Interpret work requirements from superiors and customers. Report any unforeseen disruptions or delays to superiors and/or concerned persons. Achieve productivity and quality of work as per company procedure. 	TEL/N9103 PC1, PC2, PC3	Classroom lecture / PowerPoint Presentation / Question & Answer / Group Discussion	White board/ black board marker / chalk, duster, computer or Laptop attached to D projector, Sample of escalation matrix, organization structure.	8 Theory (3:00) Practical (5:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Effective Communication and Coordination	<ul style="list-style-type: none"> Explain the work requirements and the scope of work to the team. Communicate information using different techniques such as face-to-face, telephonic, and written means. Coordinate with the team to integrate work as per requirements. 	TEL/N9103 PC4, PC5, PC6			8 Theory (2:00) Practical (6:00)
		Team Collaboration and Conflict Resolution	<ul style="list-style-type: none"> Respect colleagues and customers and communicate, taking care of their personal spaces. Find solutions to work-related difficulties with mutual agreement with colleagues and customers. Resolve conflicts within the team at work to achieve smooth workflow. Motivate team members to put organizational goals over individual goals. Encourage the team to provide feedback on any issues facing them. 	TEL/N9103 PC7, PC8, PC9, PC10, PC11			8 Theory (3:00) Practical (5:00)
		Respecting Differences and Inclusive Practices	<ul style="list-style-type: none"> Ensure personal behavior of self and the team is conducted taking gender and disability of the person into consideration. Demonstrate sensitivity towards gender and persons with disabilities while communicating. 	TEL/N9103 PC12, PC13, PC14, PC15, PC16, PC17, PC18			6 Theory (2:00) Practical (4:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			<ul style="list-style-type: none"> List the different types of disabilities with their respective issues. Provide help to PwD team members in overcoming any challenges faced in work. Use inclusive language irrespective of the disability and the gender of the person. Treat all colleagues and co-workers equally. Respect the personal space of colleagues and co-workers. 				
6	Working effectively and optimizing resources for a safe workplace	Technology Proficiency	<ul style="list-style-type: none"> Define and explain key concepts related to prevalent technologies in the industry Demonstrate an understanding of the latest products/ services relevant to the team's work Identify and describe opportunities for team building workshops and motivational training Summarize the importance of accountability in achieving timely task completion Analyze problems accurately and articulate potential solutions Explain the process of estimating causes of problems and validating them 	TEL/N9104 PC1, PC2, PC3, PC4, PC5, PC6	Classroom lecture / PowerPoint Presentation / Question & Answer / Group Discussion	White board/ black board marker / chalk, duster, computer or Laptop attached to D projector, Sample of escalation matrix, organization structure.	8 Theory (3:00) Practical (5:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Application and Practical Skills	<ul style="list-style-type: none"> Apply strategies to maintain a clean and organized work area for both individuals and the team Execute tasks with efficiency and productivity in alignment with role/responsibility Supervise and ensure that team members adhere to assigned and agreed-upon work requirements Develop schedules and rosters for the team to clarify individual work expectations Demonstrate knowledge and application of organizational health, safety, and security policies and procedures Instruct the team on reporting identified breaches in policies and procedures 	TEL/N9104 PC7, PC8, PC9, PC10, PC11, PC12			8 Theory (2:00) Practical (6:00)
		Emergency Response and Hazard Management	<ul style="list-style-type: none"> Manage hazards, such as illness, accidents, fires, or natural calamities, following organizational emergency procedures Report hazards within individual authority and warn others as necessary Implement strategies to optimize material usage, including water, in various tasks/processes Supervise the team to ensure responsible use of resources 	TEL/N9104 PC13, PC14, PC15, PC16			8 Theory (3:00) Practical (5:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Resource Conservation Leadership	<ul style="list-style-type: none"> Motivate the team to conduct routine cleaning of tools, machines, and equipment Guide the team to optimize electricity/energy use in various tasks/processes Conduct periodic checks on equipment/machines and rectify issues when required Instruct the team on reporting equipment malfunctions and lapses in maintenance Implement proper usage practices for electrical equipment and appliances 	TEL/N9104 PC17, PC18, PC19, PC20, PC21			6 Theory (2:00) Practical (4:00)
Total Duration							Theory: 180:00 Practical: 210:00
On the job training (Training provided by the relevant industry)							120:00
Employability Skills (DGT/VSQ/N0103) (https://www.skillindiadigital.gov.in/content/list)							90:00
Total Duration							Theory + Practical + OJT+ ES 600:00

Annexure II

Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

Assessment Criteria for Information and Communication Technology (ICT) Engineer - 5G Networks	
Job Role	Information and Communication Technology (ICT) Engineer - 5G Networks
Qualification Pack	TEL/6205, V3.0
Sector Skill Council	Telecom Sector Skill Council

S. No.	Guidelines for Assessment
1	Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/ option NOS/set of NOS.
4	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6	To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Assessment Outcomes	Assessment Criteria for Outcomes	Marks Allocation		
		Theory	Practical	Viva
TEL/N6219: Supervise Preventive and Corrective Maintenance at ICT Nodes	PC1. plan preventive maintenance schedule with the Network Operation Center (NOC) team	2	3	1
	PC2. evaluate site criticality, capacity and frequency of faults on the site, and suggest changes to the planned maintenance schedule, if required	2	4	1
	PC3. assess the potential impact of the proposed maintenance on customers and network including 5G networks	-	1	-
	PC4. plan for possible outage or deferral of maintenance, if required	1	1	-
	PC5. notify NOC team prior to undertaking the maintenance activities	-	1	-
	PC6. check power consumption pattern and report any unusual consumptions to manager and NOC team	1	1	1
	PC7. assess network alarm severity, Service Level Agreement (SLA) and affected network elements for all networks including 5G networks	2	1	-
	PC8. provide information to and seek advice from other relevant parties in identifying the problem and cause of the network alarm	1	3	1
	PC9. prioritise actions on alarms based on fault service impact analysis	1	2	-
	PC10. ensure availability of login cables (RJ-45, RS-232, Hi-speed USB) and other necessary tools and equipment	1	2	1

	PC11. ensure installation of equipment specific software like Network Management Server (NMS) client in the system	2	1	1
	PC12. raise request for spares, in case the same are not available as per organisation process	1	1	1
	PC13. follow-up with the report and record team/logistics team in case of delay in completion of spare requisition	1	1	-
	PC14. monitor completion of physical maintenance tasks like checking temperatures, routing of ethernet cables and optical fibres, cable ties, fan working condition, earthing, equipment grouting, distribution of cables	2	3	1
	PC15. supervise logical maintenance tasks like PM counter checking, checking alarm status, system availability parameters, logical redundancy line uptime	2	2	1
	PC16. conduct alarm configuration testing in coordination with NOC team to ensure their functionality	1	1	-
	PC17. escalate emergency/unresolved issues according to Standard Operating Procedure (SOP) of the organisation	-	1	1
	PC18. implement steps to collaborate with technical team for maintenance of passive infrastructure at ICT nodes/customer premises	1	1	1
	PC19. coordinate with vendors to ensure interconnectivity and lease line uptime	-	1	1
	PC20. determine the faults based on alarm details after logging on to the ICT nodes	1	2	1
	PC21. carry out initial diagnostic tests to identify the root cause of the alarm within the defined Service Level Agreement (SLA)	1	2	1
	PC22. analyse the options to rectify the fault and confirm with supervisors, if required	1	2	1
	PC23. resolve faults pertaining to the network alarms including 5G networks	1	1	-
	PC24. escalate unresolved faults/instances of delays in resolution as per organisation policy	-	1	1
	PC25. ensure timely completion of work by monitoring activities performed by the riggers and other technicians	-	1	1
	PC26. confirm effectiveness of the maintenance process by monitoring site alarm status in coordination with NOC team	1	2	1
	PC27. ensure completion of administrative jobs like site clearance, return of test equipment	1	2	1
	PC28. inform all relevant parties (including NOC team, project team and other supervisors) of the test results	1	2	-
	PC29. obtain sign-off from the required authority as per organisation policy	1	2	-
	PC30. complete routine maintenance logs, activity logs and spare tracker within stipulated timeline	1	2	1
	NOS Total	30	50	20
TEL/N6220: Carry out Change Management Activities at ICT Nodes	PC1. receive change requests from the relevant teams (Network Operation Center (NOC), change management, network planning team, project team, etc.)	3	3	1
	PC2. analyse criticality and timelines for carrying out the changes	2	2	1
	PC3. prepare a work plan and identify dependencies, if any	2	2	1

	PC4. assess the potential impact of the proposed activity and plan for possible outage condition or deferral of the activity	2	3	-
	PC5. obtain customer approval in case of service impacting change activity	1	2	1
	PC6. inform NOC team prior to undertaking the upgradation activity	1	2	1
	PC7. arrange for necessary equipment such as login cables (RJ-45, RS-232, Hi-speed USB, etc.)	-	2	1
	PC8. ensure availability of spare hardware equipment	-	2	-
	PC9. generate request for spares, in case the same are not available as per organisation policy	-	2	1
	PC10. perform installation of equipment specific Network Management tool or application in the system	2	2	1
	PC11. ensure pre-testing to observe output of configuration changes prior to deployment in live environment	1	2	1
	PC12. perform change activities like traffic migrations, capacity augmentation, feature activations, routing configuration	1	2	-
	PC13. implement configurations changes like routing plans, routing schemes, IP, VLAN, HLR configuration etc. as per requirements for all networks including 5G networks	3	5	1
	PC14. ensure completion of the requested change task as per requirement	1	3	1
	PC15. monitor progress of change continuously	1	3	1
	PC16. communicate changes and the encountered problems to the site manager/client or any other authorized personnel, if any	1	2	-
	PC17. abort changes and implement contingency plan to minimize any disruption in the functioning of the network including 5G networks, if change implementation does not go as planned	2	4	-
	PC18. obtain back-up of ICT nodes both pre and post-performance of change activities	2	2	-
	PC19. ensure completion of administrative jobs like site clearance, return of test equipment etc.	1	2	1
	PC20. confirm effectiveness of the change process, by monitoring site's alarm status in coordination with the NOC team and performing data and call testing	1	2	1
	PC21. notify all relevant parties (including NOC team, other supervisors) of the results of the changed management activities and obtain the sign-off from relevant personnel	1	2	1
	PC22. prepare documents for inspection	1	2	-
	PC23. complete routine maintenance logs, activity logs and spare tracker within stipulated timeline	1	2	-
	NOS Total	30	55	15
TEL/N6221: Undertake Point of Interconnect (POI) Testing at ICT Nodes	PC1. verify the POI testing checklist as obtained from the supervisors before undertaking POI testing at ICT nodes in networks including 5G networks	4	5	3
	PC2. follow schedule for carrying out POI testing to avoid any delays	1	2	-
	PC3. check for availability of test equipment required for performing Acceptance Test (AT)	1	2	1
	PC4. carry out physical and logical tests (connectivity, redundancy, power levels etc.) of the POI as per the checklist	6	10	4

	PC5. coordinate with third party vendors for carrying out the necessary changes	6	5	2
	PC6. inform the team members and clients about the status of tests	3	4	2
	PC7. obtain sign-off from required authorities/stakeholders	2	2	-
	PC8. follow reporting procedures as prescribed by the organisation	3	2	2
	PC9. complete all the relevant documentation as per organisation policy	3	5	2
	PC10. update routine issue logs, activity logs and spare tracker in the specified format within stipulated timelines	2	4	2
	PC11. ensure availability of the documents to all appropriate authorities to inspect	4	4	2
	NOS Total	35	45	20
TEL/N9103: Implement Effective Interaction at workplace	PC1. interpret work requirements from the superior and customers	1	2	-
	PC2. report any unforeseen disruptions or delays to superiors and/or concerned person	1	2	1
	PC3. achieve productivity and quality of work as per the company procedure	-	5	-
	PC4. explain the work requirements and the scope of work to the team	2	3	-
	PC5. communicate information using different techniques such as face-to-face, telephonic and written means	2	4	1
	PC6. co-ordinate with team to integrate work as per requirements	-	4	1
	PC7. respect colleagues and customers and communicate taking care of their personal spaces	-	3	-
	PC8. find solutions to work related difficulties with mutual agreement with colleagues and customers	3	3	-
	PC9. resolve conflicts within the team at work to achieve smooth workflow	-	4	1
	PC10. motivate team members to put organizational goals over individual goals	3	4	1
	PC11. encourage the team to provide feedback on any issues facing them	3	2	1
	PC12. ensure personal behaviour of self and team is conducted taking gender and disability of the person into consideration	2	4	-
	PC13. demonstrate sensitivity towards gender and person with disability while communicating	2	3	1
	PC14. list the different types of disabilities with their respective issues	2	3	1
	PC15. provide help to PwD team members in overcoming any challenges faced in work	2	3	-
	PC16. use inclusive language irrespective of the disability and the gender of the person	2	3	1
	PC17. treat all colleagues and co-workers equally	2	3	-
	PC18. respect personal space of colleagues and co-workers	3	5	1
	NOS Total	30	60	10
TEL/N9104: Manage Work, Resources and Safety at workplace	PC1. develop technical and personal skills to be updated with new technologies prevalent in the industry	2	1	-
	PC2. train the team such that they are able to adapt latest products/ services in their working environment	1	2	-
	PC3. identify opportunities for team building workshops and motivational trainings	1	2	-
	PC4. guide the team to be accountable for timely completion of tasks	2	3	-





	PC5. analyse problems accurately to be able to correctly suggest suitable solutions to the concerned persons	1	2	-
	PC6. train the team to estimate the cause of the problem and validate	1	2	-
	PC7. implement ways to keep immediate as well as team's work area clean and tidy	1	2	-
	PC8. maintain efficiency and productivity while performing role/ responsibility	1	2	2
	PC9. supervise the team to ensure that the work is done as per the assigned and agreed requirements	1	2	1
	PC10. create schedules and rosters for the team to ensure they understand individual work requirements	2	3	1
	PC11. identify organisation's health, safety, security policies and procedures	3	3	-
	PC12. instruct team to report any identified breaches in health, safety, and security policies and procedures to the designated person	3	3	-
	PC13. manage hazards such as illness, accidents, fires or any other natural calamity safely, as per organisation's emergency procedures, within the limits of individual's authority	3	4	1
	PC14. report any hazard outside the individual's authority to the relevant person in line with organisational procedures and warn others who may be affected	3	3	1
	PC15. implement ways to optimize usage of material including water in various tasks/activities/processes	1	2	1
	PC16. supervise the team to ensure responsible use of resources	2	2	1
	PC17. motivate the team to carry out routine cleaning of tools, machine and equipment	2	2	1
	PC18. guide the team to optimize use of electricity/energy in various tasks/activities/processes	3	4	-
	PC19. implement periodic checks of the functioning of the equipment/ machine and rectify wherever required	2	2	1
	PC20. guide the team to report malfunctioning and lapses in maintenance of equipment	3	2	-
	PC21. implement ways to use electrical equipment and appliances properly	2	2	-
	NOS Total	40	50	10
DGT/VSQ/N0103: Employability Skills (90 Hours)	Introduction to Employability Skills	1	1	-
	PC1. understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-
	PC2. identify and explore learning and employability relevant portals	-	-	-
	PC3. research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-
	Constitutional values – Citizenship	1	1	-
	PC4. 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.	-	-	-
	PC5. follow environmentally sustainable practices	-	-	-
	Becoming a Professional in the 21st Century	1	3	-
	PC6. recognize the significance of 21st Century Skills for employment	-	-	-






PC7. practice the 21st Century Skills such as Self- Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-
Basic English Skills	3	4	-
PC9. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-
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	-	-	-
Career Development & Goal Setting	1	2	-
PC12. identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-
PC13. prepare a career development plan with short- and long-term goals	-	-	-
Communication Skills	2	2	-
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-
PC15. use active listening techniques for effective communication	-	-	-
PC16. communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-
PC17. work collaboratively with others in a team	-	-	-
Diversity & Inclusion	1	1	-
PC18. communicate and behave appropriately with all genders and PwD	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-
Financial and Legal Literacy	2	3	-
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-
PC22. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-
PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-
Essential Digital Skills	3	5	-
PC24. operate digital devices and use their features and applications securely and safely	-	-	-
PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-
PC26. display responsible online behaviour while using various social media platforms	-	-	-
PC27. create a personal email account, send and process received messages as per requirement	-	-	-






PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-
PC29. utilize virtual collaboration tools to work effectively	-	-	-
Entrepreneurship	2	3	-
PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-
PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-
PC32. identify sources of funding, anticipate, and mitigate any financial/legal hurdles for the potential business opportunity	-	-	-
Customer Service	1	2	-
PC33. identify different types of customers and ways to communicate with them	-	-	-
PC34. identify and respond to customer requests and needs in a professional manner	-	-	-
PC35. use appropriate tools to collect customer feedback	-	-	-
PC36. follow appropriate hygiene and grooming standards	-	-	-
Getting ready for apprenticeship & Jobs	2	3	-
PC37. create a professional Curriculum vitae (Résumé)	-	-	-
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-
PC39. apply to identified job openings using offline /online methods as per requirement	-	-	-
PC40. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-
PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-
NOS Total	20	30	-






Annexure III



List of QR Codes Used in PHB

Module No.	Unit No.	Topic Name	Page No. in PHB	Link for QR Code (s)	QR code (s)
Module 1: Role and Responsibilities of ICT Engineer	Unit 1.1: Concepts of Information and Communication Technology (ICT)	1.1.1 Introduction to Information and Communication Technology (ICT)	18	https://www.youtube.com/watch?v=u56EzXAvKQk	 Information & Communication Technology (ICT)
		1.1.4 Information Technology (IT)	18	https://www.youtube.com/watch?v=XZrckLYqds	 Information Technology
	Unit 1.2: Role and responsibilities of Information and Communication Technology (ICT) Engineer	1.2.1 Role and responsibilities of ICT Engineer	18	https://www.youtube.com/watch?v=QMn5Oa7LrjI	 Duties and Responsibilities of an IT Technician
Module 2: Preventive and Corrective Maintenance at ICT Nodes	Unit 2.1: Maintenance Procedures and Planning	2.1.3 Maintenance schedule with possible outage or deferral activity	75	https://www.youtube.com/watch?v=0m1q8QKxdWE	 How Maintenance Planning & Scheduling Works

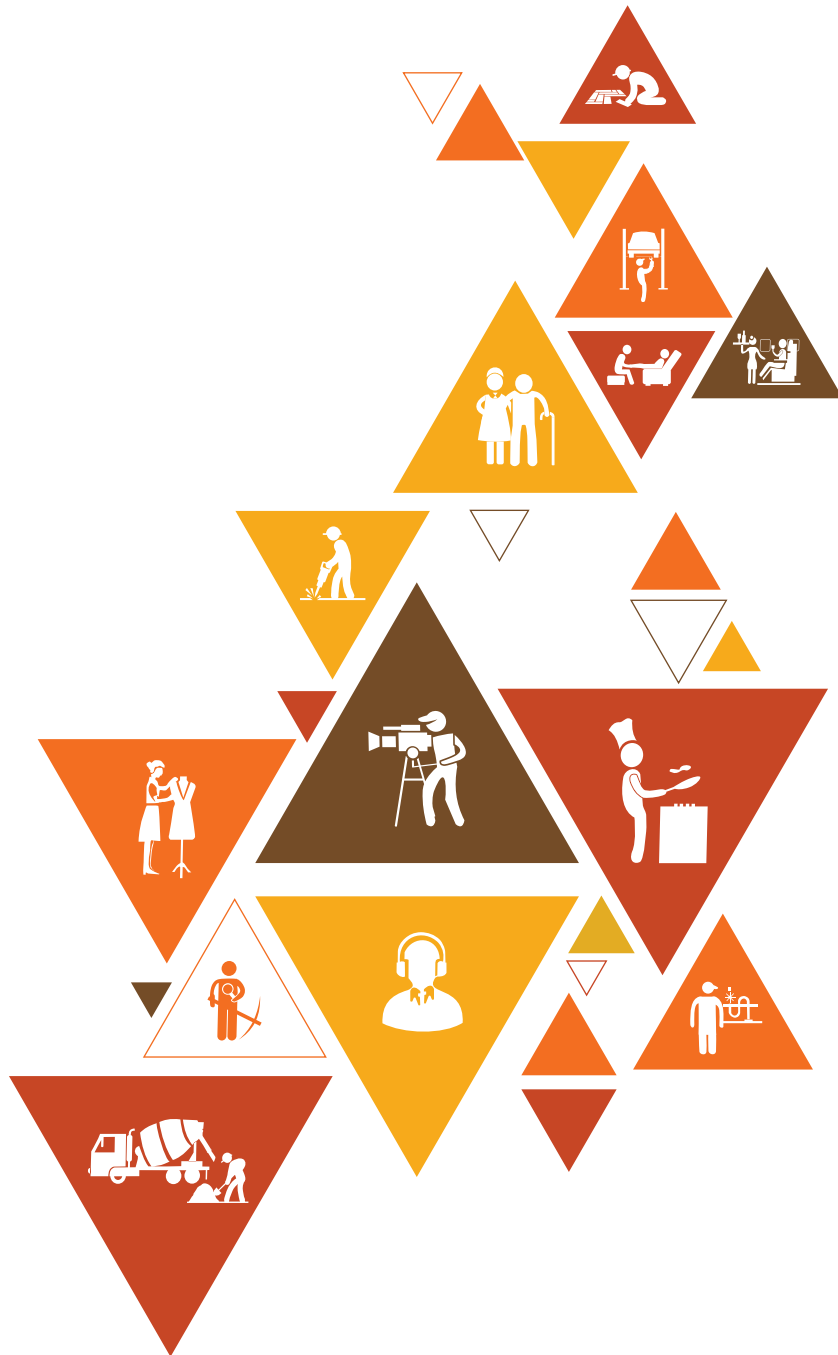
Module No.	Unit No.	Topic Name	Page No. in PHB	Link for QR Code (s)	QR code (s)
	Unit 2.2: Fault Identification and Resolution	2.2.1 Methods to identify the problem and cause in the network alarm	75	https://www.youtube.com/watch?v=cIBxrVTb4A	 Network Alarm Monitoring System Solution
		2.2.2 Cables, tools, equipment, and/or spares for maintenance and arrange for the same in case not readily available in coordination with logistics team	75	https://www.youtube.com/watch?v=11bCD2L-Gus	 Telecomm-unications Equipment Installers and Repairers
		2.2.7 Delay in fault resolution as per organizational policy	75	https://www.youtube.com/watch?v=y-4LBeLduvA	 Disappointed Customers
Module 3: Change Management Activities at ICT Nodes	Unit 3.1: Change Management Policies and Processes	3.1.1 Organisation's ICT change management policies and processes	113	https://www.youtube.com/watch?v=PIKsAZrwcD8	 Change Management
		3.1.3 Timelines and Impact Assessment in Change Planning	113	https://www.youtube.com/watch?v=iuYIGRnC7J8	 A Plan Is Not a Strategy

Module No.	Unit No.	Topic Name	Page No. in PHB	Link for QR Code (s)	QR code (s)
		3.1.7 Issue Resolution in Change Management	113	https://www.youtube.com/watch?v=wxVgd8h1svU	 5 Steps in the Change Management Process
		3.1.10 Documentation and Record-Keeping in Change Management	113	https://www.youtube.com/watch?v=wCSECLQDGps	 Documentation/Record Keeping
Module 4: Point of Interconnect (POI) testing	Unit 4.1: Coordination and Execution Unit for Point of Interconnect (POI) Testing	4.1.1 Organization's standard operating procedures to conduct POI test	135	https://www.youtube.com/watch?v=Cea0lbObEyg	 Standard Operating Procedure
		4.1.3 Importance of following organizational reporting process	135	https://www.youtube.com/watch?v=b_n6i1ug0tQ	 Ethics in the Workplace
5. Communication and Interpersonal Skills	5.1: Personal Hygiene and Dress Code	5.1.1 Personal Hygiene and Grooming	158	https://www.youtube.com/watch?v=3Zlcmzp9oTI	 Disease Transmission

Module No.	Unit No.	Topic Name	Page No. in PHB	Link for QR Code (s)	QR code (s)
	5.2: Importance of Effective Communication and Interpersonal skills	5.2.1 What is Communication?	158	https://www.youtube.com/watch?v=RkebtEk2zU0	 What is Communication?
		5.2.2 Importance of Effective Communication	158	https://www.youtube.com/watch?v=l6IAhXM-vps	 CI/CD Pipeline To Deploy To Kubernetes Cluster Using Jenkins
	5.3: Gender and PwD Sensitisation	5.3.2 Guidelines for Gender Neutral Behavior at Workplace	158	https://www.youtube.com/watch?v=zAnOC7cfrUw	 Gender equality in the workplace
6. Manage Work, Resources and Safety at Workplace	6.1: Workplace Hygiene and Safety	6.1.1 Organisational Hazards	186	https://www.youtube.com/watch?v=2B823bEBKGU	 Understanding Disasters, Hazards, Risk and Vulnerability
		6.1.5 Sanitising and Disinfecting Work Area	186	https://www.youtube.com/watch?v=3Zlcmzp9oTI	 Disease Transmission

Module No.	Unit No.	Topic Name	Page No. in PHB	Link for QR Code (s)	QR code (s)
	6.4: Waste Management	6.4.9 Source of Pollution	186	https://www.youtube.com/watch?v=qS8mfAX1tAk	 Environment Pollution
Employability Skills				https://www.skillindiadigital.gov.in/content/list	







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