Qualification Pack

Digital Connectivity Infrastructure (DCI) Evaluator

QP Code: ICE/TEL/Q0302

Version: 1.0

NSQF Level: 6

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Contents

Qualification Pack

ICE/TEL/Q0302: Digital Connectivity Infrastructure (DCI) Evaluator

Brief Job Description

A Digital Connectivity Infrastructure (DCI) Evaluator assesses and certifies the quality, compliance and future-readiness of digital connectivity infrastructure in buildings. They review telecom design, conduct field inspections, verify adherence to regulatory standards like MBBL and NBC and ensure infrastructure supports high-speed connectivity, resilience and scalability for emerging technologies.

Personal Attributes

A DCI Evaluator should have strong technical knowledge of telecom systems, attention to detail and the ability to interpret building plans and compliance standards. They must be observant, analytical and capable of conducting field assessments with accuracy. Good communication skills, documentation proficiency and a commitment to safety and continuous learning are also essential traits for this role.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ICE/TEL/N0305: Perform Evaluation of Framework, Components and Basics of Drone Landing at Digital Infrastructure
2. ICE/TEL/N0306: Conduct Assessments on DCI Compliance and Resilience as per MBBL & NBC
3. ICE/TEL/N0307: Perform Evaluation for Future-Ready Digital Connectivity in Infrastructure, Services and User Experience
4. ICE/TEL/N0308: Conduct DCI Audit Reporting, Monitoring, Feedback and Non- Compliance Management
5. ICE/TEL/N0309: Perform Reassessment, Renewal and Appeal Management in DCI Rating Award Process
6. ICE/TEL/N0310: Perform Remedial Risk Assessment and Mitigations Strategies for DCI
7. ICE/TEL/N0311: Perform Workplace Safety Practices during DCI Evaluation
8. DGT/VSQ/N0102: Employability Skills (60 Hours)

Qualification Pack (QP) Parameters

Sector	Telecom

Qualification Pack

Sub-Sector	Digital Infrastructure
Occupation	Digital Connectivity Infrastructure
Country	India
NSQF Level	6
Credits	16
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2153.0400
Minimum Educational Qualification & Experience	Completed 4 year UG program (B.E./B.Tech in Civil/IT/ECE/Electrical Engineering OR B.Arch) with 1.5 years of experience Relevant Industry OR Completed 3 year diploma after 10th (Diploma in Civil/IT/ECE/Electrical Engineering/Architecture) with 4 Years of experience Relevant Industry OR Previous relevant Qualification of NSQF Level (5.5 as Digital Connectivity Infrastructure (DCI) Designer) with 1.5 years of experience Relevant Industry OR Previous relevant Qualification of NSQF Level (5) with 3 years of experience Relevant Industry
Minimum Level of Education for Training in School	Not Applicable
Pre-Requisite License or Training	Not Applicable
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	07/10/2028
NSQC Approval Date	07/10/2025
Version	1.0
Reference code on NQR	QG-06-TL-046482025-V1-ICES
NQR Version	1.0

Qualification Pack

ICE/TEL/N0305: Perform Evaluation of Framework, Components and Basics of Drone Landing at Digital Infrastructure

Description

The module provides an introduction to the DCI Evaluation framework, outlining its key components and relevance in digital infrastructure. It covers the fundamental concepts and procedures involved in drone landing within telecom and related environments.

Scope

The scope covers the following :

- To provide understanding of the DCI Evaluation framework and its key components in digital infrastructure.
- To familiarize learners with the basics of safe and effective drone landing procedures in relevant environments.

Elements and Performance Criteria

Introduction to DCI Evaluator and Components of DCI

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

PC1. Identify the key responsibilities and functions of a Digital Connectivity Infrastructure (DCI) Evaluator and how they contribute to the implementation and maintenance of digital services.

PC2. Evaluate how effective digital infrastructure evaluation supports broader national development goals, including economic growth, urban planning, and technological advancement.

PC3. Recognize and describe various elements of smart city infrastructure such as Smart Poles, public Wi-Fi kiosks, and electric vehicle (EV) charging stations.

PC4. Engage with or explain the roles of key players such as the Digital Connectivity Rating Agency (DCRA), Property Managers, Telecom Service Providers (TSPs), and Digital Connectivity Infrastructure Providers (DCIPs) in digital infrastructure deployment.

PC5. Carry out tasks associated with evaluating and assessing digital connectivity infrastructure according to established standards and guidelines.

PC6. Construct or interpret visual representations of DCI components, including sample layouts, system diagrams, and architectural models.

PC7. Develop or analyze basic infrastructure designs and network topologies that support digital connectivity in urban environments.

Regulations, Standards and Permissions

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

PC8. Demonstrate knowledge of the roles and responsibilities of TRAI, DoT, and BIS in setting policies, regulations, and standards for telecom and digital connectivity infrastructure.

PC9. Locate and implement applicable standards such as BIS structured cabling norms and DoT guidelines for telecom tower setup and fiber optic deployment.

PC10. Analyze central and state-level RoW regulations related to laying underground and overhead telecom infrastructure and apply them in real-world planning scenarios.

PC11. Determine the necessary licenses and compliance categories required for deploying digital connectivity infrastructure in line with regulatory requirements.

PC12. Verify that digital infrastructure projects meet the Model Building Bye Laws (MBBL) and National Building Code (NBC) standards.

PC13. Use national and international benchmarks, including Smart City norms, to assess the preparedness of urban areas for digital connectivity solutions.

PC14. Read and explain sample documents such as TRAI recommendations and DoT circulars to understand their implications on DCI planning and execution.

PC15. Illustrate and interpret annexures like site layouts, route maps, NOC requests, and safety certifications required during infrastructure deployment.

PC16. Create and maintain digital records, select routes using mapping tools, and track approval processes involved in DCI implementation.

Digital connectivity Registration process and Rating Lifecycle

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

PC17. Assess whether an individual or organization meets the required qualifications and prerequisites for registering with the Digital Connectivity Rating Agency (DCRA).

PC18. Carry out the steps involved in submitting a registration application to the DCRA, including document preparation and submission procedures.

PC19. Follow the process through which registration is approved and how registered entities are listed on the official digital connectivity rating platform.

PC20. Adhere to the terms and requirements specified by regulatory authorities for maintaining valid DCRA registration.

PC21. How to perform all duties and responsibilities expected from a registered Digital Connectivity Rating Agency as per regulatory guidelines.

PC22. Execute the registration process for Property Managers under the digital connectivity rating framework, including submission of necessary forms and documents.

PC23. Fulfill the roles and obligations assigned to Property Managers regarding digital infrastructure compliance and property readiness for rating.

PC24. Categorize buildings or developments into appropriate classes according to their type and intended use for digital connectivity evaluation.

PC25. Apply the established methodology to evaluate and rate a property's digital connectivity infrastructure based on defined benchmarks.

PC26. Understand and apply the provisions outlined in TRAI's "Rating of Properties for Digital Connectivity Regulations, 2024" and its associated draft manual for assessments.

PC27. Fill out mock or sample registration forms for DCRA or Property Manager registration, identifying and attaching all required documentation.

PC28. Practice entering data and completing the digital registration process for a sample property, including inputting key details needed for rating.

Understand the elements of Active and Passive Infrastructure

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

PC29. Understand the roles of active (e.g., routers, switches, access points) and passive (e.g., cables, patch panels, connectors) network infrastructure.

PC30. Explain how these components interact to enable seamless network communication, adhering to relevant industry standards and protocols.

PC31. Understand the set up and configure active network devices, such as routers and switches, to achieve desired network connectivity and functionality.

PC32. How to accurately terminate test passive network components, including cables and connectors, performing comprehensive continuity and performance tests on cabling systems to ensure proper data transmission.

PC33. Understand how to effectively integrate active network components with existing passive infrastructure, ensuring all parts work together as a cohesive system.

PC34. How to systematically inspect both active and passive network systems to identify and resolve potential faults, maintaining overall system integrity and performance.

Prior processing for DCI

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

PC35. How to accurately assess the physical environment, including dimensions, layout, ventilation, and power, to determine optimal equipment placement and cable routing. This includes identifying potential obstructions or interference and creating detailed floor plans that designate equipment installation areas.

PC36. How to develop network topology diagrams that visualize device connectivity. Select appropriate cabling types (e.g., Ethernet, fiber optics) and specify routing paths.

PC37. Accurately estimate quantities of all necessary cables, connectors, and hardware components, ensuring adherence to TIA/EIA and ISO/IEC standards.

PC38. Identify to verify the quality of all cables, connectors, and hardware components before installation. This also involves pre-configuring network equipment (routers, switches, access points) with initial settings like default IPs and passwords, and cutting and labeling cables for efficient identification.

PC39. Understand the cable cutting and labeling practices and explain correct crimping of RJ45 connectors test cables for continuity to ensure reliable connections.

PC40. Understand the redundancy and failover mechanisms to ensure uninterrupted connectivity.

PC41. How to set up default IPs, passwords, and initial configurations for all routers, switches, and access points prior to deployment.

Basics of Drone Landing at Digital Infrastructure

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

PC42. Understand correct safe drone landing techniques, ensuring proper altitude control, controlled descent speed, and accurate landing zone selection.

PC43. Explain how to apply awareness of site-specific conditions within digital connectivity infrastructure (e.g., Data center rooftops, fiber cable zones) to adjust landing approach.

PC44. Understand how to Assess environmental conditions wind speed, visibility, GPS signals quality and surface stability before commencing landing.

PC45. Discuss how to implement precautionary measures to minimize electromagnetic interference (EMI) and safeguard network hardware or communication lines.

PC46. Understand how to respond effectively to operational challenges such as signal loss, sensor malfunctions, or obstacle detection alerts during descent.

PC47. Understand DGCA regulations and site-specific standard operating procedures while executing drone landing.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Know what defines a DCI Evaluator and how this role facilitates access to digital services through proper infrastructure planning and evaluation.

KU2. Comprehend how the work of DCI Evaluators contributes to achieving national objectives in digital transformation, smart cities, and sustainable development.

KU3. Be familiar with the technical aspects and functionalities of modern urban ICT solutions like Smart Poles, public internet access points, and EV charging systems.

KU4. Understand the responsibilities and contributions of entities such as the Digital Connectivity Rating Agency (DCRA), Property Managers, TSPs, and DCIPs in building and managing digital infrastructure.

KU5. Have a clear understanding of the core duties, required skills, and professional conduct expected from a DCI Evaluator.

KU6. Be able to read and understand diagrams, models, and schematics that represent digital connectivity infrastructure components and configurations.

KU7. Understand standard infrastructure blueprints and network mapping techniques used in deploying digital connectivity solutions in urban settings.

KU8. Know the functions and mandates of key regulatory bodies: Telecom Regulatory Authority of India (TRAI), Department of Telecommunications (DoT), and Bureau of Indian Standards (BIS).

KU9. Be familiar with BIS standards for structured cabling systems and DoT guidelines for installing telecom towers and deploying fiber networks.

KU10. Understand both central and state-level provisions governing access to public spaces for installing telecom infrastructure, both underground and overhead.

KU11. Be aware of various licensing requirements and compliance classifications under telecom regulations that apply to digital infrastructure providers.

KU12. Understand how digital infrastructure must comply with the Model Building Bye Laws (MBBL) and National Building Code (NBC) for safe and legal integration into built environments.

KU13. Know how to reference and apply internationally recognized standards and Smart City criteria when evaluating digital infrastructure readiness.

KU14. Recognize the importance and content of key regulatory outputs such as DoT circulars and TRAI recommendations.

KU15. Be familiar with standard annexures used in infrastructure proposals, including site plans, route maps, NOC applications, and safety certification forms.

KU16. Know how to prepare digital documentation, map infrastructure routes, and follow approval workflows in accordance with regulatory procedures.

KU17. Be aware of the qualifications, experience, and legal conditions that applicants must meet to register with the Digital Connectivity Rating Agency.

KU18. Know the sequence of actions involved in applying for and obtaining DCRA registration, including online and offline formalities.

KU19. Know how the approval of DCRA registration is communicated and how registered agencies appear on the centralized rating platform.

KU20. Understand the legal and operational conditions imposed by regulators on DCRA registrants.

KU21. Be aware of the core responsibilities that a Digital Connectivity Rating Agency must fulfill, such as transparency, impartiality, and reporting.

KU22. Understand the procedure and documentation required for Property Managers to enroll under the digital connectivity rating system.

KU23. Be aware of the roles Property Managers play in ensuring that buildings comply with digital infrastructure standards and are ready for evaluation.

KU24. Know how different types of buildings (e.g., residential, commercial, institutional) are categorized for the purpose of digital connectivity assessment.

KU25. Understand the overall process used to assess and assign a digital connectivity score to a property, including scoring systems and verification methods.

KU26. Be familiar with TRAIs Rating of Properties for Digital Connectivity Regulations, 2024 and the guidance provided in the associated property assessment manual.

KU27. Recognize the various forms, certifications, and supporting materials needed when registering with DCRA or for property rating.

KU28. Know how to navigate online platforms for property registration, including entering property information, uploading documents, and tracking approval status.

KU29. Principles of safe drone landing, including factors affecting altitude control, descent speed, and landing zone assessment.

KU30. Site-related risks and operational considerations specific to digital connectivity infrastructure.

KU31. Influence of weather, GPS accuracy, and landing surface conditions on drone landing safety.

KU32. Sources and effects of electromagnetic interference, and methods to prevent associated equipment damage.

KU33. Types of in-flight challenges (e.g., signal disruption, sensor errors) and standard troubleshooting approaches.

KU34. Relevant DGCA guidelines and organizational SOPs for compliant and safe landing operations.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.

GS2. Apply problem-solving approaches for different situations.

GS3. Work effectively in a team.

GS4. Employ proper time management.

GS5. Plan and organize work.

GS6. Maintain hygiene and sanitation.

GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to DCI Evaluator and Components of DCI	10	10	-	2
PC1. Identify the key responsibilities and functions of a Digital Connectivity Infrastructure (DCI) Evaluator and how they contribute to the implementation and maintenance of digital services.	-	-	-	-
PC2. Evaluate how effective digital infrastructure evaluation supports broader national development goals, including economic growth, urban planning, and technological advancement.	-	-	-	-
PC3. Recognize and describe various elements of smart city infrastructure such as Smart Poles, public Wi-Fi kiosks, and electric vehicle (EV) charging stations.	-	-	-	-
PC4. Engage with or explain the roles of key players such as the Digital Connectivity Rating Agency (DCRA), Property Managers, Telecom Service Providers (TSPs), and Digital Connectivity Infrastructure Providers (DCIPs) in digital infrastructure deployment.	-	-	-	-
PC5. Carry out tasks associated with evaluating and assessing digital connectivity infrastructure according to established standards and guidelines.	-	-	-	-
PC6. Construct or interpret visual representations of DCI components, including sample layouts, system diagrams, and architectural models.	-	-	-	-
PC7. Develop or analyze basic infrastructure designs and network topologies that support digital connectivity in urban environments.	-	-	-	-
Regulations, Standards and Permissions	10	10	-	2
PC8. Demonstrate knowledge of the roles and responsibilities of TRAI, DoT, and BIS in setting policies, regulations, and standards for telecom and digital connectivity infrastructure.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC9. Locate and implement applicable standards such as BIS structured cabling norms and DoT guidelines for telecom tower setup and fiber optic deployment.	-	-	-	-
PC10. Analyze central and state-level RoW regulations related to laying underground and overhead telecom infrastructure and apply them in real-world planning scenarios.	-	-	-	-
PC11. Determine the necessary licenses and compliance categories required for deploying digital connectivity infrastructure in line with regulatory requirements.	-	-	-	-
PC12. Verify that digital infrastructure projects meet the Model Building Bye Laws (MBBL) and National Building Code (NBC) standards.	-	-	-	-
PC13. Use national and international benchmarks, including Smart City norms, to assess the preparedness of urban areas for digital connectivity solutions.	-	-	-	-
PC14. Read and explain sample documents such as TRAI recommendations and DoT circulars to understand their implications on DCI planning and execution.	-	-	-	-
PC15. Illustrate and interpret annexures like site layouts, route maps, NOC requests, and safety certifications required during infrastructure deployment.	-	-	-	-
PC16. Create and maintain digital records, select routes using mapping tools, and track approval processes involved in DCI implementation.	-	-	-	-
Digital connectivity Registration process and Rating Lifecycle	10	10	-	2
PC17. Assess whether an individual or organization meets the required qualifications and prerequisites for registering with the Digital Connectivity Rating Agency (DCRA).	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC18. Carry out the steps involved in submitting a registration application to the DCRA, including document preparation and submission procedures.	-	-	-	-
PC19. Follow the process through which registration is approved and how registered entities are listed on the official digital connectivity rating platform.	-	-	-	-
PC20. Adhere to the terms and requirements specified by regulatory authorities for maintaining valid DCRA registration.	-	-	-	-
PC21. How to perform all duties and responsibilities expected from a registered Digital Connectivity Rating Agency as per regulatory guidelines.	-	-	-	-
PC22. Execute the registration process for Property Managers under the digital connectivity rating framework, including submission of necessary forms and documents.	-	-	-	-
PC23. Fulfill the roles and obligations assigned to Property Managers regarding digital infrastructure compliance and property readiness for rating.	-	-	-	-
PC24. Categorize buildings or developments into appropriate classes according to their type and intended use for digital connectivity evaluation.	-	-	-	-
PC25. Apply the established methodology to evaluate and rate a property's digital connectivity infrastructure based on defined benchmarks.	-	-	-	-
PC26. Understand and apply the provisions outlined in TRAI's "Rating of Properties for Digital Connectivity Regulations, 2024" and its associated draft manual for assessments.	-	-	-	-
PC27. Fill out mock or sample registration forms for DCRA or Property Manager registration, identifying and attaching all required documentation.	-	-	-	-
PC28. Practice entering data and completing the digital registration process for a sample property, including inputting key details needed for rating.	-	-	-	-
Understand the elements of Active and Passive Infrastructure	**5**	**5**	**-**	**2**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC29. Understand the roles of active (e.g., routers, switches, access points) and passive (e.g., cables, patch panels, connectors) network infrastructure.	-	-	-	-
PC30. Explain how these components interact to enable seamless network communication, adhering to relevant industry standards and protocols.	-	-	-	-
PC31. Understand the set up and configure active network devices, such as routers and switches, to achieve desired network connectivity and functionality.	-	-	-	-
PC32. How to accurately terminate test passive network components, including cables and connectors, performing comprehensive continuity and performance tests on cabling systems to ensure proper data transmission.	-	-	-	-
PC33. Understand how to effectively integrate active network components with existing passive infrastructure, ensuring all parts work together as a cohesive system.	-	-	-	-
PC34. How to systematically inspect both active and passive network systems to identify and resolve potential faults, maintaining overall system integrity and performance.	-	-	-	-
Prior processing for DCI	5	5	-	1
PC35. How to accurately assess the physical environment, including dimensions, layout, ventilation, and power, to determine optimal equipment placement and cable routing. This includes identifying potential obstructions or interference and creating detailed floor plans that designate equipment installation areas.	-	-	-	-
PC36. How to develop network topology diagrams that visualize device connectivity. Select appropriate cabling types (e.g., Ethernet, fiber optics) and specify routing paths.	-	-	-	-
PC37. Accurately estimate quantities of all necessary cables, connectors, and hardware components, ensuring adherence to TIA/EIA and ISO/IEC standards.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC38. Identify to verify the quality of all cables, connectors, and hardware components before installation. This also involves pre-configuring network equipment (routers, switches, access points) with initial settings like default IPs and passwords, and cutting and labeling cables for efficient identification.	-	-	-	-
PC39. Understand the cable cutting and labeling practices and explain correct crimping of RJ45 connectors test cables for continuity to ensure reliable connections.	-	-	-	-
PC40. Understand the redundancy and failover mechanisms to ensure uninterrupted connectivity.	-	-	-	-
PC41. How to set up default IPs, passwords, and initial configurations for all routers, switches, and access points prior to deployment.	-	-	-	-
Basics of Drone Landing at Digital Infrastructure	**5**	**5**	**-**	**1**
PC42. Understand correct safe drone landing techniques, ensuring proper altitude control, controlled descent speed, and accurate landing zone selection.	-	-	-	-
PC43. Explain how to apply awareness of site-specific conditions within digital connectivity infrastructure (e.g., Data center rooftops, fiber cable zones) to adjust landing approach.	-	-	-	-
PC44. Understand how to Assess environmental conditions wind speed, visibility, GPS signals quality and surface stability before commencing landing.	-	-	-	-
PC45. Discuss how to implement precautionary measures to minimize electromagnetic interference (EMI) and safeguard network hardware or communication lines.	-	-	-	-
PC46. Understand how to respond effectively to operational challenges such as signal loss, sensor malfunctions, or obstacle detection alerts during descent.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC47. Understand DGCA regulations and site-specific standard operating procedures while executing drone landing.	-	-	-	-
NOS Total	**45**	**45**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0305
NOS Name	Perform Evaluation of Framework, Components and Basics of Drone Landing at Digital Infrastructure
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	2.5
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/TEL/N0306: Conduct Assessments on DCI Compliance and Resilience as per MBBL & NBC

Description

Assessment methodology for compliance and resilience of Digital Connectivity Infrastructure (DCI) ensures adherence to Model Building Bye-Laws (MBBL) and National Building Code (NBC) standards. It involves evaluating design, implementation, and future-readiness to ensure robust and sustainable digital services.

Scope

The scope covers the following :

- Evaluate DCI elements such as cable pathways, telecom rooms, power systems, and redundancy measures as per MBBL and NBC requirements.
- Assess infrastructure resilience through flood protection, route diversity, and compliance with safety and performance benchmarks.

Elements and Performance Criteria

Digital Connectivity Compliance as per Model Building Bye Laws (MBBL) and National Building Code (NBC)

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

PC1. Explain how Model Building Bye-Laws and National Building Code influence digital infrastructure requirements in new and existing buildings.

PC2. Identify key sections in MBBL and NBC that address structured cabling, safety standards, and future-ready digital infrastructure.

PC3. Develop infrastructure plans that align with legal and technical requirements for formal design clearance.

PC4. Apply standards for horizontal/vertical pathways, telecom entry points, telecom rooms, and HVAC systems specific to telecom areas.

PC5. Adherence to approved layouts to ensure reliable service delivery and long-term scalability of digital networks.

PC6. Monitor and confirm that actual installations strictly follow finalized plans to avoid performance issues.

PC7. Understand the implement best practices for consistency, durability, and ease of maintenance in digital infrastructure rollouts.

PC8. Compare final construction records with initial designs to identify any changes made during implementation.

PC9. Distinguish between minor and major modifications and assess their impact on overall system functionality.

PC10. Analyze how design or implementation gaps can affect network expansion, service reliability, and smart technology integration.

PC11. Prepare and manage reports, drawings, and inspection records to support regulatory audits and approvals.

PC12. Use standardized scoring methods to evaluate how well a project meets digital infrastructure requirements.

PC13. Review blueprints and building plans to ensure they incorporate all necessary digital infrastructure components.

PC14. Confirm that required approvals have been issued by qualified professionals or agencies.

PC15. Compare real-world setups with approved digital infrastructure designs.

PC16. Record findings from inspections, including photographs and notes, to support verification processes.

PC17. Clearly note any discrepancies found during field checks and classify them based on severity.

PC18. Ensure that all installed components have valid test results and operational certifications confirming proper function.

Robust Digital Connectivity in Civil Infrastructure as per MBBL and NBC

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

PC19. How exceeding building code requirements can lead to improved digital service delivery and long-term efficiency.

PC20. Understand the implement strategies that ensure infrastructure can support evolving technologies and easy upgrades.

PC21. Evaluate telecom rooms, cable pathways, and ducts to confirm to accommodate growing network demands.

PC22. Ensure telecom infrastructure includes flexible horizontal and vertical cable routes and backup access points.

PC23. Inspect buildings to determine for 5G/6G, fiber optics, IoT, and machine-to-machine communication systems.

PC24. Confirm designated areas for mobile towers, Wi-Fi, distributed antenna systems (DAS), and DTH installations.

PC25. Verify that infrastructure includes clear access paths for maintenance, repair, and system upgrades.

PC26. Confirm that all equipment, cables, and pathways are clearly marked for ease of operation and troubleshooting.

PC27. Analyze layout plans, site images, and feasibility reports to assess future-proofing potential.

PC28. Use defined parameters to evaluate how well a site supports future modifications and maintenance.

PC29. Physically examine telecom rooms, ducts, and pathways to verify their capacity for scaling and upgrading.

PC30. Assess how easy it is to install, repair, or replace telecom systems within existing civil structures.

PC31. Check whether extra room has been allocated for telecom ducts, risers, and service areas beyond minimum norms.

PC32. Highlight infrastructure components designed with higher capacity or flexibility than required by codes.

PC33. Examine telecom rooms and cable routes to ensure they can support upcoming mobile and wired technologies.

PC34. Review physical allocations for base stations, DAS, Wi-Fi, and satellite systems to ensure adequacy.

PC35. Confirm that telecom rooms, ducts, and connection points are easily reachable for service and upgrades.

PC36. Inspect markings on equipment, cabling, and infrastructure to ensure clarity and correctness.

Reliable Digital Connectivity in Power Infrastructure, as per MBBL or NBC

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

PC37. Recognize and implement strategies to maintain continuous power for critical digital infrastructure components.

PC38. Confirm that redundant systems like generators and alternative energy sources are in place to support DCI during outages.

PC39. Assess how Uninterruptible Power Supply units contribute to uninterrupted operation of telecom and data equipment.

PC40. How load analysis to ensure UPS systems can support required backup time and share loads effectively in redundant configurations.

PC41. How to set up and utilize monitoring tools to track power system performance and detect anomalies promptly.

PC42. How to use real-time status displays, health indicators, and automated alerts to manage DCI power infrastructure proactively.

PC43. Ensure centralized control of fire alarms, HVAC, access control, and power systems through BMS for improved operational efficiency.

PC44. Evaluate the impact of BMS connectivity on the reliability and availability of digital infrastructure services.

PC45. Compile and examine power layout diagrams, switchover test reports, BMS architecture plans, and monitoring screenshots.

PC46. Evaluate compliance using defined parameters for redundancy, UPS duration, and monitoring/BMS integration.

PC47. Conduct on-site checks to confirm that alternate power sources are installed and functional for key DCI systems.

PC48. Simulate automatic transfer from main to backup power to ensure seamless transition during outages.

PC49. Review electrical layouts to confirm that all critical systems are connected to and protected by UPS units.

PC50. Compare the rated output of UPS systems with the total load of connected DCI equipment to ensure adequate coverage.

PC51. Carry out practical tests to confirm that the UPS provides stable and uninterrupted power when input power is cut off.

PC52. Verify that dashboards display current power conditions, system health, and alerts as intended.

PC53. Trigger or simulate power faults to check if warning systems notify responsible personnel in a timely manner.

PC54. Ensure that critical building systems are linked to the BMS for unified monitoring and control.

PC55. Test whether the BMS sends notifications and updates regarding system events or failures accurately.

Resilience Digital Connectivity Infrastructure

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

PC56. Understand how resilient infrastructure ensures continuous digital connectivity during disruptions.

PC57. Assess how digital infrastructure can withstand failures, avoid downtime, and manage high network traffic.PC57 Assess how digital infrastructure can withstand failures, avoid downtime, and manage high network traffic.

PC58. Confirm that multiple access points are available for telecom services to ensure route diversity.

PC59. Identify how having separate routes for connectivity minimizes risks from faults or physical damage.

PC60. Confirm that alternative connectivity paths reach critical internal infrastructure areas like telecom rooms.

PC61. How to apply protective measures such as raised installations, waterproof enclosures, and proper drainage to prevent water damage.

PC62. Verify that telecom rooms and critical power systems (like UPS and generators) are located on elevated floors or platforms.

PC63. Ensure dedicated drainage mechanisms are in place to prevent flooding in telecom and power equipment rooms.

PC64. Check that backup power sources and diverse cable routes (fiber, copper) are provided within the building.

PC65. Confirm separate routing for cables between towers, basements, and other structural zones.

PC66. Ensure there are dual, distinct routes for digital connectivity leading up to key aggregation points.

PC67. Examine design layouts, photographs, and technical drawings to verify adherence to resilience standards.

PC68. Evaluate DCI using defined parameters like alternate paths, flood protection, and system redundancies.

PC69. Physically inspect infrastructure to confirm presence of alternative telecom entry points and routing.

PC70. Ensure infrastructure supports simultaneous operations from multiple telecom service providers.

PC71. Confirm telecom rooms are placed on higher floors or away from flood-prone zones.

PC72. Ensure UPS units, switchgear, and generators are mounted safely above potential flood levels.

PC73. Ensure no plumbing or drainage lines pass through or drain into telecom or power equipment rooms.

PC74. Inspect and validate that drainage mechanisms prevent water backflow and flooding in DCI areas.

PC75. Confirm presence and readiness of main grid supply along with backup options like generators and UPS systems.

PC76. Check that multiple cables follow separate physical routes across building blocks for redundancy.

PC77. Ensure digital connections follow completely separated routes to enhance reliability.

PC78. Compile findings, photos, test results, and observations into formal evaluation reports.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Know how these regulatory frameworks guide the integration of telecom infrastructure in built environments.

KU2. Be familiar with specific sections of MBBL and NBC covering structured wiring, fire safety, and digital future-proofing.

KU3. Be aware of the submission process, review stages, and documentation needed for formal clearance.

KU4. Role of cable pathways, telecom entry points, room specifications, and environmental controls.

KU5. Appreciate how strict adherence to plans ensures stable performance and future upgrades.

KU6. Recognize how implementation errors can lead to inefficiencies and cost overruns.

KU7. Know how uniformity, material quality, and accessibility contribute to long-term usability.

KU8. Know what these records contain and essential for ongoing operations and audits.

KU9. Modification is acceptable versus when it compromises regulatory compliance.

KU10. How even small changes can hinder network performance and future tech adoption.

KU11. Know what records must be kept and submitted for official verification and approvals.

KU12. How scores are calculated based on fulfillment of mandatory and optional criteria.

KU13. Know how to interpret blueprints, legends, and annotations used in building and telecom design.

KU14. Know which officials or bodies are authorized to approve digital infrastructure work.

KU15. Inspection techniques, checklists, and reporting formats used during on-site visits.

KU16. Know how to record observations, attach proof, and prepare reports for internal and external stakeholders.

KU17. How deviations are logged, reviewed, and resolved in practice.

KU18. How functional tests and certifications prove that infrastructure works as intended.

KU19. How going beyond MBBL and NBC standards enhances performance and adaptability.

KU20. Be familiar with how these principles guide effective DCI planning and execution.

KU21. Know why sufficient space for telecom rooms and cable pathways is essential for future growth.

KU22. Importance of multiple entry points and flexible cabling layouts.

KU23. Know what structural features are necessary to support 5G/6G, fiber, iot, and M2M communications.

KU24. Be aware of standard and recommended placements for antennas, DAS, Wi-Fi nodes, and DTH setups.

KU25. Recognize how planned access areas improve operational efficiency and reduce downtime.

KU26. How proper identification supports maintenance, troubleshooting, and audits.

KU27. Know how to interpret building layouts, site photos, and expansion reports for DCI assessments.

KU28. Know how compliance ratings are calculated based on scalability and accessibility features.

KU29. Be aware of key indicators of readiness for future upgrades during on-site checks.

KU30. Know how design choices affect ease of installation, repair, and replacement.
KU31. Identify when infrastructure exceeds regulatory minimums for better performance.
KU32. Know how to spot design elements that go beyond basic compliance for better functionality.
KU33. Spatial and structural requirements for deploying advanced telecom systems.
KU34. Know how and where to locate mobile base stations, Wi-Fi access points, and related infrastructure.
KU35. Know how design affects ease of access for technicians and engineers.
KU36. How labeling helps in managing complex digital infrastructure effectively.
KU37. Know how power interruptions affect digital services and infrastructure performance.
KU38. Be aware of how alternative sources like generators and solar systems keep DCI running during grid failures.
KU39. Technical role of UPS units in preventing downtime due to power fluctuations or outages.
KU40. Know how to calculate backup time, determine capacity, and configure load-sharing setups.
KU41. Be aware of how these systems help maintain uptime by detecting and responding to power issues.
KU42. Benefits of visual monitoring tools and automated notifications for proactive maintenance.
KU43. Know how integrating DCI systems with BMS enables centralized control and coordination of building services.
KU44. How integrated monitoring enhances service continuity and fault response.
KU45. Know what types of drawings, reports, and records are needed for audits and compliance.
KU46. Know the factors considered when rating power systems for redundancy, backup, and monitoring capabilities.
KU47. Be aware of the key elements to look for during physical verification of power systems.
KU48. Know the procedures involved in testing automatic transfer switches and backup activation.
KU49. How to read and apply electrical schematics to verify UPS connections.
KU50. How to assess equipment load and select appropriately sized UPS units.
KU51. Know how to safely perform and interpret results from live UPS tests.
KU52. Know how to navigate and interpret power monitoring interfaces.
KU53. Know the triggers, delivery methods, and response protocols for power-related alerts.
KU54. Technical and operational benefits of linking BMS with telecom and facility systems.
KU55. Know how BMS communicates with devices and generates alerts for system events.
KU56. Know how resilient infrastructure contributes to uninterrupted digital services during disruptions.
KU57. Concepts like fault tolerance, redundancy, and congestion management in digital networks.
KU58. Be aware of how multiple access routes improve service continuity and reduce single points of failure.
KU59. Recognize how separating telecom paths lowers the risk of total service loss due to localized issues.
KU60. How to ensure alternate paths reach critical internal infrastructure locations.
KU61. Know how to protect telecom and power equipment from water-related damage using elevation and sealing methods.
KU62. Know why locating telecom rooms and power gear on upper floors improves resilience.

KU63. Importance of dedicated drainage systems in preventing water ingress.
KU64. Recognize how having backups for both electrical and data systems increases uptime.
KU65. How to route cables separately through different parts of a building for better fault tolerance.
KU66. Know why at least two physically distinct routes are required to connect to major aggregation points.
KU67. Know which types of drawings, diagrams, and photographic records are needed for validation.
KU68. Know the rating criteria used to assess redundancy, flood protection, and path separation.
KU69. Know how to conduct field inspections for telecom ducts and cables
KU70. Know how to ensure sufficient space and capacity for more than one telecom operator.
KU71. How location affects safety and performance during natural or man-made hazards.
KU72. Why elevating UPS and generator setups helps avoid damage from floods or leaks.
KU73. Know why shared drainage systems pose a risk to sensitive telecom and power infrastructure.
KU74. Know how to check if installed drainage prevents water accumulation and backflow.
KU75. Know how to assess whether multiple reliable power supplies are in place for DCI systems.
KU76. How to differentiate between shared and separate cable routes in building layouts.
KU77. Know how keeping cables apart reduces the risk of simultaneous failure.
KU78. Structure and content of formal evaluations including visual and test-based evidence.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.
GS2. Apply problem-solving approaches for different situations.
GS3. Work effectively in a team.
GS4. Employ proper time management.
GS5. Plan and organize work.
GS6. Maintain hygiene and sanitation.
GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Digital Connectivity Compliance as per Model Building Bye Laws (MBBL) and National Building Code (NBC)	15	15	-	3
PC1. Explain how Model Building Bye-Laws and National Building Code influence digital infrastructure requirements in new and existing buildings.	-	-	-	-
PC2. Identify key sections in MBBL and NBC that address structured cabling, safety standards, and future-ready digital infrastructure.	-	-	-	-
PC3. Develop infrastructure plans that align with legal and technical requirements for formal design clearance.	-	-	-	-
PC4. Apply standards for horizontal/vertical pathways, telecom entry points, telecom rooms, and HVAC systems specific to telecom areas.	-	-	-	-
PC5. Adherence to approved layouts to ensure reliable service delivery and long-term scalability of digital networks.	-	-	-	-
PC6. Monitor and confirm that actual installations strictly follow finalized plans to avoid performance issues.	-	-	-	-
PC7. Understand the implement best practices for consistency, durability, and ease of maintenance in digital infrastructure rollouts.	-	-	-	-
PC8. Compare final construction records with initial designs to identify any changes made during implementation.	-	-	-	-
PC9. Distinguish between minor and major modifications and assess their impact on overall system functionality.	-	-	-	-
PC10. Analyze how design or implementation gaps can affect network expansion, service reliability, and smart technology integration.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Prepare and manage reports, drawings, and inspection records to support regulatory audits and approvals.	-	-	-	-
PC12. Use standardized scoring methods to evaluate how well a project meets digital infrastructure requirements.	-	-	-	-
PC13. Review blueprints and building plans to ensure they incorporate all necessary digital infrastructure components.	-	-	-	-
PC14. Confirm that required approvals have been issued by qualified professionals or agencies.	-	-	-	-
PC15. Compare real-world setups with approved digital infrastructure designs.	-	-	-	-
PC16. Record findings from inspections, including photographs and notes, to support verification processes.	-	-	-	-
PC17. Clearly note any discrepancies found during field checks and classify them based on severity.	-	-	-	-
PC18. Ensure that all installed components have valid test results and operational certifications confirming proper function.	-	-	-	-
Robust Digital Connectivity in Civil Infrastructure as per MBBL and NBC	10	10	-	3
PC19. How exceeding building code requirements can lead to improved digital service delivery and long-term efficiency.	-	-	-	-
PC20. Understand the implement strategies that ensure infrastructure can support evolving technologies and easy upgrades.	-	-	-	-
PC21. Evaluate telecom rooms, cable pathways, and ducts to confirm to accommodate growing network demands.	-	-	-	-
PC22. Ensure telecom infrastructure includes flexible horizontal and vertical cable routes and backup access points.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC23. Inspect buildings to determine for 5G/6G, fiber optics, IoT, and machine-to-machine communication systems.	-	-	-	-
PC24. Confirm designated areas for mobile towers, Wi-Fi, distributed antenna systems (DAS), and DTH installations.	-	-	-	-
PC25. Verify that infrastructure includes clear access paths for maintenance, repair, and system upgrades.	-	-	-	-
PC26. Confirm that all equipment, cables, and pathways are clearly marked for ease of operation and troubleshooting.	-	-	-	-
PC27. Analyze layout plans, site images, and feasibility reports to assess future-proofing potential.	-	-	-	-
PC28. Use defined parameters to evaluate how well a site supports future modifications and maintenance.	-	-	-	-
PC29. Physically examine telecom rooms, ducts, and pathways to verify their capacity for scaling and upgrading.	-	-	-	-
PC30. Assess how easy it is to install, repair, or replace telecom systems within existing civil structures.	-	-	-	-
PC31. Check whether extra room has been allocated for telecom ducts, risers, and service areas beyond minimum norms.	-	-	-	-
PC32. Highlight infrastructure components designed with higher capacity or flexibility than required by codes.	-	-	-	-
PC33. Examine telecom rooms and cable routes to ensure they can support upcoming mobile and wired technologies.	-	-	-	-
PC34. Review physical allocations for base stations, DAS, Wi-Fi, and satellite systems to ensure adequacy.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC35. Confirm that telecom rooms, ducts, and connection points are easily reachable for service and upgrades.	-	-	-	-
PC36. Inspect markings on equipment, cabling, and infrastructure to ensure clarity and correctness.	-	-	-	-
Reliable Digital Connectivity in Power Infrastructure, as per MBBL or NBC	10	10	-	2
PC37. Recognize and implement strategies to maintain continuous power for critical digital infrastructure components.	-	-	-	-
PC38. Confirm that redundant systems like generators and alternative energy sources are in place to support DCI during outages.	-	-	-	-
PC39. Assess how Uninterruptible Power Supply units contribute to uninterrupted operation of telecom and data equipment.	-	-	-	-
PC40. How load analysis to ensure UPS systems can support required backup time and share loads effectively in redundant configurations.	-	-	-	-
PC41. How to set up and utilize monitoring tools to track power system performance and detect anomalies promptly.	-	-	-	-
PC42. How to use real-time status displays, health indicators, and automated alerts to manage DCI power infrastructure proactively.	-	-	-	-
PC43. Ensure centralized control of fire alarms, HVAC, access control, and power systems through BMS for improved operational efficiency.	-	-	-	-
PC44. Evaluate the impact of BMS connectivity on the reliability and availability of digital infrastructure services.	-	-	-	-
PC45. Compile and examine power layout diagrams, switchover test reports, BMS architecture plans, and monitoring screenshots.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC46. Evaluate compliance using defined parameters for redundancy, UPS duration, and monitoring/BMS integration.	-	-	-	-
PC47. Conduct on-site checks to confirm that alternate power sources are installed and functional for key DCI systems.	-	-	-	-
PC48. Simulate automatic transfer from main to backup power to ensure seamless transition during outages.	-	-	-	-
PC49. Review electrical layouts to confirm that all critical systems are connected to and protected by UPS units.	-	-	-	-
PC50. Compare the rated output of UPS systems with the total load of connected DCI equipment to ensure adequate coverage.	-	-	-	-
PC51. Carry out practical tests to confirm that the UPS provides stable and uninterrupted power when input power is cut off.	-	-	-	-
PC52. Verify that dashboards display current power conditions, system health, and alerts as intended.	-	-	-	-
PC53. Trigger or simulate power faults to check if warning systems notify responsible personnel in a timely manner.	-	-	-	-
PC54. Ensure that critical building systems are linked to the BMS for unified monitoring and control.	-	-	-	-
PC55. Test whether the BMS sends notifications and updates regarding system events or failures accurately.	-	-	-	-
Resilience Digital Connectivity Infrastructure	10	10	-	2
PC56. Understand how resilient infrastructure ensures continuous digital connectivity during disruptions.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC57. Assess how digital infrastructure can withstand failures, avoid downtime, and manage high network traffic.PC57 Assess how digital infrastructure can withstand failures, avoid downtime, and manage high network traffic.	-	-	-	-
PC58. Confirm that multiple access points are available for telecom services to ensure route diversity.	-	-	-	-
PC59. Identify how having separate routes for connectivity minimizes risks from faults or physical damage.	-	-	-	-
PC60. Confirm that alternative connectivity paths reach critical internal infrastructure areas like telecom rooms.	-	-	-	-
PC61. How to apply protective measures such as raised installations, waterproof enclosures, and proper drainage to prevent water damage.	-	-	-	-
PC62. Verify that telecom rooms and critical power systems (like UPS and generators) are located on elevated floors or platforms.	-	-	-	-
PC63. Ensure dedicated drainage mechanisms are in place to prevent flooding in telecom and power equipment rooms.	-	-	-	-
PC64. Check that backup power sources and diverse cable routes (fiber, copper) are provided within the building.	-	-	-	-
PC65. Confirm separate routing for cables between towers, basements, and other structural zones.	-	-	-	-
PC66. Ensure there are dual, distinct routes for digital connectivity leading up to key aggregation points.	-	-	-	-
PC67. Examine design layouts, photographs, and technical drawings to verify adherence to resilience standards.	-	-	-	-
PC68. Evaluate DCI using defined parameters like alternate paths, flood protection, and system redundancies.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC69. Physically inspect infrastructure to confirm presence of alternative telecom entry points and routing.	-	-	-	-
PC70. Ensure infrastructure supports simultaneous operations from multiple telecom service providers.	-	-	-	-
PC71. Confirm telecom rooms are placed on higher floors or away from flood-prone zones.	-	-	-	-
PC72. Ensure UPS units, switchgear, and generators are mounted safely above potential flood levels.	-	-	-	-
PC73. Ensure no plumbing or drainage lines pass through or drain into telecom or power equipment rooms.	-	-	-	-
PC74. Inspect and validate that drainage mechanisms prevent water backflow and flooding in DCI areas.	-	-	-	-
PC75. Confirm presence and readiness of main grid supply along with backup options like generators and UPS systems.	-	-	-	-
PC76. Check that multiple cables follow separate physical routes across building blocks for redundancy.	-	-	-	-
PC77. Ensure digital connections follow completely separated routes to enhance reliability.	-	-	-	-
PC78. Compile findings, photos, test results, and observations into formal evaluation reports.	-	-	-	-
NOS Total	**45**	**45**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0306
NOS Name	Conduct Assessments on DCI Compliance and Resilience as per MBBL & NBC
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	3.5
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/TEL/N0307: Perform Evaluation for Future-Ready Digital Connectivity in Infrastructure, Services and User Experience

Description

Assessment methodology for Future-Ready Digital Connectivity Infrastructure ensures infrastructure is designed and implemented to support evolving technologies, services, and user expectations. It focuses on scalability, adaptability, and performance under real-world conditions.

Scope

The scope covers the following :

- Evaluate infrastructure readiness for emerging technologies like 5G, fiber-optic expansion, and IoT-enabled systems.
- Assess service quality and user experience through performance metrics, feedback analysis, and compliance with future-proofing standards.

Elements and Performance Criteria

Digital Connectivity Infrastructure demand or readiness in future

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

PC1. Show how infrastructure planning supports adaptability, scalability, and integration with new technologies.

PC2. Assess whether current infrastructure can support innovations like 5G, Wi-Fi 6/7, and smart building systems.

PC3. Ensure that DCI supports evolving standards such as high-speed, low-latency, and reliable communication for 4G/5G and beyond.

PC4. Confirm presence and functionality of systems critical for strong wireless and wired connectivity.

PC5. Apply best practices that ensure seamless integration of upcoming frequency bands and communication protocols.

PC6. Inspect radio units, baseband units, duplexers, combiners, and transmitters for compatibility with next-gen systems.

PC7. Validate that fiber infrastructure supports high data throughput and meets modern connectivity demands.

PC8. Check if the system supports speeds like 1 Gbps, 10 Gbps, and uses technologies like DWDM and PON.

PC9. Evaluate pathways, ducts, and termination points to determine if they allow for easy fiber additions.

PC10. Compile and examine equipment lists, photos, BoM, datasheets, and other records related to wireline upgrades.

PC11. Rate the infrastructure using defined parameters like technology compatibility, band support, and bandwidth capacity.

PC12. Conduct field checks to verify installation quality and performance readiness of telecom gear and validate whether installed systems work with existing bands and can evolve with new ones.

PC13. Determine whether current systems can be upgraded without major overhauls to support new tech.

PC14. Examine whether antennas, radios, and signal processors meet requirements for future applications.

PC15. Measure if the network currently supports or can be upgraded to handle 1 Gbps, 10 Gbps, or more.

PC16. Confirm whether the deployed fiber can support advanced optical networking techniques.

PC17. Ensure that existing infrastructure allows for adding more fiber cables when needed.

PC18. Verify that patch panels and racks are designed to support future scaling and reconfiguration.

PC19. Document findings along with Bill of Materials, datasheets, test results, and photographs.

Wired Digital Connectivity

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

PC20. Show how high-speed, reliable, and low-latency wired connections support modern digital services.

PC21. Assess how DCI meets the needs of business operations, smart buildings, and residential broadband.

PC22. Confirm that strong fiber links are in place between telecom providers and the property.

PC23. Identify how fiber improves performance for cloud computing, video conferencing, and smart building systems.

PC24. Ensure backup routes are available to maintain connectivity during outages.

PC25. Confirm that fiber reaches residential, office, and commercial units for optimal performance.

PC26. Demonstrate how fiber enables 5G backhaul, cloud access, and advanced smart building features.

PC27. Ensure cabling design allows for efficient installation, maintenance, and scalability.

PC28. Understand the universal coverage to avoid network dead zones and ensure consistent digital experiences.

PC29. Locate and resolve issues causing inconsistent or missing digital access across the property.

PC30. Examine fiber test reports, termination photos, architecture diagrams, and site surveys.

PC31. Rate properties using parameters like number of service providers, percentage of connected units, and room-level fiber reach.

PC32. Conduct field checks to verify condition, installation, and performance of backbone fiber systems.

PC33. Check that alternate fiber paths are available and functional to prevent service loss.

PC34. Test peak and average speeds to confirm real-world network capabilities.

PC35. Physically verify that fiber reaches each designated space within the building.

PC36. Analyze distribution layouts to ensure they match actual installations and support scalability.

PC37. Carry out visual checks in selected units to verify installed infrastructure and connection points.

PC38. Perform sample tests to ensure active and stable connections throughout the network.

PC39. Document findings along with test data, photos, and architectural drawings.

Digital Connectivity Infrastructure Service Providers

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

PC40. Show how multiple Internet Service Providers (ISPs) and mobile service providers improves competition, reliability, and redundancy.

PC41. Explain how property managers, businesses, and residents gain from better service options, continuity, and cost efficiency.

PC42. Use inspection and documentation checks to confirm that internet providers are properly connected to the building's digital systems.

PC43. Examine legal contracts and technical documents to ensure compliance with connectivity standards.

PC44. Confirm that all connected internet providers are active and delivering expected service levels.

PC45. Check that telecom services from various providers offer strong and consistent signal strength indoors.

PC46. Ensure these technologies are in place to enhance mobile signal quality within the premises.

PC47. Compile service agreements, integration certificates, performance tests, RF maps, and subscription records for audit and evaluation.

PC48. Rate properties using defined parameters such as number of ISPs/TSPs and percentage of area covered.

PC49. Conduct on-site checks to identify and validate installations from different internet service providers.

PC50. Analyze sample documents to ensure they reflect actual deployment and functionality.

PC51. Document findings including integration details, coverage results, and supporting evidence.

Digital Connectivity Infrastructure Service Quality Assessment

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

PC52. Collect data on signal strength, download/upload speeds, latency, voice/video call quality, call setup success, retainability, and uptime.

PC53. Conduct tests in both public and private spaces, including lifts, basements, and other low-coverage zones.

PC54. Use standard tools and procedures to evaluate radio frequency signal strength and quality across the property.

PC55. Capture variations in speed and call quality throughout the day to reflect real-world usage.

PC56. Validate that measured values meet regulatory standards for mobile service quality.

PC57. Check compliance with WPA2/WPA3 standards, along with performance metrics like speed and latency.

PC58. Ensure that wireless connectivity supports seamless access for data and voice applications.

PC59. Measure actual average download speeds from ISPs offering premium packages.

PC60. Analyze discrepancies between promised and experienced broadband performance.

PC61. Compile RF maps, test logs, Wi-Fi heatmaps, call reports, and security audit records for review.

PC62. Rate properties using defined parameters such as coverage area, minimum speeds, and number of compliant providers.

PC63. Use industry-standard tools to test signal strength in lobbies, corridors, lifts, basements, offices, and residential units.

PC64. Record data speed and call quality at different times, especially during high-traffic periods.

PC65. Locate and document all zones where wireless connectivity is available for users.

PC66. Conduct sample checks to ensure wireless networks are secured using current encryption standards.

PC67. Simulate real-time user conditions to validate network reliability under stress.

PC68. Use standard tools (e.g., TRAI My Speed App) for speed testing

PC69. Perform measurements at multiple user locations during high-traffic periods for accurate results.

PC70. Create and interpret visual representations of signal strength and wireless coverage.

PC71. Document findings, test outcomes, visual aids, and recommendations in formal assessment formats.

Digital Connectivity Infrastructure: User Perception & Feedback

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

PC72. Evaluate how mobile, wireline, and Wi-Fi services impact overall user satisfaction and usability.

PC73. Measure key UX indicators such as network reliability, speed, latency, accessibility, call quality, streaming performance, and service stability

PC74. Apply standards for gathering responses from at least 10% of users (if less than 1000), or at least 100 users (if more than 1000).

PC75. Create surveys that assess voice call quality, access success, data speeds, coverage, latency, and service uptime.

PC76. Review and prepare feedback tools according to standardized checklists for completeness and accuracy.

PC77. Rate properties by the percentage of users reporting positive experiences (e.g., 80%, 70%, 50%, 40%).

PC78. Upload or maintain required documents on the rating platform or with DCRA

PC79. Distinguish between valid and incomplete submissions during document verification.

PC80. Summarize assessment outcomes, scores, charts, and evidence in a structured format for stakeholders.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Know how designing for tomorrow ensures long-term efficiency, cost savings, and service reliability.

KU2. Need for scalable and flexible infrastructure to keep pace with innovation.

KU3. Be familiar with speed, latency, and coverage expectations of modern and future networks.

KU4. Role of DAS and fiber backhaul in connectivity

KU5. Know what features make a system ready for new frequency bands and communication methods.

KU6. Function and importance of RF components

KU7. Know why fiber-optic networks are essential for high-speed internet
KU8. Know what 1 Gbps, 10 Gbps, DWDM, and PON mean and how they impact performance.
KU9. Know how pathways, ducts, and termination points should be planned for future growth.
KU10. Know the types of documentation needed for upgradability assessments
KU11. Be aware of the required forms, manuals, and visual records for compliance and audits.
KU12. Know the rating system used to assess technology compatibility and scalability.
KU13. Know what to look for when checking DAS, fiber backhaul, and other infrastructure elements.
KU14. Know how different bands work and how infrastructure can be prepared for future allocations.
KU15. Recognize signs of upgradable vs. Outdated DCI systems
KU16. Technical RF system requirements
KU17. Know how to evaluate specs for compatibility with next-gen mobile services.
KU18. How to interpret fiber capacity and determine its suitability for high-speed use.
KU19. Know how to identify fiber types supporting advanced standards
KU20. Recognize which fibers are compatible with DWDM, PON, and similar technologies.
KU21. Physical infrastructure readiness for fiber additions
KU22. Know how to assess available space, routing options, and termination setups.
KU23. How structured cabling and labeling help manage expansions.
KU24. Know how to organize findings, visuals, and technical data into formal documentation.
KU25. Why wired connectivity is essential for modern infrastructure
KU26. Recognize how different applications depend on strong wireline networks
KU27. Know the importance of fiber backhaul from service providers
KU28. Performance advantages of fiber over other media
KU29. Know how fiber improves speed, reduces latency, and supports high-bandwidth tasks.
KU30. Be familiar with redundancy strategies in fiber deployment
KU31. Concept of fiber-to-the-premises (FTTP)
KU32. Know how delivering fiber directly to users enhances performance and flexibility.
KU33. Know how fiber supports emerging technologies and services
KU34. Its role in enabling 5G, cloud computing, and smart building automation.
KU35. Best practices for fiber layout planning
KU36. The goal of universal fiber coverage in a property
KU37. Know why every space should have access to high-quality digital connectivity.
KU38. Recognize the impact of network dead zones on user experience
KU39. How gaps in coverage can affect productivity and satisfaction.
KU40. Be familiar with fiber test records, termination images, and site survey reports.
KU41. How scoring is applied to evaluate wireline performance
KU42. Know how to assess installation quality and performance during inspections.
KU43. Know how having multiple fiber paths ensures continuity during failures.
KU44. Tools and methods used to validate real-world speeds and capacity.
KU45. Know how cables are routed and terminated inside homes, offices, and shops.

KU46. Know how to read and apply these visuals during planning and evaluation.
KU47. How to visually identify fiber components and termination points
KU48. Know what to look for when checking for installed infrastructure in sample units.
KU49. Common test types like OTDR and insertion loss for verifying connectivity.
KU50. Know how to organize technical data, visuals, and analysis into formal documentation.
KU51. Know that having more than one ISP or TSP increases reliability, redundancy, and service quality.
KU52. How choice leads to better pricing, uptime, and flexibility for end-users and property operators.
KU53. Be familiar with verification methods like physical checks, system logs, and network testing.
KU54. Know why formal documentation is needed to prove integration and compliance.
KU55. Know what indicators to look for when confirming live service delivery.
KU56. Recognize how poor coverage affects user experience and productivity.
KU57. Know how IBS, Small Cells, and Wi-Fi offload improve mobile performance
KU58. Know what types of agreements, test reports, and performance data to collect and review.
KU59. Know how the number of isps/tsps and their coverage percentages affect overall ratings.
KU60. Know what to look for when verifying physical infrastructure for multiple providers.
KU61. Know how to match contractual obligations with actual implementation.
KU62. The format and content of formal evaluations, including visuals and technical findings.
KU63. Know how signal strength, speed, latency, and call quality affect digital service delivery.
KU64. How coverage gaps in lifts or basements can hinder usability and safety.
KU65. Know the fundamentals of RF testing methodology
KU66. Recognize fluctuations in speed and quality due to traffic load variations.
KU67. Know what reference levels define acceptable service quality under Indian regulations.
KU68. Know how to evaluate speed, stability, and encryption compliance for wireless networks.
KU69. Its role in supporting voice calls, video conferencing, and cloud-based work.
KU70. Know how to benchmark expected vs. Actual performance for high-speed internet packages.
KU71. Know how transparency builds trust and ensures regulatory compliance.
KU72. Be familiar with RF maps, test logs, coverage reports, and security audit records.
KU73. Know how coverage percentage, speed thresholds, and provider performance influence ratings.
KU74. Know how to adjust tools and methods for testing in open and enclosed spaces.
KU75. Know how to capture performance trends across different usage periods.
KU76. How to identify and classify all serviceable wireless zones.
KU77. Technical requirements for WPA2 and WPA3 protocols.
KU78. Know how to perform tests that reflect actual user demands during busy periods.
KU79. Know how to use and interpret results from tools like TRAI My Speed App and others.
KU80. Know how to visualize and communicate signal strength distribution effectively.
KU81. How to organize data, visuals, and conclusions into clear and actionable assessments.
KU82. Be familiar with network reliability, speed consistency, low latency, ease of connection, and media quality.

KU83. Know how to frame queries about call clarity, signal strength, upload/download speeds, and service availability.

KU84. Know what elements make a survey form acceptable for official evaluation and certification.

KU85. How thresholds like 80 percent , 70 percent, or below 50 percent determine UX scores.

KU86. Be familiar with document submission procedures for DCRA or rating platforms.

KU87. How to identify compliant vs. Non-compliant documentation.

KU88. How to compile survey results, charts, analysis, and recommendations in a professional format.

KU89. Know how mobile, internet, and Wi-Fi performance affect end-user satisfaction and productivity.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.

GS2. Apply problem-solving approaches for different situations.

GS3. Work effectively in a team.

GS4. Employ proper time management.

GS5. Plan and organize work.

GS6. Maintain hygiene and sanitation.

GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Digital Connectivity Infrastructure demand or readiness in future	9	9	-	2
PC1. Show how infrastructure planning supports adaptability, scalability, and integration with new technologies.	-	-	-	-
PC2. Assess whether current infrastructure can support innovations like 5G, Wi-Fi 6/7, and smart building systems.	-	-	-	-
PC3. Ensure that DCI supports evolving standards such as high-speed, low-latency, and reliable communication for 4G/5G and beyond.	-	-	-	-
PC4. Confirm presence and functionality of systems critical for strong wireless and wired connectivity.	-	-	-	-
PC5. Apply best practices that ensure seamless integration of upcoming frequency bands and communication protocols.	-	-	-	-
PC6. Inspect radio units, baseband units, duplexers, combiners, and transmitters for compatibility with next-gen systems.	-	-	-	-
PC7. Validate that fiber infrastructure supports high data throughput and meets modern connectivity demands.	-	-	-	-
PC8. Check if the system supports speeds like 1 Gbps, 10 Gbps, and uses technologies like DWDM and PON.	-	-	-	-
PC9. Evaluate pathways, ducts, and termination points to determine if they allow for easy fiber additions.	-	-	-	-
PC10. Compile and examine equipment lists, photos, BoM, datasheets, and other records related to wireline upgrades.	-	-	-	-
PC11. Rate the infrastructure using defined parameters like technology compatibility, band support, and bandwidth capacity.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Conduct field checks to verify installation quality and performance readiness of telecom gear and validate whether installed systems work with existing bands and can evolve with new ones.	-	-	-	-
PC13. Determine whether current systems can be upgraded without major overhauls to support new tech.	-	-	-	-
PC14. Examine whether antennas, radios, and signal processors meet requirements for future applications.	-	-	-	-
PC15. Measure if the network currently supports or can be upgraded to handle 1 Gbps, 10 Gbps, or more.	-	-	-	-
PC16. Confirm whether the deployed fiber can support advanced optical networking techniques.	-	-	-	-
PC17. Ensure that existing infrastructure allows for adding more fiber cables when needed.	-	-	-	-
PC18. Verify that patch panels and racks are designed to support future scaling and reconfiguration.	-	-	-	-
PC19. Document findings along with Bill of Materials, datasheets, test results, and photographs.	-	-	-	-
Wired Digital Connectivity	**9**	**9**	**-**	**2**
PC20. Show how high-speed, reliable, and low-latency wired connections support modern digital services.	-	-	-	-
PC21. Assess how DCI meets the needs of business operations, smart buildings, and residential broadband.	-	-	-	-
PC22. Confirm that strong fiber links are in place between telecom providers and the property.	-	-	-	-
PC23. Identify how fiber improves performance for cloud computing, video conferencing, and smart building systems.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC24. Ensure backup routes are available to maintain connectivity during outages.	-	-	-	-
PC25. Confirm that fiber reaches residential, office, and commercial units for optimal performance.	-	-	-	-
PC26. Demonstrate how fiber enables 5G backhaul, cloud access, and advanced smart building features.	-	-	-	-
PC27. Ensure cabling design allows for efficient installation, maintenance, and scalability.	-	-	-	-
PC28. Understand the universal coverage to avoid network dead zones and ensure consistent digital experiences.	-	-	-	-
PC29. Locate and resolve issues causing inconsistent or missing digital access across the property.	-	-	-	-
PC30. Examine fiber test reports, termination photos, architecture diagrams, and site surveys.	-	-	-	-
PC31. Rate properties using parameters like number of service providers, percentage of connected units, and room-level fiber reach.	-	-	-	-
PC32. Conduct field checks to verify condition, installation, and performance of backbone fiber systems.	-	-	-	-
PC33. Check that alternate fiber paths are available and functional to prevent service loss.	-	-	-	-
PC34. Test peak and average speeds to confirm real-world network capabilities.	-	-	-	-
PC35. Physically verify that fiber reaches each designated space within the building.	-	-	-	-
PC36. Analyze distribution layouts to ensure they match actual installations and support scalability.	-	-	-	-
PC37. Carry out visual checks in selected units to verify installed infrastructure and connection points.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC38. Perform sample tests to ensure active and stable connections throughout the network.	-	-	-	-
PC39. Document findings along with test data, photos, and architectural drawings.	-	-	-	-
Digital Connectivity Infrastructure Service Providers	9	9	-	2
PC40. Show how multiple Internet Service Providers (ISPs) and mobile service providers improves competition, reliability, and redundancy.	-	-	-	-
PC41. Explain how property managers, businesses, and residents gain from better service options, continuity, and cost efficiency.	-	-	-	-
PC42. Use inspection and documentation checks to confirm that internet providers are properly connected to the building's digital systems.	-	-	-	-
PC43. Examine legal contracts and technical documents to ensure compliance with connectivity standards.	-	-	-	-
PC44. Confirm that all connected internet providers are active and delivering expected service levels.	-	-	-	-
PC45. Check that telecom services from various providers offer strong and consistent signal strength indoors.	-	-	-	-
PC46. Ensure these technologies are in place to enhance mobile signal quality within the premises.	-	-	-	-
PC47. Compile service agreements, integration certificates, performance tests, RF maps, and subscription records for audit and evaluation.	-	-	-	-
PC48. Rate properties using defined parameters such as number of ISPs/TSPs and percentage of area covered.	-	-	-	-
PC49. Conduct on-site checks to identify and validate installations from different internet service providers.	-	-	-	-
PC50. Analyze sample documents to ensure they reflect actual deployment and functionality.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC51. Document findings including integration details, coverage results, and supporting evidence.	-	-	-	-
Digital Connectivity Infrastructure Service Quality Assessment	9	9	-	2
PC52. Collect data on signal strength, download/upload speeds, latency, voice/video call quality, call setup success, retainability, and uptime.	-	-	-	-
PC53. Conduct tests in both public and private spaces, including lifts, basements, and other low-coverage zones.	-	-	-	-
PC54. Use standard tools and procedures to evaluate radio frequency signal strength and quality across the property.	-	-	-	-
PC55. Capture variations in speed and call quality throughout the day to reflect real-world usage.	-	-	-	-
PC56. Validate that measured values meet regulatory standards for mobile service quality.	-	-	-	-
PC57. Check compliance with WPA2/WPA3 standards, along with performance metrics like speed and latency.	-	-	-	-
PC58. Ensure that wireless connectivity supports seamless access for data and voice applications.	-	-	-	-
PC59. Measure actual average download speeds from ISPs offering premium packages.	-	-	-	-
PC60. Analyze discrepancies between promised and experienced broadband performance.	-	-	-	-
PC61. Compile RF maps, test logs, Wi-Fi heatmaps, call reports, and security audit records for review.	-	-	-	-
PC62. Rate properties using defined parameters such as coverage area, minimum speeds, and number of compliant providers.	-	-	-	-
PC63. Use industry-standard tools to test signal strength in lobbies, corridors, lifts, basements, offices, and residential units.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC64. Record data speed and call quality at different times, especially during high-traffic periods.	-	-	-	-
PC65. Locate and document all zones where wireless connectivity is available for users.	-	-	-	-
PC66. Conduct sample checks to ensure wireless networks are secured using current encryption standards.	-	-	-	-
PC67. Simulate real-time user conditions to validate network reliability under stress.	-	-	-	-
PC68. Use standard tools (e.g., TRAI My Speed App) for speed testing	-	-	-	-
PC69. Perform measurements at multiple user locations during high-traffic periods for accurate results.	-	-	-	-
PC70. Create and interpret visual representations of signal strength and wireless coverage.	-	-	-	-
PC71. Document findings, test outcomes, visual aids, and recommendations in formal assessment formats.	-	-	-	-
Digital Connectivity Infrastructure: User Perception & Feedback	**9**	**9**	**-**	**2**
PC72. Evaluate how mobile, wireline, and Wi-Fi services impact overall user satisfaction and usability.	-	-	-	-
PC73. Measure key UX indicators such as network reliability, speed, latency, accessibility, call quality, streaming performance, and service stability	-	-	-	-
PC74. Apply standards for gathering responses from at least 10% of users (if less than 1000), or at least 100 users (if more than 1000).	-	-	-	-
PC75. Create surveys that assess voice call quality, access success, data speeds, coverage, latency, and service uptime.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC76. Review and prepare feedback tools according to standardized checklists for completeness and accuracy.	-	-	-	-
PC77. Rate properties by the percentage of users reporting positive experiences (e.g., 80%, 70%, 50%, 40%).	-	-	-	-
PC78. Upload or maintain required documents on the rating platform or with DCRA	-	-	-	-
PC79. Distinguish between valid and incomplete submissions during document verification.	-	-	-	-
PC80. Summarize assessment outcomes, scores, charts, and evidence in a structured format for stakeholders.	-	-	-	-
NOS Total	**45**	**45**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0307
NOS Name	Perform Evaluation for Future-Ready Digital Connectivity in Infrastructure, Services and User Experience
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	4
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

Qualification Pack

ICE/TEL/N0308: Conduct DCI Audit Reporting, Monitoring, Feedback and Non- Compliance Management

Description

DCI Audit Reporting, Monitoring, Feedback, and Non-Compliance management involve systematic evaluation of digital infrastructure performance, continuous tracking of service quality, and addressing gaps in compliance. These processes ensure transparency, accountability, and ongoing improvement in digital connectivity standards.

Scope

The scope covers the following :

- Learn how to prepare audit reports, track compliance status, and maintain deviation logs for TRAI rating submissions.
- Understand how to collect and process stakeholder feedback, identify non-compliance issues, and initiate corrective actions.

Elements and Performance Criteria

Reporting, Monitoring, Feedback, and Non - Compliance

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

PC1. Apply a structured approach to prepare DCI audit and compliance reports.

PC2. Follow standardized procedures to document findings, identify non-compliance issues, and maintain deviation logs for TRAI rating submissions.

PC3. Understand and apply DCRA's regulatory responsibilities under Regulation 11.

PC4. Monitor and analyze complaints and feedback from service providers and users regarding property ratings.

PC5. Evaluate stakeholder feedback to determine need for rating review or corrective actions.

PC6. Understand the implement a standardized process for collecting and managing stakeholder feedback.

PC7. Guide or assist property managers in responding to digital connectivity-related issues raised by users or service providers.

PC8. How to Improve digital infrastructure connectivity quality annual review of feedback data by DCRA.

PC9. Support property managers in implementing corrective actions.

PC10. Assist in identifying solutions to address non-compliance and ensure infrastructure meets required standards.

PC11. Review documents like speed test results, photos, and test reports to ensure support audit findings.

PC12. Feedback data on a rating platform sort inputs based on themes such as network performance, infrastructure gaps, or general improvement ideas.

PC13. Prepare comprehensive summary reports for DCRA.

PC14. Compile audit outcomes, stakeholder feedback analysis, conclusions, and recommendations for property managers.

PC15. Identify relevant types of supporting evidence for feedback claims (e.g., screenshots, photos, test logs) validates user-reported problems.

PC16. Organize audit findings into formal report formats (PDF/Excel) that include images, compliance status, and corrective action plans.

PC17. Use mobile devices for real-time reporting during site visits capture and upload data, photos, and notes instantly using smartphones or tablets to streamline evaluation processes.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Understand the methodology for conducting DCI audits and compliance checks.

KU2. Know how to systematically assess digital infrastructure against regulatory and performance benchmarks.

KU3. Know DCRAs role in post-rating monitoring and feedback handling under Regulation 11.

KU4. Understand its responsibility to manage complaints and initiate reviews when needed.

KU5. Recognize how to evaluate the need for rating changes or corrective actions.

KU6. Be aware of thresholds and criteria used to trigger re-evaluation of a propertys digital rating.

KU7. Understand how a standardized feedback mechanism supports transparency and accountability.

KU8. Know why uniform processes are essential for collecting, tracking, and resolving stakeholder concerns.

KU9. Be familiar with the responsibilities of property managers in handling feedback.

KU10. Understand their role in investigating issues and making necessary infrastructure improvements.

KU11. Know how DCRA conducts yearly reviews of stakeholder feedback.

KU12. Understand how annual assessments help track progress and identify recurring issues.

KU13. Understand the types of corrective actions required for non-compliance.

KU14. Know how to recommend and implement fixes for infrastructure or service shortcomings.

KU15. Know how to validate submitted evidence for credibility and relevance.

KU16. Understand what makes proof acceptable and how to verify its authenticity.

KU17. Be familiar with sample feedback datasets and categorization techniques.

KU18. Know how to simulate processing real-world complaints during training or practice sessions.

KU19. Understand how to classify feedback into defined issue types.

KU20. Know how to organize responses into groups like connectivity issues, infrastructure defects, or usability suggestions.

KU21. Know how to structure a detailed audit or review report for DCRA.

KU22. Understand the format and key components needed to present findings professionally.

KU23. Recognize what forms of evidence support stakeholder feedback.

KU24. Know which visual and technical records best back up user-reported issues.

KU25. Be familiar with tools and formats for compiling compliance reports.

KU26. Understand how to use PDFs, spreadsheets, and dashboards for presenting audit outcomes.

KU27. Understand how digital tools enhance field reporting efficiency.

KU28. Know how mobile apps and devices improve accuracy, timeliness, and accessibility of audit data.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.

GS2. Apply problem-solving approaches for different situations.

GS3. Work effectively in a team.

GS4. Employ proper time management.

GS5. Plan and organize work.

GS6. Maintain hygiene and sanitation.

GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Reporting, Monitoring, Feedback, and Non - Compliance	45	45	-	10
PC1. Apply a structured approach to prepare DCI audit and compliance reports.	-	-	-	-
PC2. Follow standardized procedures to document findings, identify non-compliance issues, and maintain deviation logs for TRAI rating submissions.	-	-	-	-
PC3. Understand and apply DCRA's regulatory responsibilities under Regulation 11.	-	-	-	-
PC4. Monitor and analyze complaints and feedback from service providers and users regarding property ratings.	-	-	-	-
PC5. Evaluate stakeholder feedback to determine need for rating review or corrective actions.	-	-	-	-
PC6. Understand the implement a standardized process for collecting and managing stakeholder feedback.	-	-	-	-
PC7. Guide or assist property managers in responding to digital connectivity-related issues raised by users or service providers.	-	-	-	-
PC8. How to Improve digital infrastructure connectivity quality annual review of feedback data by DCRA.	-	-	-	-
PC9. Support property managers in implementing corrective actions.	-	-	-	-
PC10. Assist in identifying solutions to address non-compliance and ensure infrastructure meets required standards.	-	-	-	-
PC11. Review documents like speed test results, photos, and test reports to ensure support audit findings.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Feedback data on a rating platform sort inputs based on themes such as network performance, infrastructure gaps, or general improvement ideas.	-	-	-	-
PC13. Prepare comprehensive summary reports for DCRA.	-	-	-	-
PC14. Compile audit outcomes, stakeholder feedback analysis, conclusions, and recommendations for property managers.	-	-	-	-
PC15. Identify relevant types of supporting evidence for feedback claims (e.g., screenshots, photos, test logs) validates user-reported problems.	-	-	-	-
PC16. Organize audit findings into formal report formats (PDF/Excel) that include images, compliance status, and corrective action plans.	-	-	-	-
PC17. Use mobile devices for real-time reporting during site visits capture and upload data, photos, and notes instantly using smartphones or tablets to streamline evaluation processes.	-	-	-	-
NOS Total	**45**	**45**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0308
NOS Name	Conduct DCI Audit Reporting, Monitoring, Feedback and Non-Compliance Management
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	1
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/TEL/N0309: Perform Reassessment, Renewal and Appeal Management in DCI Rating Award Process

Description

The DCI Rating process involves evaluating digital infrastructure to assign a performance score, with provisions for reassessment, renewal, and appeal to ensure accuracy and compliance. These mechanisms support transparency, continuous improvement, and stakeholder engagement in maintaining high connectivity standards.

Scope

The scope covers the following :

- Understand the procedures for awarding, renewing, and appealing digital connectivity ratings.
- Learn the criteria and documentation required for reassessment and maintaining rating validity.

Elements and Performance Criteria

Digital Connectivity Award of Rating and Reassessment

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

PC1. Understand the rating categories (e.g., A, B, C) used to reflect infrastructure quality and service reliability.

PC2. Interpret the purpose and value of different rating levels.

PC3. Assess how long rating remains valid based on infrastructure stability and regulatory guidelines.

PC4. Identify factors that affect rating validity duration.

PC5. Explain when re-rating is required and the eligibility conditions.

PC6. How to expand of fiber networks (increased capacity and coverage).

PC7. Installation of in-building solutions (IBS) for better indoor mobile signal.

PC8. How to enhance of power backup systems (UPS and generators).

PC9. How to integration of smart network monitoring tools.

PC10. Evaluate how adoption of 5G, Wi-Fi 6/7, and high-speed fiber improves digital services.

PC11. Compare pre- and post-upgrade metrics to confirm enhanced service quality.

PC12. Measure improvements in speed, latency, and network resilience after enhancing service quality.

PC13. Demonstrate how next-gen services like IoT automation drive demand for higher ratings.

PC14. Analyze occupant or business-driven needs prompting re-rating requests.

PC15. Apply case studies to determine appropriate rating validity periods.

PC16. Examine implementation plans, certification records, and technical reports to support re-rating claims.

PC17. Use user feedback and demand data to justify upgrade-based re-rating.

PC18. Describe all re-rating submissions meet current standards and contractual obligations.

Digital Connectivity Rating Renewal and Appeal process

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

PC19. Follow prescribed deadlines to maintain uninterrupted digital connectivity rating status.

PC20. Navigate the correct channels and procedures for submitting renewal requests

PC21. Record all modifications including network expansions, new solutions, or power system upgrades.

PC22. Prepare and submit a formal self-declaration confirming continued compliance with MBBL and NBC standards.

PC23. Ensure timely payment of required charges to avoid rejection or delays.

PC24. Apply consistent criteria during renewal evaluations to ensure fairness and accuracy.

PC25. Review and compile necessary records for renewal assessment.

PC26. Facilitate on-site or remote inspections to confirm ongoing adherence to original rating standards.

PC27. Review performance data and stakeholder input to evaluate network availability and quality.

PC28. Verify ongoing compliance with MBBL, NBC, and other digital infrastructure standards

PC29. How to Initiate a dispute or request reconsideration if dissatisfied with the rating decision

PC30. How to provide clear justification for appeal based on specific rating criteria.

PC31. Submit supporting materials such as technical reports or third-party assessments.

PC32. How to present new evidence of DCI improvements not considered previously.

PC33. How to prepare for possible results: revised rating, upheld rating, or corrective action recommendations.

PC34. Follow timelines and format guidelines for appeal submission.

PC35. How to pay applicable fees for escalation to the Authority level.

PC36. Recognize the finality of the Authority's decision after the appeal period expires.

PC37. Participate in different types of examination methods for appeals.

PC38. Compile complete renewal documentation including upgrade details, declarations, and payment proofs.

PC39. How to identify and address gaps in previous documentation before renewal.

PC40. How renewal and appeal scenarios through role-playing exercises.

PC41. Select appropriate documentation to support an appeal case.

PC42. Follow procedural steps for filing an appeal with DCRA and escalating to the Authority if needed.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. How digital connectivity ratings are structured and interpreted.

KU2. Understand the relationship between rating scores and user satisfaction, service reliability, and future-readiness.

KU3. Know how long a digital connectivity rating remains valid.

KU4. Key factors influencing rating expiration.

KU5. Be familiar with re-rating eligibility criteria and procedures.

KU6. Know the scope of infrastructure enhancements that qualify for re-rating.
KU7. Recognize how 5g, Wi-Fi 6, and fiber upgrades enhance connectivity performance and future-readiness.
KU8. Understand the link between increased speed reduced latency and higher rating scores
KU9. How IOT, cloud computing, and smart automation raise the bar for digital readiness.
KU10. How occupant and enterprise needs influence Re-rating decisions.
KU11. How adding service providers, improving code compliance, expanding telecom coverage, and enhancing resilience can trigger rating updates.
KU12. How to analyze past cases to estimate how long a rating should remain active.
KU13. Know what documents support a re-rating application.
KU14. Know how to extract insights from complaints, surveys, and usage analytics to justify re-rating.
KU15. Be familiar with regulatory and contractual requirements for re-rating.
KU16. Why timely renewal is essential for maintaining a valid rating.
KU17. Be familiar with the renewal application process and available submission methods.
KU18. Recognize which changes qualify as significant enough to report during renewal.
KU19. Importance of the self-declaration in renewal.
KU20. Understand the fee structures and payment schedules for renewal processing.
KU21. Renewal assessments follow the same rigorous process as initial ratings.
KU22. Know what documents are typically reviewed during renewal.
KU23. Purpose and scope of audits during renewal.
KU24. How service performance and user feedback influence renewal outcomes.
KU25. Be aware of the regulatory standards that must
KU26. Know the relevance of MBBL, NBC, and TRAI guidelines continue to be met post-rating.
KU27. Know when and how to initiate a formal appeal.
KU28. Understand the need for specificity and clarity in appeals.
KU29. Recognize the types of supporting evidence accepted during appeals.
KU30. How new improvements can strengthen an appeal case.
KU31. Know what actions may follow after submitting an appeal.
KU32. Understand the timeline and formatting rules for appeals.
KU33. Know what to expect financially when escalating a case.
KU34. Understand authority decision is final after the appeal window closes.
KU35. Know the difference between independent case reviews and expert panel recommendations.
KU36. How to organize and prepare renewal documentation effectively.
KU37. Understand the importance of accuracy and completeness in submissions.
KU38. How to choose the right documents to support an appeal.
KU39. Understand the each step and requirement involved in challenging a rating decision.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.
GS2. Apply problem-solving approaches for different situations.
GS3. Work effectively in a team.
GS4. Employ proper time management.
GS5. Plan and organize work.
GS6. Maintain hygiene and sanitation.
GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Digital Connectivity Award of Rating and Reassessment	25	25	-	5
PC1. Understand the rating categories (e.g., A, B, C) used to reflect infrastructure quality and service reliability.	-	-	-	-
PC2. Interpret the purpose and value of different rating levels.	-	-	-	-
PC3. Assess how long rating remains valid based on infrastructure stability and regulatory guidelines.	-	-	-	-
PC4. Identify factors that affect rating validity duration.	-	-	-	-
PC5. Explain when re-rating is required and the eligibility conditions.	-	-	-	-
PC6. How to expand of fiber networks (increased capacity and coverage).	-	-	-	-
PC7. Installation of in-building solutions (IBS) for better indoor mobile signal.	-	-	-	-
PC8. How to enhance of power backup systems (UPS and generators).	-	-	-	-
PC9. How to integration of smart network monitoring tools.	-	-	-	-
PC10. Evaluate how adoption of 5G, Wi-Fi 6/7, and high-speed fiber improves digital services.	-	-	-	-
PC11. Compare pre- and post-upgrade metrics to confirm enhanced service quality.	-	-	-	-
PC12. Measure improvements in speed, latency, and network resilience after enhancing service quality.	-	-	-	-
PC13. Demonstrate how next-gen services like IoT automation drive demand for higher ratings.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. Analyze occupant or business-driven needs prompting re-rating requests.	-	-	-	-
PC15. Apply case studies to determine appropriate rating validity periods.	-	-	-	-
PC16. Examine implementation plans, certification records, and technical reports to support re-rating claims.	-	-	-	-
PC17. Use user feedback and demand data to justify upgrade-based re-rating.	-	-	-	-
PC18. Describe all re-rating submissions meet current standards and contractual obligations.	-	-	-	-
Digital Connectivity Rating Renewal and Appeal process	**20**	**20**	**-**	**5**
PC19. Follow prescribed deadlines to maintain uninterrupted digital connectivity rating status.	-	-	-	-
PC20. Navigate the correct channels and procedures for submitting renewal requests	-	-	-	-
PC21. Record all modifications including network expansions, new solutions, or power system upgrades.	-	-	-	-
PC22. Prepare and submit a formal self-declaration confirming continued compliance with MBBL and NBC standards.	-	-	-	-
PC23. Ensure timely payment of required charges to avoid rejection or delays.	-	-	-	-
PC24. Apply consistent criteria during renewal evaluations to ensure fairness and accuracy.	-	-	-	-
PC25. Review and compile necessary records for renewal assessment.	-	-	-	-
PC26. Facilitate on-site or remote inspections to confirm ongoing adherence to original rating standards.	-	-	-	-
PC27. Review performance data and stakeholder input to evaluate network availability and quality.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC28. Verify ongoing compliance with MBBL, NBC, and other digital infrastructure standards	-	-	-	-
PC29. How to Initiate a dispute or request reconsideration if dissatisfied with the rating decision	-	-	-	-
PC30. How to provide clear justification for appeal based on specific rating criteria.	-	-	-	-
PC31. Submit supporting materials such as technical reports or third-party assessments.	-	-	-	-
PC32. How to present new evidence of DCI improvements not considered previously.	-	-	-	-
PC33. How to prepare for possible results: revised rating, upheld rating, or corrective action recommendations.	-	-	-	-
PC34. Follow timelines and format guidelines for appeal submission.	-	-	-	-
PC35. How to pay applicable fees for escalation to the Authority level.	-	-	-	-
PC36. Recognize the finality of the Authority's decision after the appeal period expires.	-	-	-	-
PC37. Participate in different types of examination methods for appeals.	-	-	-	-
PC38. Compile complete renewal documentation including upgrade details, declarations, and payment proofs.	-	-	-	-
PC39. How to identify and address gaps in previous documentation before renewal.	-	-	-	-
PC40. How renewal and appeal scenarios through role-playing exercises.	-	-	-	-
PC41. Select appropriate documentation to support an appeal case.	-	-	-	-
PC42. Follow procedural steps for filing an appeal with DCRA and escalating to the Authority if needed.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	45	45	-	10

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0309
NOS Name	Perform Reassessment, Renewal and Appeal Management in DCI Rating Award Process
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/TEL/N0310: Perform Remedial Risk Assessment and Mitigations Strategies for DCI

Description

Remedial risk and mitigation in Digital Connectivity Infrastructure (DCI) involves identifying faults, hazards, or non-compliance issues and implementing corrective actions to ensure safe, reliable, and future-ready digital services. This includes addressing design flaws, infrastructure gaps, and operational risks through structured remediation plans.

Scope

The scope covers the following :

- Identify risks such as electrical faults, physical damage, or code violations in DCI setups.
- Implement mitigation strategies like load balancing, UPS replacement, pathway corrections, and safety enhancements based on risk assessments.

Elements and Performance Criteria

Digital Connectivity Infrastructure Risks, Faults, and Remediation

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

PC1. Recognize potential threats such as electrical faults, network failures, physical damage, and environmental dangers in DCI.

PC2. Analyze root causes of common infrastructure faults and non-compliance issues.

PC3. How to implement appropriate remedial actions and mitigation strategies for DCI issues.

PC4. Verify the document all corrective measures and update evaluation reports accordingly.

PC5. How to a take corrective action based on test and inspection results use data from assessments to guide repairs, replacements, or system upgrades.

PC6. Review sample DCI layouts or images to identify critical components and vulnerabilities.

PC7. Identify and categorize hazards list observed risks during site inspections or evaluations.

PC8. Recommend power load at a Power Distribution Unit (PDU) and suggest improvements.

PC9. Maintain a detailed risk register documenting each fault, its cause, impact, and resolution.

PC10. How to update DCI evaluation reports with the status of remediation efforts to ongoing actions, and pending tasks in formal documentation.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Various risks like electrical overloads, fire risks, signal loss, and cyber-physical associated with DCI systems.

KU2. Know how hazards like electrical overloads, fire risks, signal loss, and cyber-physical threats affect digital services.

KU3. Recognize common infrastructure faults and reasons such as cable damage, mis-configurations, power outages, and code violations.

KU4. Typical issues such as cable damage, mis-configurations, power outages, and code violations.

KU5. Know different mitigation and preventive strategies like redundancy planning, regular maintenance, and environmental controls for DCI risks.

KU6. Best practices like redundancy planning, regular maintenance, and environmental controls.

KU7. Documentation standards for remedial actions.

KU8. Know how speed tests, signal strength readings, and power audits help identify needed fixes.

KU9. How to read blueprints and photographs to assess infrastructure health.

KU10. Know how to identify and classify risks during inspections.

KU11. How to evaluate PDU loads and manage power distribution safely.

KU12. Structure and importance of logging faults, their causes, impacts, and resolutions.

KU13. How to reflect remediation status in DCI evaluation reports.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.

GS2. Apply problem-solving approaches for different situations.

GS3. Work effectively in a team.

GS4. Employ proper time management.

GS5. Plan and organize work.

GS6. Maintain hygiene and sanitation.

GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Digital Connectivity Infrastructure Risks, Faults, and Remediation	45	45	-	10
PC1. Recognize potential threats such as electrical faults, network failures, physical damage, and environmental dangers in DCI.	-	-	-	-
PC2. Analyze root causes of common infrastructure faults and non-compliance issues.	-	-	-	-
PC3. How to implement appropriate remedial actions and mitigation strategies for DCI issues.	-	-	-	-
PC4. Verify the document all corrective measures and update evaluation reports accordingly.	-	-	-	-
PC5. How to a take corrective action based on test and inspection results use data from assessments to guide repairs, replacements, or system upgrades.	-	-	-	-
PC6. Review sample DCI layouts or images to identify critical components and vulnerabilities.	-	-	-	-
PC7. Identify and categorize hazards list observed risks during site inspections or evaluations.	-	-	-	-
PC8. Recommend power load at a Power Distribution Unit (PDU) and suggest improvements.	-	-	-	-
PC9. Maintain a detailed risk register documenting each fault, its cause, impact, and resolution.	-	-	-	-
PC10. How to update DCI evaluation reports with the status of remediation efforts to ongoing actions, and pending tasks in formal documentation.	-	-	-	-
NOS Total	**45**	**45**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0310
NOS Name	Perform Remedial Risk Assessment and Mitigations Strategies for DCI
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	0.5
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

ICE/TEL/N0311: Perform Workplace Safety Practices during DCI Evaluation

Description

Workplace safety in Digital Connectivity Infrastructure (DCI) ensures the protection of workers during installation, maintenance, and evaluation of telecom systems. It involves following safety protocols to prevent accidents and ensure a secure working environment.

Scope

The scope covers the following :

- Implementing safety measures for working at height, electrical hazards, and confined spaces.
- Conducting risk assessments and ensuring compliance with safety regulations during DCI operations.

Elements and Performance Criteria

Workplace Safety Workplace Safety Practices

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

PC1. Demonstrate proper use of fall protection equipment such as harnesses, lanyards, and fall arresters during elevated work.

PC2. How to implement lockout and tagout processes, ensure proper grounding, and handle electrical components with care to avoid hazards.

PC3. Recognize potential dangers associated with telecom towers, fiber cable installation, and data center operations.

PC4. Identify hazards such as falls, electric shock, heat exposure, and unsafe working conditions before starting work.

PC5. Use risk matrices to determine which hazards require immediate attention or mitigation.

PC6. Apply safety barriers, fire prevention systems, and emergency response plans to reduce or eliminate identified risks.

PC7. Follow rules for signage placement, equipment inspection, and team communication to maintain a safe worksite.

PC8. Apply correct protocols when entering underground or enclosed spaces for DCI installation or maintenance.

PC9. Demonstrate how to correctly fit helmets, gloves, boots, and harnesses according to safety standards.

PC10. How to set up and operate lifelines, lanyards, and anchor points to prevent injuries from falls.

PC11. Demonstrate secure ascent and descent while following all safety guidelines during tower work.

PC12. Select and apply the right harness, rope, and fall arrest system to minimize climbing risks.

PC13. Inspect areas for hazards like exposed cables, unstable structures, or unsecured equipment.

PC14. Document findings and recommend steps to improve safety conditions at the worksite.

PC15. Apply first aid in cases of electric shock or fall injuries and follow procedures for contacting emergency services.

PC16. Know how to safely exit a site and follow specific emergency protocols based on location and job type.

Material / energy / electricity conservation practices

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

PC17. Implement ways to optimize usage of material including water in various tasks/activities/processes.

PC18. Supervise the team to ensure responsible use of resources.

PC19. Motivate the team to carry out routine cleaning of tools, machines and equipment.

PC20. Guide the team to optimize use of electricity/energy in various tasks/activities/processes.

PC21. Implement periodic checks of the functioning of the equipment/machine and rectify wherever required.

PC22. Guide the team to report malfunctioning and lapses in maintenance of equipment.

PC23. Implement ways to use electrical equipment and appliances properly.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Know the purpose and use of PPE and fall protection systems in elevated work environments.

KU2. Best practices for avoiding shocks, short circuits, and other electrical hazards.

KU3. Understand the risks involved in working on towers, fiber lines, and data centers.

KU4. Know how to identify hazards, evaluate their impact, and classify them by risk level.

KU5. Know how to assess probability and consequences to decide which dangers need urgent action.

KU6. Be aware of engineering controls, administrative controls, and personal protective measures.

KU7. Know how signage, equipment checks, and clear communication help prevent accidents.

KU8. Be aware of confined space safety regulations.

KU9. Know how to select and use appropriate PPE.

KU10. Know how lifelines, lanyards, and anchors protect workers from falling.

KU11. Know how to climb telecom towers safely.

KU12. Be familiar with climbing gear and safe techniques.

KU13. Understand how to perform a safety audit.

KU14. Understand the importance of maintaining records for compliance and improvement.

KU15. Know how to act in case of an accident, including providing first aid and calling for help.

KU16. Know site-specific emergency and evacuation plans.

KU18. Know about the Material / energy / electricity conservation practices.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Listen and communicate effectively and accurately.

GS2. Apply problem-solving approaches for different situations.
GS3. Work effectively in a team.
GS4. Employ proper time management.
GS5. Plan and organize work.
GS6. Maintain hygiene and sanitation.
GS7. Analytical skills.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Workplace Safety Workplace Safety Practices	35	35	-	5
PC1. Demonstrate proper use of fall protection equipment such as harnesses, lanyards, and fall arresters during elevated work.	-	-	-	-
PC2. How to implement lockout and tagout processes, ensure proper grounding, and handle electrical components with care to avoid hazards.	-	-	-	-
PC3. Recognize potential dangers associated with telecom towers, fiber cable installation, and data center operations.	-	-	-	-
PC4. Identify hazards such as falls, electric shock, heat exposure, and unsafe working conditions before starting work.	-	-	-	-
PC5. Use risk matrices to determine which hazards require immediate attention or mitigation.	-	-	-	-
PC6. Apply safety barriers, fire prevention systems, and emergency response plans to reduce or eliminate identified risks.	-	-	-	-
PC7. Follow rules for signage placement, equipment inspection, and team communication to maintain a safe worksite.	-	-	-	-
PC8. Apply correct protocols when entering underground or enclosed spaces for DCI installation or maintenance.	-	-	-	-
PC9. Demonstrate how to correctly fit helmets, gloves, boots, and harnesses according to safety standards.	-	-	-	-
PC10. How to set up and operate lifelines, lanyards, and anchor points to prevent injuries from falls.	-	-	-	-
PC11. Demonstrate secure ascent and descent while following all safety guidelines during tower work.	-	-	-	-
PC12. Select and apply the right harness, rope, and fall arrest system to minimize climbing risks.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. Inspect areas for hazards like exposed cables, unstable structures, or unsecured equipment.	-	-	-	-
PC14. Document findings and recommend steps to improve safety conditions at the worksite.	-	-	-	-
PC15. Apply first aid in cases of electric shock or fall injuries and follow procedures for contacting emergency services.	-	-	-	-
PC16. Know how to safely exit a site and follow specific emergency protocols based on location and job type.	-	-	-	-
Material / energy / electricity conservation practices	**10**	**10**	**-**	**5**
PC17. Implement ways to optimize usage of material including water in various tasks/activities/processes.	-	-	-	-
PC18. Supervise the team to ensure responsible use of resources.	-	-	-	-
PC19. Motivate the team to carry out routine cleaning of tools, machines and equipment.	-	-	-	-
PC20. Guide the team to optimize use of electricity/energy in various tasks/activities/processes.	-	-	-	-
PC21. Implement periodic checks of the functioning of the equipment/machine and rectify wherever required.	-	-	-	-
PC22. Guide the team to report malfunctioning and lapses in maintenance of equipment.	-	-	-	-
PC23. Implement ways to use electrical equipment and appliances properly.	-	-	-	-
NOS Total	**45**	**45**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	ICE/TEL/N0311
NOS Name	Perform Workplace Safety Practices during DCI Evaluation
Sector	Telecom
Sub-Sector	
Occupation	Digital Connectivity Infrastructure
NSQF Level	6
Credits	0.5
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

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

PC1. identify employability skills required for jobs in various industries

PC2. identify and explore learning and employability portals

Constitutional values - Citizenship

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

PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.

PC4. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

PC5. recognize the significance of 21st Century Skills for employment

PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

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

PC7. use basic English for everyday conversation in different contexts, in person and over the telephone

PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC9. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

PC10. understand the difference between job and career

PC11. prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings

PC13. work collaboratively with others in a team

Diversity & Inclusion

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

PC14. communicate and behave appropriately with all genders and PwD

PC15. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

PC16. select financial institutions, products and services as per requirement

PC17. carry out offline and online financial transactions, safely and securely

PC18. identify common components of salary and compute income, expenses, taxes, investments etc

PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

PC20. operate digital devices and carry out basic internet operations securely and safely

PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively

PC22. use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

PC26. identify different types of customers

PC27. identify and respond to customer requests and needs in a professional manner.

PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

GS3. behave politely and appropriately with all
GS4. how to work in a virtual mode
GS5. perform calculations efficiently
GS6. solve problems effectively
GS7. pay attention to details
GS8. manage time efficiently
GS9. maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
Constitutional values - Citizenship	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
Basic English Skills	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
Communication Skills	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-

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

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	07/10/2025
Next Review Date	07/10/2028
NSQC Clearance Date	07/10/2025

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Awarding Body. Each Performance Criteria (PC)/ Element will be assigned marks proportional to its importance in NOS. AB will also lay down proportion of marks for Theory and Practical Skills for each PC/ Element.

2. The assessment of the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by AB.

3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below.

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.

5. To pass the Qualification Pack, every trainee must score 70% on overall QP.

6. The Assessor shall check the outcome of the practices while evaluating the steps performed to achieve the outcome.

7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of

improper performance, with a deduction of marks for each iteration.

8. After the certain number of iterations as decided by AB the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.

9. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified time frame set by AB.

10. Minimum duration of Assessment of each QP shall be 8hrs/batch (max. 30 candidates).

Minimum Aggregate Passing % at QP Level : 70

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ICE/TEL/N0305.Perform Evaluation of Framework, Components and Basics of Drone Landing at Digital Infrastructure	45	45	-	10	100	15
ICE/TEL/N0306.Conduct Assessments on DCI Compliance and Resilience as per MBBL & NBC	45	45	-	10	100	15
ICE/TEL/N0307.Perform Evaluation for Future-Ready Digital Connectivity in Infrastructure, Services and User Experience	45	45	-	10	100	15
ICE/TEL/N0308.Conduct DCI Audit Reporting, Monitoring, Feedback and Non- Compliance Management	45	45	-	10	100	15
ICE/TEL/N0309.Perform Reassessment, Renewal and Appeal Management in DCI Rating Award Process	45	45	-	10	100	15

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ICE/TEL/N0310.Perform Remedial Risk Assessment and Mitigations Strategies for DCI	45	45	-	10	100	10
ICE/TEL/N0311.Perform Workplace Safety Practices during DCI Evaluation	45	45	-	10	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
Total	**335**	**345**	**-**	**70**	**750**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
MSDE	Ministry of Skill Development and Entrepreneurship
NCVET	National Council for Vocational Education and Training
NSDC	National Skill Development Corporation
AB	Awarding Body
AA	Assessment Agency
TP	Training Partner
TC	Training Centre
ITI	Industrial Training Institute
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NEP	New Education Policy
QP	Qualification Pack
Q-File	Qualification File
MC	Model Curriculum
NOS	National Occupational Standard(s)
PC	Performance Criteria
KU	Knowledge and Understanding
GS	Generic Skills
PMKVY	Pradhan Mantri Kaushal Vikas Yojana
DDUGKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana

STT	Short Term Training
RPL	Recognition of Prior Learning
NAPS	National Apprenticeship Promotion Scheme
NQR	National Qualification Register
OJT	On the Job Training
NSQC	National Skill Qualification Committee
NSQF	National Skills Qualification Framework
EMF	Electro Motive Force
LV	Low-Voltage
AC	Alternating Current
DC	Direct Current
DB	Distribution Boards
APFC	Automatic Power Factor Control
MCB	Miniature Circuit Breaker
ELCB	Earth Leakage Circuit Breaker
CCTV	Closed-Circuit Television
HVAC	Heating, Ventilation and Air Conditioning
BMS	Building Management System
BIM	Building Information Modeling
RF	Radio Frequency
MoCA	Multimedia over Coax Alliance
SNR	Signal-to-Noise Ratio
FTTH	Fiber to the Home
ISP	Internet Service Provider
IP	Internet Protocol
NOC	No Objection Certificate

DCI	Digital Connectivity Infrastructure
MBBL	Model Building Bye Laws
NBC	National Building Code
DGCA	Directorate General of Civil Aviation

Glossary

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

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