



# BIM Designer - Interior Design and VR Integration

QP Code: CON/Q2101

Version: 1.0

NSQF Level: 6

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## CON/Q2101: BIM Designer - Interior Design and VR Integration

### Brief Job Description

A BIM Designer - Interior Design and VR Integration is responsible for developing, maintaining and overseeing the BIM drafting standards and families concerning interior design and Virtual Reality (VR). The individual supports the Building Information Modelling (BIM) design team. The person works under the supervision of the BIM Coordinator, coordinating with different personnel for the delivery of BIM models as per the client's requirements.

### Personal Attributes

The individual should be detail-oriented with the ability to multi-task and solve problems. The person should also have good verbal and written communication skills.

### Applicable National Occupational Standards (NOS)

#### Compulsory NOS:

1. [CON/N2110: Carry out interior designing using BIM tools](#)
2. [CON/N2111: Perform integration of VR with BIM](#)
3. [CON/N2112: Assist in coordinating BIM designing](#)
4. [CON/N9003: Manage health and safety at the workplace](#)
5. [DGT/VSQ/N0103: Employability Skills \(90 Hours\)](#)

### Qualification Pack (QP) Parameters

<b>Sector</b>	Construction
<b>Sub-Sector</b>	Construction
<b>Occupation</b>	Building Information Modeling
<b>Country</b>	India
<b>NSQF Level</b>	6
<b>Credits</b>	21
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/2142.9900



## Qualification Pack



<b>Minimum Educational Qualification &amp; Experience</b>	Pursuing first year of 2-year PG program after completing 3 year UG degree OR Completed 4 year UG program (with honours/ honours with research) OR Completed 3 year UG degree with 1 Year of experience in the relevant field OR Completed 2nd year diploma after 12th with 2 Years of experience in the relevant field OR Previous relevant Qualification of NSQF Level (5.5 with (1.5-year of experience in the relevant field)) OR Previous relevant Qualification of NSQF Level (5) with 3 Years of experience in the relevant field
<b>Minimum Level of Education for Training in School</b>	Not Applicable
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	21 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	31/08/2026
<b>Deactivation Date</b>	02/01/2025
<b>NSQC Approval Date</b>	31/08/2023
<b>Version</b>	1.0
<b>Reference code on NQR</b>	QG-06-CO-00779-2023-V1-CSDCI
<b>NQR Version</b>	1



# CON/N2110: Carry out interior designing using BIM tools

## Description

This OS unit is about designing the building interior using the relevant BIM software tools.

## Scope

The scope covers the following :

- Design the building's interiors
- Carry out relevant documentation

## Elements and Performance Criteria

### *Design the building's interiors*

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

- PC1.** use the appropriate BIM software to visualize the interior design of the building, including lighting, materials, finishing and fixtures
- PC2.** generate rendered views with the required lighting conditions and finish/material representations directly from the BIM
- PC3.** use the appropriate tools in the BIM software for interiors, e.g. tools for shaded views with vectorial shadows, capped section boxes and silhouette edges
- PC4.** generate photorealistic renderings using raytracing or high-end radiosity techniques
- PC5.** use libraries of real-world materials, e.g. hardwood flooring, to create detailed representations and renderings
- PC6.** create a master schedule to pre-define interior spaces in the building
- PC7.** carry out appropriate detailing for the building's interiors
- PC8.** check the interior design model against the design requirements
- PC9.** calculate the interior area, quantify materials and produce estimates for the relevant interior designing materials, e.g. carpet, wall coverings, ceiling tile, or finishes, using the BIM software
- PC10.** ensure the client's requirements are met in interior designing

### *Carry out relevant documentation*

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

- PC11.** carry out interior design-related documentation, including schedules, material takeoffs and other informational views of the building, presenting direct presentations of the underlying building model
- PC12.** ensure the availability of the documentation to the relevant stakeholders for their review
- PC13.** determine the need of making changes to the interior design based on the stakeholders' feedback and make appropriate changes, following the organizational protocols

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



## Qualification Pack



- KU1.** the use of appropriate BIM software to visualize the interior design of the building
- KU2.** how to generate rendered views with the required lighting conditions and finish/material representations directly from the BIM
- KU3.** the use of appropriate tools in the BIM software for interiors, e.g. tools for shaded views with vectorial shadows, capped section boxes and silhouette edges
- KU4.** how to generate photorealistic renderings using raytracing or high-end radiosity techniques
- KU5.** the use of libraries of real-world materials, e.g. hardwood flooring, to create detailed representations and renderings
- KU6.** the importance and process of creating a master schedule to pre-define interior spaces in the building
- KU7.** the process of detailing a building's interiors
- KU8.** the importance and process of checking the interior design model against the design requirements
- KU9.** how to calculate the interior area, quantify materials and produce estimates for the relevant interior designing materials

### Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to learn about the latest developments in the field of work
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate clearly and politely with co-workers and clients
- GS5.** coordinate with co-workers to achieve work objectives
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** take quick decisions to deal with workplace emergencies/ accidents
- GS9.** evaluate all possible solutions to a problem to select the best one



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Design the building's interiors</i>	<b>20</b>	<b>40</b>	-	<b>5</b>
<b>PC1.</b> use the appropriate BIM software to visualize the interior design of the building, including lighting, materials, finishing and fixtures	-	-	-	-
<b>PC2.</b> generate rendered views with the required lighting conditions and finish/material representations directly from the BIM	-	-	-	-
<b>PC3.</b> use the appropriate tools in the BIM software for interiors, e.g. tools for shaded views with vectorial shadows, capped section boxes and silhouette edges	-	-	-	-
<b>PC4.</b> generate photorealistic renderings using raytracing or high-end radiosity techniques	-	-	-	-
<b>PC5.</b> use libraries of real-world materials, e.g. hardwood flooring, to create detailed representations and renderings	-	-	-	-
<b>PC6.</b> create a master schedule to pre-define interior spaces in the building	-	-	-	-
<b>PC7.</b> carry out appropriate detailing for the building's interiors	-	-	-	-
<b>PC8.</b> check the interior design model against the design requirements	-	-	-	-
<b>PC9.</b> calculate the interior area, quantify materials and produce estimates for the relevant interior designing materials, e.g. carpet, wall coverings, ceiling tile, or finishes, using the BIM software	-	-	-	-
<b>PC10.</b> ensure the client's requirements are met in interior designing	-	-	-	-
<i>Carry out relevant documentation</i>	<b>10</b>	<b>20</b>	-	<b>5</b>
<b>PC11.</b> carry out interior design-related documentation, including schedules, material takeoffs and other informational views of the building, presenting direct presentations of the underlying building model	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC12.</b> ensure the availability of the documentation to the relevant stakeholders for their review	-	-	-	-
<b>PC13.</b> determine the need of making changes to the interior design based on the stakeholders' feedback and make appropriate changes, following the organizational protocols	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>60</b>	<b>-</b>	<b>10</b>



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N2110
<b>NOS Name</b>	Carry out interior designing using BIM tools
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Building Information Modeling
<b>NSQF Level</b>	6
<b>Credits</b>	7
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023



# CON/N2111: Perform integration of VR with BIM

## Description

This OS unit is about integrating VR with BIM for enhanced BIM designing.

## Scope

The scope covers the following :

- Prepare for using VR
- Use VR with BIM

## Elements and Performance Criteria

### *Prepare for using VR*

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

- PC1.** ensure the availability of appropriate VR software tools and devices for the integration of VR with BIM
- PC2.** set up the VR software tools and devices for use as per the manufacturer's instructions

### *Use VR with BIM*

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

- PC3.** use the selected VR software tools and devices as per the manufacturers' instructions
- PC4.** create virtual representations of construction projects with the help of VR
- PC5.** create immersive and realistic visualizations of BIM models
- PC6.** use VR for pre-construction planning, e.g. checking site conditions or designing layouts
- PC7.** analyze the virtual BIM models using VR technology to identify errors and potential problems
- PC8.** utilize VR in resolving the conflicts identified in the BIM model
- PC9.** build BIM projects in multi-user VR environments with real-time rendering
- PC10.** optimize costs and schedules for BIM projects by using VR and BIM in combination
- PC11.** assist in using VR to train BIM Modelers on safety and equipment training
- PC12.** perform design review through coordination with the relevant stakeholders
- PC13.** perform minor troubleshooting for the VR device and coordinate with the manufacturer for the complex issues

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the benefit of integrating VR with BIM, e.g. accuracy of BIM designs, reduction in project costs, enhanced efficiency and collaboration, etc.
- KU2.** the use of relevant software tools and devices for the implementation of VR in BIM designing
- KU3.** use of Virtual reality to promote engagement with on-site personnel and stakeholders
- KU4.** how to use VR to explain complex construction projects to clients with a detailed view
- KU5.** how to create virtual models for BIM projects using VR technology



## Qualification Pack



**KU6.** the common problems encountered during the adoption of VR and how to resolve them

### Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to learn about the latest developments in the field of work
- GS3.** communicate clearly and politely with co-workers and clients
- GS4.** listen attentively to understand the information/ instructions being shared by the speaker
- GS5.** plan and prioritize tasks to ensure timely completion
- GS6.** coordinate with co-workers to achieve work objectives
- GS7.** take quick decisions to deal with workplace emergencies/ accidents



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for using VR</i>	<b>10</b>	<b>20</b>	-	<b>5</b>
<b>PC1.</b> ensure the availability of appropriate VR software tools and devices for the integration of VR with BIM	-	-	-	-
<b>PC2.</b> set up the VR software tools and devices for use as per the manufacturer’s instructions	-	-	-	-
<i>Use VR with BIM</i>	<b>20</b>	<b>40</b>	-	<b>5</b>
<b>PC3.</b> use the selected VR software tools and devices as per the manufacturers’ instructions	-	-	-	-
<b>PC4.</b> create virtual representations of construction projects with the help of VR	-	-	-	-
<b>PC5.</b> create immersive and realistic visualizations of BIM models	-	-	-	-
<b>PC6.</b> use VR for pre-construction planning, e.g. checking site conditions or designing layouts	-	-	-	-
<b>PC7.</b> analyze the virtual BIM models using VR technology to identify errors and potential problems	-	-	-	-
<b>PC8.</b> utilize VR in resolving the conflicts identified in the BIM model	-	-	-	-
<b>PC9.</b> build BIM projects in multi-user VR environments with real-time rendering	-	-	-	-
<b>PC10.</b> optimize costs and schedules for BIM projects by using VR and BIM in combination	-	-	-	-
<b>PC11.</b> assist in using VR to train BIM Modelers on safety and equipment training	-	-	-	-
<b>PC12.</b> perform design review through coordination with the relevant stakeholders	-	-	-	-
<b>PC13.</b> perform minor troubleshooting for the VR device and coordinate with the manufacturer for the complex issues	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>60</b>	-	<b>10</b>



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N2111
<b>NOS Name</b>	Perform integration of VR with BIM
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Building Information Modeling
<b>NSQF Level</b>	6
<b>Credits</b>	4
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023



# CON/N2112: Assist in coordinating BIM designing

## Description

This OS unit is about assisting the BIM project management team in coordinating BIM designing activities.

## Scope

The scope covers the following :

- Assist in BIM software adoption
- Assist in BIM modeling

## Elements and Performance Criteria

### *Assist in BIM software adoption*

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

- PC1.** Conduct research concerning new software development and coordinate with the operations team for their implementation
- PC2.** assist the BIM coordinator in BIM software integration and coordinate the resolution of related issues
- PC3.** generate the technology evaluations for the adoption of appropriate BIM software
- PC4.** develop the software testing process
- PC5.** conduct the appropriate test to assess the capabilities of relevant BIM software and make appropriate recommendations to the management
- PC6.** maintain the "Release of Liability" forms taken from architects when collaborating with them on the BIM project
- PC7.** check and ensure valid BIM software licensing through coordination with the BIM Coordinator
- PC8.** assist the BIM Coordinator in budgeting for IT assets, such as computer hardware and BIM software
- PC9.** assist in maintaining efficiency by planning and implementing new systems and techniques

### *Assist in BIM modeling*

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

- PC10.** maintain the BIM software document archives, standard details and families, and retrieve them for projects as required
- PC11.** maintain the BIM software inventory and share data with the relevant stakeholders
- PC12.** utilize software capabilities and follow the applicable best practices for BIM implementation during all the phases BIM project lifecycle, i.e. from pre-design planning to construction
- PC13.** check the work of the design team and provide drafting support as required
- PC14.** assist the BIM Coordinator in conducting the appropriate audits of the project BIM model to ensure adherence to the applicable Quality Assurance (QA)/ Quality Control (QC) checklists
- PC15.** check and ensure compliance with the applicable BIM drafting standards and families
- PC16.** coordinate with the client to ensure the accuracy and constructability of the different modeled systems
- PC17.** collaborate across all discipline-specific designers and BIM modelers



## Qualification Pack



- PC18.** ensure all the BIM model content is compatible and BIM data is available to the relevant stakeholders
- PC19.** follow the organizational procedures for retention, protection, retrieval, transfer, and disposal of design data
- PC20.** maintain clear communication with designers and modelers, providing them direction concerning BIM designing
- PC21.** collaborate with the design team and other departments to reach the production goals
- PC22.** complete the operational requirements concerning BIM modeling, following up on work results
- PC23.** support the BIM project teams in implementing the BIM Execution Plan, coordinating the planning the designing of the BIM model as per the client's requirements
- PC24.** prepare and submit the weekly report on the BIM model progress
- PC25.** submit a report on clash detection to the BIM Coordinator to monitor the coordination of the model
- PC26.** assist the Engineer and BIM Coordinator in resolving the identified clashes
- PC27.** ensure the BIM model aligns with the standards and goals set in BIM Execution Plan and BIM project workflow criteria

### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the benefit of using BIM for managing construction projects, e.g. real-time insights into project progress and cost
- KU2.** the architectural, structural, installation systems modelling, etc.
- KU3.** the building systems, specifications and construction methods
- KU4.** BIM designing processes and standards
- KU5.** the digital workflows in BIM designing
- KU6.** the use of relevant BIM Authoring software
- KU7.** different stages of a BIM designing project lifecycle
- KU8.** the process of modelling objects through specific applications
- KU9.** how to analyze the contents of information specifications and information management plans
- KU10.** how to develop BIM models and conduct their pre-testing
- KU11.** how to validate model objects information for consistency
- KU12.** the use of relevant software in the BIM supply chain
- KU13.** the appropriate software required for BIM designing
- KU14.** BIM project management and relevant BIM coordination activities
- KU15.** the process of document management
- KU16.** how to import and export metadata from models into lifecycle management tools
- KU17.** lifecycle management of BIM models
- KU18.** the relevant industry standards and codes
- KU19.** the use of clash detection tools
- KU20.** content verification and creation in 3D tools



## Qualification Pack



- KU21.** process of creating 2D and 3D design models
- KU22.** use of the technical and operative documentation for the production of the composition and models
- KU23.** the design process and principles for the production of precision technical documents, drawings and models
- KU24.** the common training requirements of BIM modelers
- KU25.** the applicable safety working practices

### Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** listen attentively to understand the information/ instructions being shared by the speaker
- GS3.** read the relevant literature to learn about the latest developments in the field of work
- GS4.** communicate clearly and politely with co-workers and clients
- GS5.** coordinate with co-workers to achieve work objectives
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** take quick decisions to deal with workplace emergencies/ accidents



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist in BIM software adoption</i>	<b>12</b>	<b>20</b>	-	<b>5</b>
<b>PC1.</b> Conduct research concerning new software development and coordinate with the operations team for their implementation	-	-	-	-
<b>PC2.</b> assist the BIM coordinator in BIM software integration and coordinate the resolution of related issues	-	-	-	-
<b>PC3.</b> generate the technology evaluations for the adoption of appropriate BIM software	-	-	-	-
<b>PC4.</b> develop the software testing process	-	-	-	-
<b>PC5.</b> conduct the appropriate test to assess the capabilities of relevant BIM software and make appropriate recommendations to the management	-	-	-	-
<b>PC6.</b> maintain the "Release of Liability" forms taken from architects when collaborating with them on the BIM project	-	-	-	-
<b>PC7.</b> check and ensure valid BIM software licensing through coordination with the BIM Coordinator	-	-	-	-
<b>PC8.</b> assist the BIM Coordinator in budgeting for IT assets, such as computer hardware and BIM software	-	-	-	-
<b>PC9.</b> assist in maintaining efficiency by planning and implementing new systems and techniques	-	-	-	-
<i>Assist in BIM modeling</i>	<b>18</b>	<b>40</b>	-	<b>5</b>
<b>PC10.</b> maintain the BIM software document archives, standard details and families, and retrieve them for projects as required	-	-	-	-
<b>PC11.</b> maintain the BIM software inventory and share data with the relevant stakeholders	-	-	-	-
<b>PC12.</b> utilize software capabilities and follow the applicable best practices for BIM implementation during all the phases BIM project lifecycle, i.e. from pre-design planning to construction	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> check the work of the design team and provide drafting support as required	-	-	-	-
<b>PC14.</b> assist the BIM Coordinator in conducting the appropriate audits of the project BIM model to ensure adherence to the applicable Quality Assurance (QA)/ Quality Control (QC) checklists	-	-	-	-
<b>PC15.</b> check and ensure compliance with the applicable BIM drafting standards and families	-	-	-	-
<b>PC16.</b> coordinate with the client to ensure the accuracy and constructability of the different modeled systems	-	-	-	-
<b>PC17.</b> collaborate across all discipline-specific designers and BIM modelers	-	-	-	-
<b>PC18.</b> ensure all the BIM model content is compatible and BIM data is available to the relevant stakeholders	-	-	-	-
<b>PC19.</b> follow the organizational procedures for retention, protection, retrieval, transfer, and disposal of design data	-	-	-	-
<b>PC20.</b> maintain clear communication with designers and modelers, providing them direction concerning BIM designing	-	-	-	-
<b>PC21.</b> collaborate with the design team and other departments to reach the production goals	-	-	-	-
<b>PC22.</b> complete the operational requirements concerning BIM modeling, following up on work results	-	-	-	-
<b>PC23.</b> support the BIM project teams in implementing the BIM Execution Plan, coordinating the planning the designing of the BIM model as per the client's requirements	-	-	-	-
<b>PC24.</b> prepare and submit the weekly report on the BIM model progress	-	-	-	-
<b>PC25.</b> submit a report on clash detection to the BIM Coordinator to monitor the coordination of the model	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC26.</b> assist the Engineer and BIM Coordinator in resolving the identified clashes	-	-	-	-
<b>PC27.</b> ensure the BIM model aligns with the standards and goals set in BIM Execution Plan and BIM project workflow criteria	-	-	-	-
<b>NOS Total</b>	<b>30</b>	<b>60</b>	<b>-</b>	<b>10</b>



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N2112
<b>NOS Name</b>	Assist in coordinating BIM designing
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Building Information Modeling
<b>NSQF Level</b>	6
<b>Credits</b>	6
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023



# CON/N9003: Manage health and safety at the workplace

## Description

This occupational standards unit is about ensuring health and safety at work. This includes personal health and safety and that of the subordinates, as applicable.

## Scope

The scope covers the following :

- Ensure health and safety at work
- Manage workplace emergencies

## Elements and Performance Criteria

### *Ensure health and safety at work*

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

- PC1.** check and ensure the availability of appropriate and usable Personal Protective Equipment (PPE) at the workplace
- PC2.** use the appropriate PPE according to the nature of work and ensure other personnel also do the same
- PC3.** create awareness regarding health and safety practices at work
- PC4.** follow and promote the appropriate measures to ensure hygiene in the workplace, e.g. regular cleaning and sanitization
- PC5.** coordinate regular workplace audits to ensure safe working conditions
- PC6.** identify health and safety hazards at the workplace and take appropriate preventive measures
- PC7.** report any out-of-authority health and safety issues to the relevant authority for a timely resolution
- PC8.** identify the instances of non-compliance with the health and safety policies and take appropriate measures, e.g. giving feedback to the relevant personnel

### *Manage workplace emergencies*

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

- PC9.** ensure the availability of the updated first aid kit at the workplace
- PC10.** ensure prompt and timely medical attention for any injured/ unwell personnel
- PC11.** arrange for effective training of personnel on emergency procedures
- PC12.** manage workplace emergencies, such as fire, accidents, disease outbreaks or natural calamities following the organizational policies
- PC13.** follow the applicable emergency procedures and ensure the personnel also do the same
- PC14.** ensure the safe use of emergency equipment, e.g. fire extinguishers, according to the manufacturer's instructions
- PC15.** arrange for the emergency equipment to be repaired or replaced, as required
- PC16.** maintain records of workplace emergencies and report them to the relevant authority in compliance with the applicable regulatory requirements



### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the applicable regulations concerning workplace health and safety
- KU2.** various practices to ensure personal health and safety at the workplace
- KU3.** the importance of ensuring the use of appropriate at the workplace
- KU4.** the importance of ensuring that PPE, emergency equipment and first-aid kit at the workplace are up to date and usable condition
- KU5.** the applicable practices for sanitizing the workplace
- KU6.** the process of identifying health and safety hazards at the workplace and taking appropriate preventive measures
- KU7.** the importance of regular workplace audits to ensure safe working conditions
- KU8.** the appropriate action to be taken to deal with workplace emergencies such as fire, accidents, disease outbreaks or natural calamities
- KU9.** the process of providing first aid and requesting further medical assistance
- KU10.** safe use of the emergency equipment as per the manufacturer's instructions
- KU11.** the process of reporting workplace emergencies/ accidents to the relevant authority in compliance with the organizational and regulatory requirements

### Generic Skills (GS)

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

- GS1.** maintain the appropriate data and records
- GS2.** read the appropriate reports and literature concerning the field of work
- GS3.** communicate professionally with all the stakeholders
- GS4.** listen attentively to understand the information/ instructions being shared and take appropriate action
- GS5.** coordinate with co-workers to achieve the work objectives
- GS6.** plan and execute tasks based on priority
- GS7.** identify possible disruptions to work and take appropriate mitigation measures
- GS8.** take prompt action to deal with workplace emergencies and accidents
- GS9.** evaluate all possible solutions to work-related problems and select the best one
- GS10.** follow the recommended practices for the timely completion of work and achievement of organizational objectives



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure health and safety at work</i>	<b>25</b>	<b>35</b>	-	-
<b>PC1.</b> check and ensure the availability of appropriate and usable Personal Protective Equipment (PPE) at the workplace	-	-	-	-
<b>PC2.</b> use the appropriate PPE according to the nature of work and ensure other personnel also do the same	-	-	-	-
<b>PC3.</b> create awareness regarding health and safety practices at work	-	-	-	-
<b>PC4.</b> follow and promote the appropriate measures to ensure hygiene in the workplace, e.g. regular cleaning and sanitization	-	-	-	-
<b>PC5.</b> coordinate regular workplace audits to ensure safe working conditions	-	-	-	-
<b>PC6.</b> identify health and safety hazards at the workplace and take appropriate preventive measures	-	-	-	-
<b>PC7.</b> report any out-of-authority health and safety issues to the relevant authority for a timely resolution	-	-	-	-
<b>PC8.</b> identify the instances of non-compliance with the health and safety policies and take appropriate measures, e.g. giving feedback to the relevant personnel	-	-	-	-
<i>Manage workplace emergencies</i>	<b>15</b>	<b>25</b>	-	-
<b>PC9.</b> ensure the availability of the updated first aid kit at the workplace	-	-	-	-
<b>PC10.</b> ensure prompt and timely medical attention for any injured/ unwell personnel	-	-	-	-
<b>PC11.</b> arrange for effective training of personnel on emergency procedures	-	-	-	-
<b>PC12.</b> manage workplace emergencies, such as fire, accidents, disease outbreaks or natural calamities following the organizational policies	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> follow the applicable emergency procedures and ensure the personnel also do the same	-	-	-	-
<b>PC14.</b> ensure the safe use of emergency equipment, e.g. fire extinguishers, according to the manufacturer's instructions	-	-	-	-
<b>PC15.</b> arrange for the emergency equipment to be repaired or replaced, as required	-	-	-	-
<b>PC16.</b> maintain records of workplace emergencies and report them to the relevant authority in compliance with the applicable regulatory requirements	-	-	-	-
<b>NOS Total</b>	<b>40</b>	<b>60</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N9003
<b>NOS Name</b>	Manage health and safety at the workplace
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic Safety
<b>NSQF Level</b>	5
<b>Credits</b>	1
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	31/08/2023
<b>Next Review Date</b>	31/08/2026
<b>NSQC Clearance Date</b>	31/08/2023



### DGT/VSQ/N0103: Employability Skills (90 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.** understand the significance of employability skills in meeting the current job market requirement and future of work
- PC2.** identify and explore learning and employability relevant portals
- PC3.** research about the different industries, job market trends, latest skills required and the available opportunities

##### *Constitutional values - Citizenship*

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

- PC4.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC5.** follow environmentally sustainable practices

##### *Becoming a Professional in the 21st Century*

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

- PC6.** recognize the significance of 21st Century Skills for employment
- PC7.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life



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**PC8.** adopt a continuous learning mindset for personal and professional development

### *Basic English Skills*

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

**PC9.** use basic English for everyday conversation in different contexts, in person and over the telephone

**PC10.** read and understand routine information, notes, instructions, mails, letters etc. written in English

**PC11.** write short messages, notes, letters, e-mails etc. in English

### *Career Development & Goal Setting*

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

**PC12.** identify career goals based on the skills, interests, knowledge, and personal attributes

**PC13.** prepare a career development plan with short- and long-term goals

### *Communication Skills*

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

**PC14.** follow verbal and non-verbal communication etiquette while communicating in professional and public settings

**PC15.** use active listening techniques for effective communication

**PC16.** communicate in writing using appropriate style and format based on formal or informal requirements

**PC17.** work collaboratively with others in a team

### *Diversity & Inclusion*

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

**PC18.** communicate and behave appropriately with all genders and PwD

**PC19.** escalate any issues related to sexual harassment at workplace according to POSH Act

### *Financial and Legal Literacy*

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

**PC20.** identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.

**PC21.** carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook

**PC22.** identify common components of salary and compute income, expenses, taxes, investments etc

**PC23.** identify relevant rights and laws and use legal aids to fight against legal exploitation

### *Essential Digital Skills*

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

**PC24.** operate digital devices and use their features and applications securely and safely

**PC25.** carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.

**PC26.** display responsible online behaviour while using various social media platforms

**PC27.** create a personal email account, send and process received messages as per requirement

**PC28.** carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications

**PC29.** utilize virtual collaboration tools to work effectively



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### *Entrepreneurship*

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

- PC30.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC31.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC32.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

### *Customer Service*

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

- PC33.** identify different types of customers and ways to communicate with them
- PC34.** identify and respond to customer requests and needs in a professional manner
- PC35.** use appropriate tools to collect customer feedback
- PC36.** follow appropriate hygiene and grooming standards

### *Getting ready for apprenticeship & Jobs*

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

- PC37.** create a professional Curriculum vitae (Résumé)
- PC38.** search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively
- PC39.** apply to identified job openings using offline /online methods as per requirement
- PC40.** answer questions politely, with clarity and confidence, during recruitment and selection
- PC41.** identify apprenticeship opportunities and register for it as per guidelines and requirements

## **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.** components of salary and 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



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**KU16.** use applications such as word processors, spreadsheets etc.

**KU17.** how to identify business opportunities

**KU18.** types and needs of customers

**KU19.** how to apply for a job and prepare for an interview

**KU20.** 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 in English and other languages

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

**GS3.** behave politely and appropriately with all to maintain effective work relationship

**GS4.** how to work in a virtual mode, using various technological platforms

**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
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
<b>PC2.</b> identify and explore learning and employability relevant portals	-	-	-	-
<b>PC3.</b> research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC4.</b> 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.	-	-	-	-
<b>PC5.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>1</b>	<b>3</b>	-	-
<b>PC6.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC7.</b> 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	-	-	-	-
<b>PC8.</b> adopt a continuous learning mindset for personal and professional development	-	-	-	-
<i>Basic English Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC9.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-



## Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC11.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-
<b>PC12.</b> identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
<b>PC13.</b> prepare a career development plan with short- and long-term goals	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC14.</b> follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
<b>PC15.</b> use active listening techniques for effective communication	-	-	-	-
<b>PC16.</b> communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
<b>PC17.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>1</b>	-	-
<b>PC18.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC19.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC20.</b> identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
<b>PC21.</b> carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC22.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC23.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>5</b>	-	-
<b>PC24.</b> operate digital devices and use their features and applications securely and safely	-	-	-	-
<b>PC25.</b> carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
<b>PC26.</b> display responsible online behaviour while using various social media platforms	-	-	-	-
<b>PC27.</b> create a personal email account, send and process received messages as per requirement	-	-	-	-
<b>PC28.</b> carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
<b>PC29.</b> utilize virtual collaboration tools to work effectively	-	-	-	-
<i>Entrepreneurship</i>	<b>2</b>	<b>3</b>	-	-
<b>PC30.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC31.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC32.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC33.</b> identify different types of customers and ways to communicate with them	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC34.</b> identify and respond to customer requests and needs in a professional manner	-	-	-	-
<b>PC35.</b> use appropriate tools to collect customer feedback	-	-	-	-
<b>PC36.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC37.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC38.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC39.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC40.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC41.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-



## Qualification Pack



### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	DGT/VSQ/N0103
<b>NOS Name</b>	Employability Skills (90 Hours)
<b>Sector</b>	Cross Sectoral
<b>Sub-Sector</b>	Professional Skills
<b>Occupation</b>	Employability
<b>NSQF Level</b>	5
<b>Credits</b>	3
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	25/02/2026
<b>Next Review Date</b>	25/02/2027
<b>NSQC Clearance Date</b>	25/02/2026

### Assessment Guidelines and Assessment Weightage

#### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC)/ Elements will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC/ Elements.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
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. The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of



## Qualification Pack



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

8. After the certain number of iterations as decided by SSC 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 SSC.

10. Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

### 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
CON/N2110.Carry out interior designing using BIM tools	30	60	0	10	100	25
CON/N2111.Perform integration of VR with BIM	30	60	0	10	100	25
CON/N2112.Assist in coordinating BIM designing	30	60	0	10	100	30
CON/N9003.Manage health and safety at the workplace	40	60	0	0	100	10
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>150</b>	<b>270</b>	<b>0</b>	<b>30</b>	<b>450</b>	<b>100</b>



## Qualification Pack



### Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>BIM</b>	Building Information Modelling
<b>VR</b>	Virtual Reality
<b>QA</b>	Quality Assurance
<b>QC</b>	Quality Control
<b>BEP</b>	BIM Execution Plan
<b>PPE</b>	Personal Protective Equipment
<b>EHS</b>	Environment Health and Safety



## Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	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.
<b>Knowledge and Understanding (KU)</b>	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.



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<b>Organisational Context</b>	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.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	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.
<b>Electives</b>	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.
<b>Options</b>	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.