



Qualification Pack



4D BIM Planner - Planning and Monitoring

QP Code: CON/Q2102

Version: 1.0

NSQF Level: 6

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CON/Q2102: 4D BIM Planner - Planning and Monitoring

Brief Job Description

A 4D BIM Planner - Planning & Monitoring is responsible for time management in construction projects. The individual integrates time and schedule-related information in 3D BIM models using the appropriate Building Information Modeling (BIM) software. The model presents the virtual construction sequence in a project, helping efficient time and resource allocation. The person works in coordination with relevant stakeholders in the construction team, e.g. engineers, contractors and builders.

Personal Attributes

The individual should have attention to detail with organizational and problem-solving skills. The person should be able to communicate well verbally and in writing.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

- [1. CON/N2101: Carry out planning and scheduling using 4D BIM](#)
- [2. CON/N2102: Optimize schedule and track project progress using 4D BIM](#)
- [3. CON/N9003: Manage health and safety at the workplace](#)
- [4. DGT/VSQ/N0103: Employability Skills \(90 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Building Information Modeling
Country	India
NSQF Level	6
Credits	20
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2142.9900



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Minimum Educational Qualification & Experience	<p>Pursuing first year of 2-year PG program after completing 3 year UG degree OR Completed 4 year UG program (in case of 4-year UG 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 Years of experience in the relevant field) OR Previous relevant Qualification of NSQF Level (5.0) with 3 Years of experience in the relevant field</p>
Minimum Level of Education for Training in School	Not Applicable
Pre-Requisite License or Training	NA
Minimum Job Entry Age	21 Years
Last Reviewed On	NA
Next Review Date	31/08/2026
NSQC Approval Date	31/08/2023
Version	1.0
Reference code on NQR	QG-06-CO-00778-2023-V1-CSDCI
NQR Version	1



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CON/N2101: Carry out planning and scheduling using 4D BIM

Description

This OS unit is about carrying out planning and scheduling for construction projects using 4D BIM.

Scope

The scope covers the following :

- Determine the project objectives
- Prepare the 4D model
- Identify and resolve issues in sequencing

Elements and Performance Criteria

Determine the project objectives

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

- PC1.** analyze the BIM Execution Plan (BEP)
- PC2.** determine the client's expectations and project objectives and scope

Prepare the 4D model

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

- PC3.** create a 4D simulation using the BIM project management software and export it to the relevant software
- PC4.** use appropriate methods for the easy identification of elements, tasks and resources in the Open BIM software, e.g. custom colour schemes, correct sequences, etc.
- PC5.** visualize the construction process and project lifecycle in 4D BIM project management software
- PC6.** perform look-ahead analysis using the appropriate features in the BIM software
- PC7.** compare the scheduled plan with the original plan and ensure consistency across all the phases of the construction timeline
- PC8.** monitor the construction project development and plan the project phases
- PC9.** set the timing for various activities in the construction process with the help of 4D BIM software, e.g. booking machinery, hiring specialists, purchasing materials, etc.
- PC10.** develop accurate schedules based on reliable federated information available in the BIM software
- PC11.** use 4D equipment planning to plan the use of equipment in construction projects to ensure their hiring for the appropriate duration to reduce the equipment costs
- PC12.** ensure alignment with the requirements of the BIM Project
- PC13.** ensure compliance with the applicable industry standards and BIM requirements
- PC14.** generate Intelligent Line of balance and flowline scheduling

Identify and resolve issues in sequencing

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

- PC15.** review 4D sequences in the BIM software to identify relevant issues in real-time



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- PC16.** coordinate with other disciplines during construction with the help of BIM software to prevent clashes
- PC17.** identify risks to construction workers and coordinate the implementation of appropriate risk mitigation measures
- PC18.** identify, analyze and prevent problems related to the sequential, spatial and temporal aspects of the construction process
- PC19.** carry out appropriate documentation concerning the planning and scheduling using 4D BIM

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the importance of determining the project objectives and scope before its execution
- KU2.** the importance of Line of Balance and its advantages and application
- KU3.** the importance of time management and scheduling in construction projects
- KU4.** the benefits of integrating BIM into project execution planning (4D BIM), e.g. prevention of time and cost inefficiencies on the construction site
- KU5.** the appropriate software required for 4D/5D integrated scheduling
- KU6.** use of 4D BIM models to improve construction time management and allocate time and resources relating to work activities
- KU7.** the use of 4D BIM construction tools for efficient planning in construction projects
- KU8.** the creation of a visual construction timeline combining 3D models with project programs in 4D construction sequencing
- KU9.** the process of planning and scheduling various construction activities using 4D BIM
- KU10.** how to conduct planned vs actual schedule analysis
- KU11.** how to identify and prevent problems related to the sequential, spatial and temporal aspects of the construction process

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



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Determine the project objectives</i>	3	6	-	2
PC1. analyze the BIM Execution Plan (BEP)	-	-	-	-
PC2. determine the client's expectations and project objectives and scope	-	-	-	-
<i>Prepare the 4D model</i>	20	40	-	6
PC3. create a 4D simulation using the BIM project management software and export it to the relevant software	-	-	-	-
PC4. use appropriate methods for the easy identification of elements, tasks and resources in the Open BIM software, e.g. custom colour schemes, correct sequences, etc.	-	-	-	-
PC5. visualize the construction process and project lifecycle in 4D BIM project management software	-	-	-	-
PC6. perform look-ahead analysis using the appropriate features in the BIM software	-	-	-	-
PC7. compare the scheduled plan with the original plan and ensure consistency across all the phases of the construction timeline	-	-	-	-
PC8. monitor the construction project development and plan the project phases	-	-	-	-
PC9. set the timing for various activities in the construction process with the help of 4D BIM software, e.g. booking machinery, hiring specialists, purchasing materials, etc.	-	-	-	-
PC10. develop accurate schedules based on reliable federated information available in the BIM software	-	-	-	-
PC11. use 4D equipment planning to plan the use of equipment in construction projects to ensure their hiring for the appropriate duration to reduce the equipment costs	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ensure alignment with the requirements of the BIM Project	-	-	-	-
PC13. ensure compliance with the applicable industry standards and BIM requirements	-	-	-	-
PC14. generate Intelligent Line of balance and flowline scheduling	-	-	-	-
<i>Identify and resolve issues in sequencing</i>	7	14	-	2
PC15. review 4D sequences in the BIM software to identify relevant issues in real-time	-	-	-	-
PC16. coordinate with other disciplines during construction with the help of BIM software to prevent clashes	-	-	-	-
PC17. identify risks to construction workers and coordinate the implementation of appropriate risk mitigation measures	-	-	-	-
PC18. identify, analyze and prevent problems related to the sequential, spatial and temporal aspects of the construction process	-	-	-	-
PC19. carry out appropriate documentation concerning the planning and scheduling using 4D BIM	-	-	-	-
NOS Total	30	60	-	10



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N2101
NOS Name	Carry out planning and scheduling using 4D BIM
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Building Information Modeling
NSQF Level	6
Credits	8
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023



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CON/N2102: Optimize schedule and track project progress using 4D BIM

Description

This OS unit is about optimizing schedules and tracking progress in construction projects using 4D BIM.

Scope

The scope covers the following :

- Perform schedule optimization
- Track project progress

Elements and Performance Criteria

Perform schedule optimization

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

- PC1.** perform advanced analysis and schedule optimization
- PC2.** carry out resource allocation and leveling using the BIM management software
- PC3.** generate Line of Balance (LOB) analysis, collecting, measuring, and presenting facts relating to time, cost and completion in the construction project
- PC4.** perform flowline analysis concerning the scheduling of construction activities

Track project progress

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

- PC5.** monitor the progress of the construction project using 4D BIM software
- PC6.** use BIM Collaboration Format (BCF) to exchange information concerning design issues in the BIM model or for updating progress with the relevant experts and stakeholders for resolution
- PC7.** ensure correct progress input in the BIM software for the automatic updating of the construction schedule
- PC8.** generate the look-ahead plans from 4D simulation and perform look-ahead analysis
- PC9.** identify the out-of-sequence work and take appropriate corrective measures
- PC10.** identify progress lags and coordinate the mitigation of the risk of delay
- PC11.** prepare the 4D task reports with the help of BIM software, including the appropriate details
- PC12.** conduct the comparison of the planned and actual schedule
- PC13.** carry out resource monitoring using 4D/5D BIM management software
- PC14.** track the Key Performance Indicators (KPIs) and carry out executive reporting
- PC15.** use BIM for effective communication, coordination and decision-making throughout the project lifecycle
- PC16.** generate model-based delay analysis

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



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- KU1.** the process of monitoring construction progress using BIM Management software
- KU2.** the appropriate software required for 4D BIM scheduling
- KU3.** resource allocation and leveling using the BIM software
- KU4.** how to conduct LOB and flowline analysis
- KU5.** traditional quantity-based and element-based progress input
- KU6.** how to identify the out-of-sequence work and appropriate corrective measures to be taken
- KU7.** BCF progress input
- KU8.** how to prepare and extract detailed 4D task reports using relevant management software
- KU9.** the importance and process of conducting schedule comparison
- KU10.** planned vs. actual analysis
- KU11.** look-ahead analysis
- KU12.** resource monitoring
- KU13.** KPI tracking and executive reporting
- KU14.** the use of BIM for communication, coordination and decision making

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



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform schedule optimization</i>	15	30	-	5
PC1. perform advanced analysis and schedule optimization	-	-	-	-
PC2. carry out resource allocation and leveling using the BIM management software	-	-	-	-
PC3. generate Line of Balance (LOB) analysis, collecting, measuring, and presenting facts relating to time, cost and completion in the construction project	-	-	-	-
PC4. perform flowline analysis concerning the scheduling of construction activities	-	-	-	-
<i>Track project progress</i>	15	30	-	5
PC5. monitor the progress of the construction project using 4D BIM software	-	-	-	-
PC6. use BIM Collaboration Format (BCF) to exchange information concerning design issues in the BIM model or for updating progress with the relevant experts and stakeholders for resolution	-	-	-	-
PC7. ensure correct progress input in the BIM software for the automatic updating of the construction schedule	-	-	-	-
PC8. generate the look-ahead plans from 4D simulation and perform look-ahead analysis	-	-	-	-
PC9. identify the out-of-sequence work and take appropriate corrective measures	-	-	-	-
PC10. identify progress lags and coordinate the mitigation of the risk of delay	-	-	-	-
PC11. prepare the 4D task reports with the help of BIM software, including the appropriate details	-	-	-	-
PC12. conduct the comparison of the planned and actual schedule	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. carry out resource monitoring using 4D/5D BIM management software	-	-	-	-
PC14. track the Key Performance Indicators (KPIs) and carry out executive reporting	-	-	-	-
PC15. use BIM for effective communication, coordination and decision-making throughout the project lifecycle	-	-	-	-
PC16. generate model-based delay analysis	-	-	-	-
NOS Total	30	60	-	10



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N2102
NOS Name	Optimize schedule and track project progress using 4D BIM
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Building Information Modeling
NSQF Level	6
Credits	8
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023



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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



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- 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



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure health and safety at work</i>	25	35	-	-
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	-	-	-	-
<i>Manage workplace emergencies</i>	15	25	-	-
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	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	-	-	-	-
NOS Total	40	60	-	-



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National Occupational Standards (NOS) Parameters

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



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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



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- PC7.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life
- PC8.** adopt a continuous learning mindset for personal and professional development

Basic English Skills

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



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- PC27.** create a personal email account, send and process received messages as per requirement
- PC28.** carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications
- PC29.** utilize virtual collaboration tools to work effectively

Entrepreneurship

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



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- 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
- 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



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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
PC2. identify and explore learning and employability relevant portals	-	-	-	-
PC3. research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
PC4. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC5. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
PC6. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC7. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-	-
<i>Basic English Skills</i>	3	4	-	-
PC9. 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
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	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-
PC12. identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
PC13. prepare a career development plan with short- and long-term goals	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
PC15. use active listening techniques for effective communication	-	-	-	-
PC16. communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC18. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-



Qualification Pack

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



Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC37. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC39. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC40. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-



Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0103
NOS Name	Employability Skills (90 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	5
Credits	3
Version	1.0
Last Reviewed Date	31/08/2023
Next Review Date	31/08/2026
NSQC Clearance Date	31/08/2023

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.



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- 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.
- 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.
- 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.
- 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/N2101.Carry out planning and scheduling using 4D BIM	30	60	0	10	100	40
CON/N2102.Optimize schedule and track project progress using 4D BIM	30	60	0	10	100	40
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
Total	120	210	0	20	350	100



Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
BIM	Building Information Modeling
BEP	BIM Execution Plan
LOB	Line of Balance
KPI	Key Performance Indicators
BCF	BIM Collaboration Format



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Glossary

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



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