



Model Curriculum

Qualification Name: Scaffold Design Engineer

Qualification Code: SSD/Q0203

Qualification Version: 1.0

NSQF Level: 6.0

Model Curriculum Version: 1.0

Safety Skill Development Foundation

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Training Parameters

Sectors	Construction, Infrastructure, Real estate, Iron & Steel, Mining, Logistics, Hydrocarbon and others.
Sub-Sector	-
Occupation	Scaffolding Engineering & Management
Country	India
NSQF Level	6
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2141.0100 ; Works Inspector, Engineering/Inspection Engineer
Minimum Educational Qualification and Experience	Completed 4-year UG in a relevant field with 2 years relevant experience. OR Completed 3-year UG in relevant field with 3 years relevant experience. OR Previous relevant qualification of NSQF level 5.5 with 1.5-years relevant experience. OR Previous relevant qualification of NSQF level 5 with 3-years relevant experience.
Pre-Requisite License or Training	Nil
Minimum Job Entry Age	18 years
Last Reviewed On	27-08-2024
Next Review Date	27-08-2027
Version	1.0
NSQF Approval Date	27-08-2024
Model Curriculum Creation Date	27-08-2024
Model Curriculum Valid Up to Date	27-08-2027

Model Curriculum Version	1.0
Minimum Duration of the Course	690 Hours
Maximum Duration of the Course	690 Hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

After completing the program, the participant will be able to: -

- Identification & selection of scaffold requirement.
- Design load calculation of the scaffold.
- Reading & Understanding scaffold drawings.
- Identification & selection of fall protection & design selection.
- Calculation of dimensions of components & drawing.
- Preparation of scaffold drawings & highlighting the components, specification & critical feature, table and symbols for the drawing.
- Dead Loads, imposed loads, wind loads as per Indian Standard code of practice for design loads.
- Load combinations for design loads.
- International practices in the design of scaffolds design check and analysis of scaffolding using STAAD Pro.
- Record maintenance of scaffold design.
- Planning of resources for own work and communication to concerned subordinates, co-workers, and superiors.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
SSD/N0213 v 1.0: Scaffoldings & Specifications	72:00 Hours	38:00 Hours	10:00 Hours	00:00 Hours	120:00 Hours



Module 1: Introduction to Training Program, Overview, assessments, role of Scaffold Design Engineer, employment opportunities in Industries.	04:00 Hours	00:00 Hours	00:00 Hours	00:00 Hours	04:00 Hours
Module 2: Types of scaffoldings, their components, specifications, uses under specific conditions and protections for safe use.	68:00 Hours	38:00 Hours	10:00 Hours	00:00 Hours	116:00 Hours
SSD/N0214 v 1.0: Understanding Scaffold Drawings & Designs, Indian & International Standard Codes.	54:00 Hours	26:00 Hours	10:00 Hours	00:00 Hours	90:00 Hours
Module 3: Scaffolding drawings & design, factors influencing design of scaffold, load calculations, design & safety parameters for supported, un-supported, cantilever, mobile, suspended scaffoldings.	54:00 Hours	26:00 Hours	10:00 Hours	00:00 Hours	90:00 Hours
SSD/N0215 v 1.0: Scaffold Design & Drawings using the scaffold & computer-aided design (CAD) system.	72:00 Hours	18:00 Hours	30:00 Hours	00:00 Hours	120:00 Hours
Module 4: Skills and knowledge required to prepare dimensional drawings of scaffolding using structural design software & computer-aided design (CAD) system. The scope covers the creation and correction of 2/3 Dimensional Drawings that are used in all projects of construction across all sub-sectors using CAD systems.	72:00 Hours	18:00 Hours	30:00 Hours	00:00 Hours	120:00 Hours

SSD/N0216 v 1.0: Calculation of loads in scaffold designs as per Indian & International Standard.	54:00 Hours	6:00 Hours	30:00 Hours	00:00 Hours	90:00 Hours
Module 5: Design load calculation as per IS-875 & IS-3696, international practices and various codal provisions followed in designing of scaffolds as per specifications.	54:00 Hours	6:00 Hours	30:00 Hours	00:00 Hours	90:00 Hours
SSD/N0217 v 1.0: Analysis of scaffold design using STAAD Pro as per applicable IS and international codes.	90:00 Hours	30:00 Hours	30:00 Hours	00:00 Hours	150:00 Hours
Module 6: Analysis of scaffolding using the software STAAD Pro as per applicable IS & international codes. Scaffold drawings, design & various codes provisions, specifications & best practices.	90:00 Hours	30:00 Hours	30:00 Hours	00:00 Hours	150:00 Hours
SSD/N0218 v 1.0: Plan, Organize & Monitor.	36:00 Hours	14:00 Hours	10:00 Hours	00:00 Hours	60:00Hours
Module 7: Planning, organizing and monitoring of their work to provide the expected outcomes efficiently & ensuring quality of the work.	36:00 Hours	14:00 Hours	10:00 Hours	00:00 Hours	60:00 Hours
DGT/VSQ/N0102: Employability Skills	36:00 Hours	24:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Module 8: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer.	36:00 Hours	24:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours



Total Duration	414:00	156:00	120:00	00:00	690:00
	Hours	Hours	Hours	Hours	Hours

Module Details

Module 1: Introduction to Training Program, Overview, assessments, role of Scaffold Design Engineer, employment opportunities in Industries.

Mapped to SSD/N0213, v 1.0

Terminal Outcomes:

- Discuss role of Scaffold Design Engineer & sectors & industries.
- Employment opportunities, career development & International opportunities.
- Course approach, duration, training & assessment processes.

Duration: 04:00	Duration: 00:00
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> ● Role & responsibilities of Scaffold Design Engineer. ● Iceberg theory of safety. ● Career progression in the occupation. ● Industries for Employment & international opportunities for employment. ● Training approach & methodology. ● Assessment process & Certification. ● The assistance provided by AB/TP/LMIS in employment. 	
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator’s Guide, Participant’s Handbook.	
Tools, Equipment and Other Requirements	
Nil	

Module 2: Types of scaffoldings, their components, specifications, uses under specific conditions and protections for safe use.

Mapped to SSD/N0213, v 1.0

Terminal Outcomes:

- Identification of scaffold & components.
- Design load calculation of the scaffold.



- Fall protection requirements & provisions in the scaffold.

Duration: 68 Hours	Duration: 38 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none">● Scaffold terminologies for various scaffoldings.● Different types of Scaffoldings.● Parts of different Scaffoldings.● Uses & Suitability of Scaffoldings under different conditions & heights for supported & mobile scaffoldings up to 20 meters.● Load classes of different Scaffoldings & design load calculation.● Calculation of loads on scaffolding & optimum load.● Types of fall protections in scaffolds.● Working out requirements of Scaffolding parts.● Regulations and approved codes of Practices.● Working out fall protection requirements for the scaffold.● Process of scaffolding erection, safety measures & precautions during use of scaffoldings up to a height of 20 meters.● Introduction to International specifications of scaffoldings in use.	<ul style="list-style-type: none">● Identify scaffold and components. Define scaffold terminologies & types of scaffolds as per uses.● Calculate design loads of the scaffold.● Work out, fall-protection requirements & provisions required in the scaffold.● Make a presentation on the process of scaffold selection and scaffold erection.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator’s Guide, Participant’s Handbook.	
Tools, Equipment and Other Requirements	
Podger spanner, Ring spanner, Open-End Spanner, Claw hammer, Mash hammer, Vernier caliper, Hack saw blade with frame, Line string, Knife, Wheel pulley, Drilling machine, Adjustable screw jack base plate, Spigot with bolts and nuts, H-frame Scaffold, Cup Lock System Scaffold (vertical, ledger, transom), Ring Lock system Scaffold, Cross bracings, Extension pipes, Sole boards, GI Pipe 48.3 mm OD, 4mm thick, Swivel coupler, Right angle coupler, Putlog coupler, Sleeve coupler, Stairway set (including all components), Ladder 6.0 mt, Ladder 3.0 mt, Ladder clamps(Suitable to ladder), Toe guard, Wooden planks, Staircase tower scaffold with components (as per manufacturer), Mobile tower scaffold with components (as per manufacturer), Safety Net, Steel scale, Try square, Spirit level, Plumb bob, Measuring tape, Safety Helmet, Safety goggles, Safety shoes, Safety belt, Safety Harness, Cotton Hand – Gloves, Barricading tape.	



Module 3: Scaffolding drawings & design, factors influencing design of scaffold, load calculations, design & safety parameters for supported, un-supported, cantilever, mobile, suspended scaffoldings.

Mapped to SSD/N0214, v 1.0

Terminal Outcomes:

- Reading & Understanding scaffold drawings.
- Scaffold parameters for design & safety.
- Identification & selection of fall protection & design selection.

Duration: 54 Hours	Duration: 26 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> ● Understanding of scaffold drawings & safety elements. ● Interpretations of scaffold drawings & designs and details of scaffold drawings. ● Working out of design & safety parameters of scaffoldings as per Indian Standards IS-2750 & IS-3696. ● Working out the design details of the scaffold as per International Standards of OSHA & BS standards & safety parameters. ● Checking of design details of scaffoldings and interpretations. ● Fall protections & design for fall protection. ● Working out details of ladder/temporary ladder requirements & design. ● Factors affecting designing of scaffold. 	<ul style="list-style-type: none"> ● Work out and define scaffold parameters for design & safety. ● Work out and carry the design of the scaffold and its components. ● Check design details and prepare a checklist.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.	
Tools, Equipment and Other Requirements	
<p>Podger spanner, Ring spanner, Open-End Spanner, Claw hammer, Mash hammer, Vernier caliper, Hack saw blade with frame, Line string, Knife, Wheel pulley, Drilling machine, Adjustable screw jack base plate, Spigot with bolts and nuts, H-frame Scaffold, Cup Lock System Scaffold (vertical, ledger, transom), Ring Lock system Scaffold, Cross bracings, Extension pipes, Sole boards, GI Pipe 48.3 mm OD, 4mm thick, Swivel coupler, Right angle coupler, Putlog coupler, Sleeve coupler, Stairway set (including all components), Ladder 6.0 mt, Ladder 3.0 mt, Ladder clamps(Suitable to ladder), Toe guard, Wooden planks, Staircase tower scaffold with components (as per manufacturer), Mobile tower scaffold with components (as per manufacturer), Safety Net,</p>	



Steel scale, Try square, Spirit level, Plumb bob, Measuring tape, Safety Helmet, Safety goggles, Safety shoes, Safety belt, Safety Harness, Cotton Hand – Gloves, Barricading tape.

Module 4: Skills and knowledge required to prepare dimensional drawings of scaffolding using structural design software & computer-aided design (CAD) system. The scope covers the creation and correction of 2/3 Dimensional Drawings that are used in all projects of construction across all sub-sectors using CAD systems.

Mapped to SSD/N0215, v 1.0

Terminal Outcomes:

- Calculation of dimensions of components & complete the drawing.
- Preparation of scaffold drawings & highlighting the components, specification & critical features.
- Creating tables and symbols for the drawing.

Duration: 72 Hours	Duration: 18 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> ● Calculations and finding dimensions of various components/ parts of drawings ● Dimensions to the required scale to input in the system software for analysis. ● Drafting principles to produce cad drawings showing plans, sections, elevations, and different types of views ● Commands in the software to draw the required drawings as per standard practices. ● Keyboard commands and pull-down menus available in common CAD systems to prepare the drawings. ● Use of standard codes and other references that follow the required conventions. ● Structures and highlighting critical features in accordance with specifications and requirements, structure assemblies to. ● Creating tables to denote the name, dimensions, perimeter, and area of various parts or components as per client requirement. ● Use of relevant and appropriate symbols as per drawing requirements to provide details in the drawings. 	<ul style="list-style-type: none"> ● Calculate and find dimensions of scaffolding of components from analysis results. ● Prepare scaffold drawing using CAD software, highlighting the components, specification & critical feature. ● Create a table for the details in scaffold drawing.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.	

Tools, Equipment and Other Requirements

Podger spanner, Ring spanner, Open-End Spanner, Claw hammer, Mash hammer, Vernier caliper, Hack saw blade with frame, Line string, Knife, Wheel pulley, Drilling machine, Adjustable screw jack base plate, Spigot with bolts and nuts, H-frame Scaffold, Cup Lock System Scaffold (vertical, ledger, transom), Ring Lock system Scaffold, Cross bracings, Extension pipes, Sole boards, GI Pipe 48.3 mm OD, 4mm thick, Swivel coupler, Right angle coupler, Putlog coupler, Sleeve coupler, Stairway set (including all components), Ladder 6.0 mt, Ladder 3.0 mt, Ladder clamps(Suitable to ladder), Toe guard, Wooden planks, Staircase tower scaffold with components (as per manufacturer), Mobile tower scaffold with components (as per manufacturer), Safety Net, Steel scale, Try square, Spirit level, Plumb bob, Measuring tape, Safety Helmet, Safety goggles, Safety shoes, Safety belt, Safety Harness, Cotton Hand – Gloves, Barricading tape

Module 5: Design load calculation as per IS-875 & IS-3696, international practices and various codal provisions followed in designing of scaffolds as per specifications.

Mapped to SSD/N0216, v 1.0

Terminal Outcomes:

- Dead loads, imposed loads, wind loads as per Indian Standard code of practice for design loads calculation.
- Load combinations for design loads calculation.
- International practices in the design of scaffolds.

Duration: 54 Hours	Duration: 6 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> ● Understanding & calculation of loads & load factors affecting scaffold design. ● Understanding & calculation of design load calculation on scaffold. ● Understanding & calculation of dead loads, imposed loads and wind loads on scaffold. ● Understanding of load calculation as per IS-875 and its element applicable for scaffolds. ● Understanding of load calculation as per provisions of IS-3696. ● Understand to apply IS-875 & IS-3696 in load calculation. ● International codes & practices. ● Calculation of dead load details of scaffold as per Indian Standard code for scaffold. ● Calculation of imposed loads & wind loads as per Indian & International standard codes for scaffolds. 	<ul style="list-style-type: none"> ● Calculate loads on scaffold as per IS-875 and IS-3696 ● Calculate dead loads, imposed loads, wind loads and work out load combinations for design loads. ● Bring out salient differences between Indian & International practices in the design of scaffolds.

<ul style="list-style-type: none"> ● Calculation of combination of loads on scaffold. ● Checking of design load details of the scaffold as per international design standards. 	
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Podger spanner, Ring spanner, Open-End Spanner, Claw hammer, Mash hammer, Vernier caliper, Hack saw blade with frame, Line string, Knife, Wheel pulley, Drilling machine, Adjustable screw jack base plate, Spigot with bolts and nuts, H-frame Scaffold, Cup Lock System Scaffold (vertical, ledger, transom), Ring Lock system Scaffold, Cross bracings, Extension pipes, Sole boards, GI Pipe 48.3 mm OD, 4mm thick, Swivel coupler, Right angle coupler, Putlog coupler, Sleeve coupler, Stairway set (including all components), Ladder 6.0 mt, Ladder 3.0 mt, Ladder clamps(Suitable to ladder), Toe guard, Wooden planks, Staircase tower scaffold with components (as per manufacturer), Mobile tower scaffold with components (as per manufacturer), Safety Net, Steel scale, Try square, Spirit level, Plumb bob, Measuring tape, Safety Helmet, Safety goggles, Safety shoes, Safety belt, Safety Harness, Cotton Hand – Gloves, Barricading tape	

Module 6: Analysis of scaffolding using the software STAAD Pro as per applicable IS & international codes. Scaffold drawings, design & various codes provisions, specifications & best practices of

Mapped to SSD/N0217, v 1.0

Terminal Outcomes:

- Design check and analysis of scaffolding using STAAD Pro.
- Safety measures in the scaffold are to be covered during the design of the scaffold.
- Documents to be prepared and maintained in scaffold design.

Duration: 90 Hours	Duration: 30 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
<ul style="list-style-type: none"> ● Drawing of structures coordinates, nodes, dimensions and specification. ● Drawing scaffold assemblies to highlight critical features as per specification. ● Load application on scaffold as per calculations. ● Carrying out the scaffold design in software and complete analysis. ● Determination of scaffold components and their placement based on design calculations and load requirements. ● Compliance of relevant codes and standards in 	<ul style="list-style-type: none"> ● Carry out analysis and design of scaffold using STAAD Pro. ● Understand the design output from STAAD and carry out checks. ● Find safety measures in the scaffold as per analysis & design of the scaffold.

<p>the design and analysis process.</p> <ul style="list-style-type: none"> ● Reading and understanding of the analyzed results and understanding the outcome. ● Extracting relevant and required result data and preparing the checklist for each component. ● Critical nodes and each of the inspection points of the scaffold. ● Preparation of the software drawing after analysis. ● Preparation and extraction of the result data after analysis for checking & records. ● Data sheet preparation and extracting drawing of scaffold components from the software after analysis for records. 	
<p>Classroom Aids:</p>	
<p>Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Podger spanner, Ring spanner, Open-End Spanner, Claw hammer, Mash hammer, Vernier caliper, Hack saw blade with frame, Line string, Knife, Wheel pulley, Drilling machine, Adjustable screw jack base plate, Spigot with bolts and nuts, H-frame Scaffold, Cup Lock System Scaffold (vertical, ledger, transom), Ring Lock system Scaffold, Cross bracings, Extension pipes, Sole boards, GI Pipe 48.3 mm OD, 4mm thick, Swivel coupler, Right angle coupler, Putlog coupler, Sleeve coupler, Stairway set (including all components), Ladder 6.0 mt, Ladder 3.0 mt, Ladder clamps(Suitable to ladder), Toe guard, Wooden planks, Staircase tower scaffold with components (as per manufacturer), Mobile tower scaffold with components (as per manufacturer), Safety Net, Steel scale, Try square, Spirit level, Plumb bob, Measuring tape, Safety Helmet, Safety goggles, Safety shoes, Safety belt, Safety Harness, Cotton Hand – Gloves, Barricading tape.</p>	

Module 7: Planning, organizing and monitoring of their work to provide the expected outcomes efficiently & ensuring quality of the work.

Mapped to SSD/N0218, v 1.0

Terminal Outcomes:

- Planning of resources for own work and communication to concerned subordinates, co-workers and superiors.
- Provide necessary support to subordinates, coordinate with co-workers and liaise with superiors and other teams.
- Monitor progress of work and adjust, manage or project requirements on time.

<p>Duration: 36 Hours</p>	<p>Duration: 14 Hours</p>
<p>Theory–Key Learning Outcomes</p>	<p>Practical–Key Learning Outcomes</p>

<ul style="list-style-type: none"> ● Basic concepts of planning & organizing. ● Planning of resources. ● Concept of resources requirement optimization. ● Scheduling of activities as per time plan. ● Communication to co-workers & subordinates. ● Reporting process & record maintenance. ● Checklist and resource availability as per schedule. ● Procurements/acquisitions. ● Briefing & tool-box talk. ● Monitoring of resources & reporting. ● Statutory & quality compliances and record preparation. ● Record keeping & displays. 	<ul style="list-style-type: none"> ● Plan resources and communication methods to subordinates, co-workers and superiors. ● Provide necessary support to subordinates, coordinate with co-workers and liaise with superiors and other teams . ● Monitor progress of Safety audit and adjust, manage or project requirements on time.
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Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.

Tools, Equipment and Other Requirements

Podger spanner, Ring spanner, Open-End Spanner, Claw hammer, Mash hammer, Vernier caliper, Hack saw blade with frame, Line string, Knife, Wheel pulley, Drilling machine, Adjustable screw jack base plate, Spigot with bolts and nuts, H-frame Scaffold, Cup Lock System Scaffold (vertical, ledger, transom), Ring Lock system Scaffold, Cross bracings, Extension pipes, Sole boards, GI Pipe 48.3 mm OD, 4mm thick, Swivel coupler, Right angle coupler, Putlog coupler, Sleeve coupler, Stairway set (including all components), Ladder 6.0 mt, Ladder 3.0 mt, Ladder clamps(Suitable to ladder), Toe guard, Wooden planks, Staircase tower scaffold with components (as per manufacturer), Mobile tower scaffold with components (as per manufacturer), Safety Net, Steel scale, Try square, Spirit level, Plumb bob, Measuring tape, Safety Helmet, Safety goggles, Safety shoes, Safety belt, Safety Harness, Cotton Hand – Gloves, Barricading tape.

Module 8: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer.

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe the traits of individual at workplace.
- Demonstrate apply employability and entrepreneurship skills at workplace.

Duration: 36:00	Duration: 24:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes

<ul style="list-style-type: none"> • Discuss the importance of Employability Skills in meeting the job requirements. • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. • Discuss 21st century skills. • Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations. • Discuss the significance of reporting sexual harassment issues in time. • Discuss the significance of using financial products and services safely and securely. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws. • Explain the importance of managing expenses, income, and savings. • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely. • Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges. • Differentiate between types of customers. • Explain the significance of identifying customer needs and addressing them. • Discuss the significance of maintaining hygiene and dressing appropriately. • Discuss the significance of dressing up neatly and maintaining hygiene for an interview. • Discuss how to search and register for apprenticeship opportunities. 	<ul style="list-style-type: none"> • Show how to practice different environmentally sustainable practices. • Use appropriate basic English sentences/phrases while speaking. • Demonstrate how to communicate in a well -mannered way with others. • Demonstrate working with others in a team. • Show how to conduct oneself appropriately with all genders and PwD. • Show how to operate digital devices and use the associated applications and features, safely and securely. • Create a biodata. • Use various sources to search and apply for jobs.
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Classroom Aids:

Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator’s Guide, Participant’s Handbook.

Tools, Equipment and Other Requirements

Laptop/computer, internet, mobile



NSQC Approved



On the Job Training Plan: Scaffold Design Engineer

Scaffoldings & Specifications : 10 Hours
Key Learning Outcomes
<ul style="list-style-type: none">● Identification of scaffold & components.● Estimation of design load of the scaffold.● Fall protection requirements & provisions in the scaffold.
Scaffold Drawings & Designs, Indian & International Standard Codes : 10 Hours
Key Learning Outcomes
<ul style="list-style-type: none">● Scaffold parameters for design & safety.● Selection of fall protection & understanding.● Identify hidden risk in improved methodologies.
Scaffold Design & Drawings : 30 hours
Key Learning Outcomes
<ul style="list-style-type: none">● Calculation of dimensions of components & complete the drawing.● Preparation of scaffold drawings & highlighting the components, specification & critical features.● Creating tables and symbols for the drawing.● Project work.
Calculation of loads in scaffold designs as per Indian & International Standard : 30 hours
Key Learning Outcomes
<ul style="list-style-type: none">● Dead Loads, imposed loads, wind loads as per Indian Standard code of practice for design loads.● Load combinations for design loads.● International practices in the design of scaffolds.● Project work.
Analysis of scaffold design using STAAD Pro as per applicable IS and international codes : 30 hours
Key Learning Outcomes
<ul style="list-style-type: none">● Design check and analysis of scaffolding using STAAD Pro.● Safety measures in the scaffold are to be covered during the design of the scaffold.● Documents to be prepared and maintained in scaffold design.● Project work.
Plan, Organize & Monitor : 10 hours
Key Learning Outcomes

- Planning of resources and communication to concerned subordinates, co-workers and superiors.
- Provide necessary support to subordinates, coordinate with co-workers and liaise with superiors and other teams.
- Monitor progress of Safety audit and adjust, manage or project requirements on time.

Total Duration of OJT – 120 Hours (2.5 weeks)

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate in any discipline / Diploma in Engineering	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	8	Relevant Domain	0	-	
M. Tech/ B. Tech	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	5	Relevant Domain	0	-	

Trainer Certification	
Domain Certification	Platform Certification
Certified as Trainer for the Qualification “SSD/Q0203 : Scaffold Design Engineer” or higher	Recommended that the Trainer is certified for the Job Role: “Trainer (VET and Skills)”, mapped to the



qualification as per career progression by SSDF. The minimum accepted score is 80%	Qualification Pack: "MEP/Q2601 v2.0". The minimum score of 80%.
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Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate in any discipline / Diploma in Engineering	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	8	Relevant Domain	0	-	
M. Tech/ B. Tech	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	5	Relevant Domain	0	-	

Assessor Certification	
Domain Certification	Platform Certification
Certified as assessor for the Qualification "SSD/Q0203: Scaffold Design Engineer" or higher qualification as per career progression by SSDF. The minimum accepted score is 80%	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2701 v2.0". The minimum accepted score is 80%.



Assessment Strategy

The assessment will be based on the concept of third-party assessments through certified assessors with empaneled Assessment Agencies of NCVET. The certification of each assessor will be done by SSDF through a process of selection, training, assessment & certification through training of the assessor's program.

The assessments will include both formative & summative. The progressive assessments will be through a trainer during the progress of the training. The summative assessments will be carried by the assessor through assessment agencies.

The assessment process will find whether the candidate or professional is competent or not to perform the job as per expected performance criteria. The assessment plan contains the following information:

- a) Assessment elements – Competencies based on performance criteria of each NOS.
- b) Methods of assessment – Written test (online/offline), viva and practical/ field exercises.
- c) Time of assessment – The assessment will be done both formative and summative (post orientation/training) of candidates.
- d) Place i.e., context of the assessment - The assessment will be conducted through theory, viva voice and practical/ field exercises, on simulators and will be both online and offline modes.
- e) The criteria for decision making– It will be based on assessment criteria & guidelines as given the qualification pack.
- f) Questions – The written questions, viva & practical questions will be set to cover all aspects of performance criteria and would have been validated from experts in the subject matter



Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training Outcome is specified in terms of knowledge, understanding(theory)and skills (practical application).
OJT(M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT(R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standard
AB	Awarding Body
AA	Assessment Agency
TP	Training Partner