



कौशल विकास और
उद्यमशीलता मंत्रालय
MINISTRY OF
SKILL DEVELOPMENT
AND ENTREPRENEURSHIP



Model Curriculum

QP Name: Foreman Concrete

QP Code: CON/Q0110

QP Version: 3.0

NSQF Level: 4.5

Model Curriculum Version: 3.0

Construction Skill Development Council of India || (CSDCI), CPB – 201 and 202, Block-4B, DLF corporate Park, Near Guru Dronacharya Metro Station, Phase – III, MG Road, Gurugram, Haryana – 122002



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Training Parameters

| | |
|---|---|
| Sector | Construction |
| Sub-Sector | Real Estate and Infrastructure Construction |
| Occupation | Masonry |
| Country | India |
| NSQF Level | 4.5 |
| Aligned to NCO/ISCO/ISIC Code | NCO-2015/3112.9900 |
| Minimum Educational Qualification and Experience | <p>Completed 1st year of 3-years / 4-years of UG in Civil Engineering OR Completed 3-year Diploma in Civil Engineering after 10th OR Completed 2nd year of 2-years Diploma in Civil Engineering after 12th OR Pursuing 2nd year of 2-years Diploma in Civil Engineering after 12th OR 12th grade pass with 1-year of relevant industry experience OR 10th grade pass with 3-years of relevant industry experience OR Previous relevant Qualification of NSQF Level 3.5 with 3 years of relevant industry experience OR Previous relevant Qualification of NSQF Level 4 with 1.5 years of relevant industry experience</p> |
| Pre-Requisite License or Training | N.A. |
| Minimum Job Entry Age | 18 Years |
| Last Reviewed On | 31-03-2022 |
| Next Review Date | 31-03-2025 |
| NSQC Approval Date | 31-03-2022 |
| QP Version | 3.0 |
| Model Curriculum Creation Date | 31-03-2022 |
| Model Curriculum Valid Up to Date | 31-03-2025 |
| Model Curriculum Version | 3.0 |
| Minimum Duration of the Course | 570 hours |
| Maximum Duration of the Course | 570 hours |
| Rationalization Date | 18-04-2024 |



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Program Overview

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

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Read the various drawings/ sketches/ plans and prepare work method statement relevant to concreting work.
- Estimate the quantity of materials, tools, equipment and manpower required as per the given drawings.
- Discuss the methodology of concreting works.
- Explain the techniques (including use of tools, equipment and material) for all aspects of concreting work (including pouring, screening, levelling and finishing).
- Discuss the methodology of concreting works for horizontal, vertical and inclined surface.
- Elaborate the sequence of concrete pouring for casting of RCC structure.
- Discuss the various types of defects in concrete and their remedies.
- Explain the planning of various work activities as per the given target, timelines and resources.
- Discuss about the optimum utilization of the manpower and other resources.
- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.
- Demonstrate practices sensitive to disabilities (physical, mental, intellectual or sensory impairment), cultural diversity and gender neutrality.
- Explain the methods of allocating targets to the worker's gangs and subordinates as per the work plan/ schedule.
- Discuss about the supervising methods and performance evaluating techniques of workers/ subordinates/ gangs.
- Discuss about maintaining healthy and safe working environment at the construction site.
- Identify risks and other emergency situations at the workplace and respond accordingly to minimize risk.
- Explain methods of sanitization and infection control measures followed at the construction site.

Compulsory Modules

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

| NOS and Module Details | Theory Duration (in Hours) | Practical Duration (in Hours) | On-the-Job Training Duration (Mandatory) (in Hours) | Total Duration (in Hours) |
|---|----------------------------|-------------------------------|---|---------------------------|
| CON/N0129: Read and interpret working drawings, concrete specification and standards for concreting works NOS Version No.: 3.0 NSQF Level: 4.5 | 25:00 | 45:00 | 20:00 | 90:00 |
| Module 1: Bridge Module | 05:00 | 00:00 | 00:00 | 05:00 |
| Module 2: Read and interpret working drawings, concrete specification and standards for concreting works | 20:00 | 45:00 | 20:00 | 90:00 |
| CON/N0130: Check and ensure completion of preparatory works prior to concreting NOS Version No.: 2.0 NSQF Level: 4.5 | 35:00 | 45:00 | 40:00 | 120:00 |
| Module 3: Check and ensure completion of preparatory works prior to concreting | 35:00 | 45:00 | 40:00 | 120:00 |
| CON/N0131: Direct and monitor the execution of concreting works as per specifications and standard practices NOS Version No.: 3.0 NSQF Level: 4.5 | 50:00 | 70:00 | 60:00 | 180:00 |
| Module 4: Direct and monitor the execution of concreting works as per specifications and standard practices | 50:00 | 70:00 | 60:00 | 180:00 |
| CON/N7001: Plan, arrange and manage resources for execution of relevant work NOS Version No.: 4.0 NSQF Level: 5 | 10:00 | 20:00 | 00:00 | 30:00 |
| Module 5: Plan, arrange and manage resources for execution of relevant work | 10:00 | 20:00 | 00:00 | 30:00 |



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|--|---------------|---------------|---------------|---------------|
| CON/N8001: Work effectively in a team to deliver desired results at the workplace NOS Version No.: 12.0 NSQF Level: 4 | 10:00 | 20:00 | 00:00 | 30:00 |
| Module 6: Communicate effectively at workplace | 10:00 | 20:00 | 00:00 | 30:00 |
| CON/N8003: Supervise, monitor and evaluate performance of subordinates at workplace NOS Version No.: 5.0 NSQF Level: 6 | 10:00 | 20:00 | 00:00 | 30:00 |
| Module 7: Supervise, monitor and evaluate performance of subordinates at workplace | 10:00 | 20:00 | 00:00 | 30:00 |
| CON/N9002: Manage workplace for safe and healthy work environment NOS Version No.: 4.0 NSQF Level: 5 | 10:00 | 20:00 | 00:00 | 30:00 |
| Module 8: Manage safety and healthy at workplace | 10:00 | 20:00 | 00:00 | 30:00 |
| DGT/VSQ/N0102: Employability Skills (60 Hours) NOS Version No.: 1.0 NSQF Level: 3 | 60:00 | 00:00 | 00:00 | 60:00 |
| Module 9: Employability Skills | 60:00 | 00:00 | 00:00 | 60:00 |
| Total Duration | 210:00 | 240:00 | 120:00 | 570:00 |



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Module Details

Module 1: Introduction to Foreman Concrete

Bridge Module, Mapped to CON/N0129, v 3.0

Terminal Outcomes:

- Explain the role and responsibilities of the foreman concrete.
- Discuss the career progression for the foreman concrete.

| | |
|--|--|
| Duration: 05:00 | Duration: 00:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none">• Describe the role and responsibilities of a foreman concrete.• Define the personal attributes required in masonry occupation.• Explain the future possible progression and career development options of a foreman concrete. | |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |



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Module 2: Read and interpret working drawings, concrete specification and standards for concreting works

Mapped to CON/N0129, v 3.0

Terminal Outcomes:

- Read the various drawings/ sketches/ plans and prepare work method statement relevant to concreting work.
- Estimate the quantity of materials, tools, equipment and manpower required as per the given drawings.

| | |
|---|---|
| Duration: 20:00 | Duration: 45:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Discuss the terminology used in concreting works • Explain the different types of architectural drawing and specifications for concreting works. • Elaborate the procedure to read plan, elevation and sectional drawings. • Discuss the principles involved in reading and interpreting various relevant drawings • Discuss about the simplified sketch preparation from the architectural drawings. • Describe the concept of work schedule for masonry, bar bending, concreting, scaffolding and shuttering carpentry works. • Explain the standards and specifications for execution of works. • Elaborate the manufacturer's specification and work method statement for concreting works. • Discuss about the tools and equipment used for concreting works. • Estimate the quantity of materials, tools, equipment and manpower required as per the given drawings. | <ul style="list-style-type: none"> • Demonstrate reading and understanding of details like location, concrete grade, pour area, pouring volume and reinforcement detail from concreting works drawings • Demonstrate reading and understanding details from schedule of concreting work • Demonstrate reading and understanding specification and standards provided for concreting works • Demonstrate reading and understanding of operational standards /manufacturer's specification of all relevant concreting tools and equipment • Demonstrate reading and understanding of method statement for execution of concreting work • Demonstrate reading and understanding of manufactures specification for operation of power tools • Demonstrate reading and understanding of standard technical specification within scope of work • Calculate quantity of materials, time and resources required from relevant schematic working drawing. • Demonstrate process to convey work to workman by making a simplified sketch |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |

Module 3: Check and ensure completion of preparatory works prior to concreting

Mapped to CON/N0130, v 2.0

Terminal Outcomes:

- Discuss the methodology of concreting works.
- Explain the techniques (including use of tools, equipment and material) for all aspects of concreting work (including pouring, screening, levelling and finishing).

| Duration: 35:00 | Duration: 45:00 |
|---|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Discuss about the various structural drawings relevant to concreting works. • Explain the standard specifications and tolerance levels for of concreting work. • Differentiate between the pre-cast and in-situ concreting works. • State the appropriate proportions for the mixing of concrete to ensure consistency. • Describe the techniques (including use of tools, equipment and material) for all aspects of concreting work (including pouring, screening, levelling and finishing). • Elaborate the methodology for checking line, level and alignment for various concreting works. • Elaborate the methodology of concreting works. • Discuss the use of cover for the reinforcement with respect to various RCC structure. • Explain the different type of vibrators, their influence area and use. • Describe the concept of construction and expansion joints. • Brief the methods to inspect shoring and bracing of concrete forms. • Explain the working of pump line for concrete flow/ pump. • State the different type on concrete pumps with respect to head and flow of concrete. • Discuss about the preventive and corrective action to ensure the completion of preparatory works prior to concreting. | <ul style="list-style-type: none"> • Demonstrate statutory compliances to be maintained during concreting works • Demonstrate preparation of detailed work plan execution of concreting work at construction site/yard • Demonstrate checks to be carried out to ensure setting out for concreting work is as per the approved drawings • Demonstrate checks to be carried out to ensure working platforms, hand rails and access stairs are safe for working • Demonstrate checks to be carried out to ensure workplace is clear of debris and guard rails, safety nets and kerb boards are in place • Demonstrate checks to be carried out to ensure the concrete used is prepared in the specified proportions within the specified workability in case of manual mixing of concrete • Carry out checks for confirming grade of concrete as per use • Carry out inspection of the formwork formwork/moulds for gaps/misalignment of reinforcement/cover • Carry out inspection of formwork for leakage prior to concreting • Carry out inspection of formwork to ensure its clean prior to concreting • Carry out inspection of shoring and bracing of concrete forms to ensure their stability during pour • Demonstrate route required and position of pouring of concrete in formwork • Carry out inspection of fixing and setting of pump line, machinery for pouring of concrete • Carry out inspection of pumping of concrete. • Demonstrate method of providing |



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| | <p>instruction to subordinates for use of suitable type of pump w.r.t the discharge and head of concrete</p> <ul style="list-style-type: none"> • Demonstrate documentation and recording of details of the concreting works covering grade of concrete, area and volume of pour • Demonstrate documentation and recording of details of number of workers, tools and equipment deployed for work and achieved productivity. |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |

Module 4: Direct and monitor the execution of concreting works as per specifications and standard practices

Mapped to CON/N0131, v 3.0

Terminal Outcomes:

- Discuss the methodology of concreting works for horizontal, vertical and inclined surface.
- Elaborate the sequence of concrete pouring for casting of RCC structure.
- Discuss the various types of defects in concrete and their remedies.

| Duration: 50:00 | Duration: 70:00 |
|--|---|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Discuss the methodology of concreting works for horizontal, vertical and inclined surface. • Explain the specification of different grades of concrete. • Describe the different type of high-quality concrete finish. • Elaborate the sequence of concrete pouring for casting of RCC structure. • Discuss the variation of slump w.r.t time and rate of concrete pouring. • Explain the methods to use concrete vibrator in congested areas. • Describe the concept of construction joints/cold joints. • State the curing technique for newly casted RCC structure. • Discuss the concept of self-compacted concrete (SCC). • State the initial and final setting of concrete and their test to verify. • Discuss about the correct positioning of the pump hose when pumping the SCC. • Explain the methodology for hot/cold weather concreting works. • Describe the effect of wind breaks, and wind velocity on the ongoing concreting work. • Elaborate the use of different types of evaporative retarder/anti-freeze compound. • Discuss the various types of defects in concrete and their remedies. | <ul style="list-style-type: none"> • Demonstrate visual assessment of the workability and usability of concrete mix • Discard detrimental concrete mix • Carry out inspection of the pumping line • Instruct sub-ordinates and suggest method for pouring, levelling and finishing of concrete as per standard practices and specifications • Carry out inspection and conduct checks for pouring height of concrete, type of vibrator used in concreting work • Carry out checks to concrete is compacted to desired consistency and surface is finished to specified uniformity and smoothness/finish • Carry out checks to ensure levelling of edges and corners within tolerance levels • Demonstrate monitoring of groove cutting for expansion/contraction joints • Carry out checks to ensure appropriate finishing of concreted surface id done as per specifications • Carry out synchronization of all concreting activities to ensure rapid placement and compaction of concrete with respect to the setting time of concrete in case of form finished structure. • Monitor curing of concrete by ensuring marking of concreting date and ample watering of concreting structure • Demonstrate monitoring of concreting activities in hot/cold weather |

| | |
|--|---|
| | <p>conditions by checking the following</p> <ul style="list-style-type: none"> • Wind, air, concrete temperature and humidity • Schedule of concreting in accordance with the temperature change in day and night as per hot/cold weather concreting • Carry out checks, monitor and examine concrete after stripping of forms for surface deformities and defects • Direct subordinates for removal and repair of concrete with porosity, honey comb, or segregated materials • Direct subordinates on method of repair of concrete as per specifications |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |

Module 5: Plan, arrange and manage resources for execution of relevant work

Mapped to CON/N7001, v 4.0

Terminal Outcomes:

- Explain the planning of various work activities as per the given target, timelines and resources.
- Discuss about the optimum utilization of the manpower and other resources.

| Duration: 10:00 | Duration: 20:00 |
|--|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Explain the process of planning of the given tasks and activities relevant to the trade/job role within defined scope and duration. • Explain the procedure adopted for prioritizing an activity and sequencing of activities. • Explain basic concept of labour productivity and work productivity. • Interpret the Construction drawing for the technical details. • Discuss the methods to calculate the quantum of the given work. • Estimate the quantities of tools, accessories, materials and manpower required as per the given work. • State the standard working practices for the given work. • Discuss the methods and techniques for briefing team members on the matter of the given work. • Describe the methods to evaluate the progress and quality of the ongoing works. • Explain the importance of daily productivity report and attendance register. • Discuss on the optimized use of the available resources. • Explain the process to produce 2D drawings using auto-cad software. | <ul style="list-style-type: none"> • Identify the work target, timeline and plan activities to achieve the desired productivity. • Demonstrate the planning for various activities relevant to task as per the scope and schedule. • Calculate the requirement of manpower as per the quantum and nature of the given work. • Demonstrate to allocate the work among the various teammates as per the schedule and work plan. • Demonstrate the ability to coordinate with the teammates and superiors for the timely execution of the given work. • Ensure the optimum utilization of the manpower and other resources. • Prepare the daily Labour attendance record and their productivity report. • Demonstrate the methods to allocate various materials, equipment and tools to workmen as per the requirements. • Demonstrate optimum use of resources while performing domain specific work activities. • Ensure the completion of the given work/task as per the allocated resources and specified timeline. • Demonstrate to exhibit proper housekeeping after the completion of the work. |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |



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Module 6: Communicate effectively at workplace

Mapped to CON/N8001, v 12.0

Terminal Outcomes:

- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.
- Demonstrate practices sensitive to disabilities (physical, mental, intellectual or sensory impairment), cultural diversity and gender neutrality.

| Duration: 10:00 | Duration: 20:00 |
|---|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Explain the effects and benefits of timely actions relevant to the task at hand with examples. • Explain the importance of teamwork and its effects relevant to the task at hand with examples. • Explain the importance of proper and effective communication and its adverse effects in case of failure of proper communication. • Discuss about gender and its related concept: gender equality, gender equity (group work) • Discuss different types of disabilities (physical, mental, intellectual or sensory impairment). • Discuss the activities sensitive to the cultural diversity, disabilities and gender neutrality at the workplace. • Discuss the basic rules and regulations related to gender sensitivity, disabilities, and cultural diversity, with their impact on operations of a workplace. • Discuss how to take initiative in resolving issues among co-workers in a given situation. • Discuss reporting procedure followed at the workplace. | <ul style="list-style-type: none"> • Apply effective communication skills while interacting with co-workers, trade seniors and others during the assigned task. • Use appropriate writing skills and verbal communication reporting as per commonly applicable organisational norms. • Demonstrate teamwork skills during assigned task. • Demonstrate acceptable interpersonal transactions with individuals having disabilities (physical, mental, intellectual or sensory impairment) or cultural diversity. • Demonstrate the process modifications required to make the workplace free from gender biases. |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |



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Module 7: Supervise, monitor and evaluate performance of subordinates at workplace

Mapped to CON/N8003, v 5.0

Terminal Outcomes:

- Explain the methods of allocating targets to the worker's gangs and subordinates as per the work plan/ schedule.
- Discuss about the supervising methods and performance evaluating techniques of workers/ subordinates/ gangs.

| | |
|---|---|
| Duration: 10:00 | Duration: 20:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Discuss the procedures and policies regarding the performance evaluation and appraisal of the construction workers/ subordinates. • Explain the methods to assign and track the work targets given to the various worker's gangs and subordinates. • Describe the checks/ procedures to ensure the quality/ accuracy of the completed work/ task as per standard practices. • Discuss the inclusion of activities and practices into the construction work which are sensitive towards PWD (Person with disabilities), Cultural diversity and gender equality. | <ul style="list-style-type: none"> • Demonstrate the methods to set the targets for the gangs of workers as per their expertise/ skill and requirement at the construction site. • Identify and set the performance standards for each of the workers in the gangs as per their skills and responsibilities. • Demonstrate the methods to inspect and supervise the work activities of worker's gangs and subordinates at the construction site. • Implement the effective methods to monitor, evaluate, and record overall performance/ productivity of the subordinates and other workers at the construction site. • Ensure that all the relevant organisational policies and procedures are followed during the execution of the construction activities. • Demonstrate the all gender sensitive and inclusive work environment at the construction site as per the statutory/ organisational rule. |
| Classroom Aids: | |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids | |
| Tools, Equipment and Other Requirements: | |
| NA | |

Module 8: Manage safety and healthy at workplace

Mapped to CON/N9002, v 4.0

Terminal Outcome:

- Discuss about maintaining healthy and safe working environment at the construction site.
- Identify risks and other emergency situations at the workplace and respond accordingly to minimize risk.
- Explain methods of sanitization and infection control measures followed at the construction site.

| Duration: 10:00 | Duration: 20:00 |
|--|---|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Explain the various types of hazards at construction site and procedures to respond in case of any emergency or accidents. • Discuss about the various personal protective equipment (PPE) used during various construction works. • Describe the safe work practices to be followed while performing task. • Discuss the methods to ensure the workplace safety and good health of workers. • Explain the safe ways for using tools, tackles, equipment and materials as specified by Environment, Health and Safety (EHS) department. • Discuss the policies, guidelines and other requirements related to workplace safety as per EHS department/ government norms. • Describe the various types of infectious disease, their symptoms and control, at the construction site. • Discuss the medical guidelines, national legislation, local policies and protocols regarding spread of infectious disease. | <ul style="list-style-type: none"> • Ensure that all the safety and protection installation at construction site are adequate and correctly placed. • Demonstrate effective implementation of the health and safety plan for all the subordinates at the construction site. • Perform checks to ensure the safe handling, stacking and storing of tools, tackles, equipment and materials at the work place. • Demonstrate effective use of proper PPE by the subordinates. • Demonstrate provision for proper entrance and exit from confined spaces, excavated pits and other locations of workplace, as per safety recommendations. • Demonstrate the use of fire protection equipment for different type of fire hazard. • Demonstrate ways to create awareness about organisational policies and procedures associated with health, safety and welfare of construction workers. • Demonstrate the procedures for identifying, recording and reporting of hazards/accidents/ hazard of any infectious disease/ pandemic as per organizational and statutory requirements. • Ensure effective adherence to response to emergency procedures / protocols. • Demonstrate effective implementation of control measures to reduce risks. • Demonstrate vertigo test. • Demonstrate the practices to maintain personal hygiene, workplace hygiene and site/ workplace sanitization. • Ensure proper housekeeping at the workplace. |



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| Classroom Aids: |
| Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids |
| Tools, Equipment and Other Requirements |
| Leather Hand Gloves, Jump suit, Wire brush, Hand & Leg guard leather, Safety goggles, Nose mask, Ear protection, Fire extinguishers, Sand buckets Flashback arrestors, Welding helmet, Welding glass, Fire Extinguisher, Fire prevention kit, First Aid box, Safety tags, Safety Notice board, personal protective equipment (PPE), organizational and statutory documents for EHS |



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Module 9: Employability Skills (60 Hours)

Mapped to DGT/VSQ/N0102, v1.0

Duration: 60:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours

After completing this programme, participants will be able to:

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours

After completing this programme, participants will be able to:

5. Discuss the importance of relevant 21st-century skills.
6. Exhibit 21st-century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours

After completing this programme, participants will be able to:

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e-mail using basic English

Career Development & Goal Setting Duration: 2 Hours

After completing this programme, participants will be able to:

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours

After completing this programme, participants will be able to:

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion Duration: 2.5 Hours

After completing this programme, participants will be able to:

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.



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MINISTRY OF
SKILL DEVELOPMENT
AND ENTREPRENEURSHIP



Financial and Legal Literacy Duration: 5 Hours

After completing this programme, participants will be able to:

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.

Essential Digital Skills Duration: 10 Hours

20. Describe the role of digital technology in today's life
21. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
22. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
23. Create sample word documents, excel sheets and presentations using basic features
24. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

25. Explain the types of entrepreneurship and enterprises
26. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
27. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
28. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

29. Describe the significance of analyzing different types and needs of customers
30. Explain the significance of identifying customer needs and responding to them in a professional manner.
31. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs Duration: 8 Hours

32. Create a professional Curriculum Vitae (CV)
33. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
34. Discuss the significance of maintaining hygiene and confidence during an interview
35. Perform a mock interview
36. List the steps for searching and registering for apprenticeship opportunities
37. Discuss the legal rights, laws, and aids



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On-the-Job Training

Mapped to Foreman Concrete, v3.0

| |
|--|
| CON/N0129, v 2.0, Mandatory Duration: 20:00 |
| Location: On Site |
| <ul style="list-style-type: none"> • Demonstrate reading and understanding of details like location, concrete grade, pour area, pouring volume and reinforcement detail from concreting works drawings • Demonstrate reading and understanding details from schedule of concreting work • Demonstrate reading and understanding specification and standards provided for concreting works • Demonstrate reading and understanding of operational standards /manufacture's specification of all relevant concreting tools and equipment • Demonstrate reading and understanding of method statement for execution of concreting work • Demonstrate reading and understanding of manufactures specification for operation of power tools • Demonstrate reading and understanding of standard technical specification within scope of work • Calculate quantity of materials, time and resources required from relevant schematic working drawings • Demonstrate process to convey work to workman by making a simplified sketch |
| CON/N0130, v 3.0, Mandatory Duration: 40:00 |
| Location: On Site |
| <ul style="list-style-type: none"> • Demonstrate statutory compliances to be maintained during concreting works • Demonstrate preparation of detailed work plan execution of concreting work at construction site/yard • Demonstrate checks to be carried out to ensure setting out for concreting work is as per the approved drawings • Demonstrate checks to be carried out to ensure working platforms, hand rails and access stairs are safe for working • Demonstrate checks to be carried out to ensure workplace is clear of debris and guard rails, safety nets and kerb boards are in place • Demonstrate checks to be carried out to ensure the concrete used is prepared in the specified proportions within the specified workability in case of manual mixing of concrete • Carry out checks for confirming grade of concrete as per use • Carry out inspection of the formwork formwork/moulds for gaps/misalignment of reinforcement/cover • Carry out inspection of formwork for leakage prior to concreting • Carry out inspection of formwork to ensure its clean prior to concreting • Carry out inspection of shoring and bracing of concrete forms to ensure their stability during pour • Demonstrate route required and position of pouring of concrete in formwork • Carry out inspection of fixing and setting of pump line, machinery for pouring of concrete • Carry out inspection of pumping of concrete. • Demonstrate method of providing instruction to subordinates for use of suitable type of pump w.r.t the discharge and head of concrete • Demonstrate documentation and recording of details of the concreting works covering grade of concrete, area and volume of pour |

- Demonstrate documentation and recording of details of number of workers, tools and equipment deployed for work and achieved productivity.

CON/N0131, v 3.0, Mandatory Duration: 60:00

Location: On Site

- Demonstrate visual assessment of the workability and usability of concrete mix
- Discard detrimental concrete mix
- Carry out inspection of the pumping line
- Instruct sub-ordinates and suggest method for pouring, levelling and finishing of concrete as per standard practices and specifications
- Carry out inspection and conduct checks for pouring height of concrete, type of vibrator used in concreting work
- Carry out checks to concrete is compacted to desired consistency and surface is finished to specified uniformity and smoothness/finish
- Carry out checks to ensure levelling of edges and corners within tolerance levels
- Demonstrate monitoring of groove cutting for expansion/contraction joints
- Carry out checks to ensure appropriate finishing of concreted surface is done as per specifications
- Carry out synchronization of all concreting activities to ensure rapid placement and compaction of concrete with respect to the setting time of concrete in case of form finished structure.
- Monitor curing of concrete by ensuring marking of concreting date and ample watering of concreting structure
- Demonstrate monitoring of concreting activities in hot/cold weather conditions by checking the following
 - Wind, air, concrete temperature and humidity
- Schedule of concreting in accordance with the temperature change in day and night as per hot/cold weather concreting
 - Provision of sunshades/windbreaks/heated enclosures as per the concreting requirement
 - Presence of evaporative retarders/anti-freeze is used in hot/cold weather concreting
 - Preventive measure taken with respect to temperature of concreting area
 - Ensuring rapid placement and compaction of concrete
 - Cutting of grooves/ expansion/construction joint
- Carry out checks, monitor and examine concrete after stripping of forms for surface deformities and defects
- Direct subordinates for removal and repair of concrete with porosity, honey comb, or segregated materials
- Direct subordinates on method of repair of concrete as per specifications



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Annexure

Trainer Requirements

| Trainer Prerequisites | | | | | | |
|---|---|------------------------------|----------------|---------------------|----------------|--|
| Minimum Educational Qualification | Minimum Educational Qualification | Relevant Industry Experience | | Training Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| Post- Graduation | Civil Engineering | 3 | Concrete Works | 1 | Concrete Works | As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However, if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience. |
| Graduation | Civil Engineering | 4 | Concrete Works | 1 | Concrete Works | |
| Diploma | Civil Engineering | 5 | Concrete Works | 1 | Concrete Works | |
| Graduation/ Ex. Army/ ITI Coarse/ Others | B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade | 7 | Concrete Works | 1 | Concrete Works | |

| Trainer Certification | |
|---|---|
| Domain Certification | Platform Certification |
| Recommended that the Trainer is certified for the Job Role: "Foreman-Concrete", mapped to the Qualification Pack: "CON/Q0110, v3.0". The minimum accepted score is 80%. | Recommended that the Trainer is certified for the Job Role: "Trainer (VET and skills)", mapped to the Qualification Pack: "MEP/Q2601, v3.0". The minimum accepted score is 80%. |



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Assessor Requirements

| Assessor Prerequisites | | | | | | |
|---|--|------------------------------|----------------|-----------------------|----------------|--|
| Minimum Educational Qualification | Specialization | Relevant Industry Experience | | Assessment Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| Post- Graduation | Civil Engineering | 4 | Concrete Works | 1 | Concrete Works | As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However, if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience. |
| Graduation | Civil Engineering | 5 | Concrete Works | 1 | Concrete Works | |
| Diploma | Civil Engineering | 6 | Concrete Works | 1 | Concrete Works | |
| Graduation/ Ex. Army/ ITI Coarse/ Others | B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade | 8 | Concrete Works | 1 | Concrete Works | |

| Assessor Certification | |
|--|---|
| Domain Certification | Platform Certification |
| Recommended that the Assessor is certified for the Job Role: "Foreman-Concrete", mapped to the Qualification Pack: "CON/Q0110, v3.0". 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, v3.0". The minimum accepted score is 80%. |



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Assessment strategy

Assessment system Overview:

Assessment is done through CSDCI affiliated Assessment Agencies. Assessors are trained & certified by CSDCI after training of assessors program. Assessments is conducted to gauge and assess the trainee's skill and knowledge competency in the specified areas. The assessment will have both theory and practical components in 30:70 ratio for false ceiling and Dry wall installer job role.

During the practical task, trainees are assessed on their workmanship, quality of finished product and time management. They will be graded for all their assessments based on the approved assessment strategy which is signed off by CSDCI. The Assessor submits an assessment plan to CSDCI prior to assessments.

The assessment plan contains the following information:

- What will be assessed, i.e. the competency based on each NOS based on theory and practical questions
- How assessment will occur i.e. methods of assessment
- When the assessment will occur
- duration of assessment
- Where the assessment will take place i.e. context of the assessment (workplace/simulation)
- The criteria for decision making i.e. those aspects that will guide judgments and
- Where appropriate, any supplementary criteria used to make a judgment on the level of performance.

Testing Environment:

- Training partner shares the batch start date and end date, number of trainees and the job role.
- Assessment will be fixed for a day after the end date of training. It could be next day or later. Assessment will be conducted at the training venue/test center.
- The knowledge/theory assessments is conducted with proper seating arrangements with enough space between the candidates to prevent copying.
- Question set for theory and practical will be distributed to each candidate by the Assessor. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on his theoretical knowledge of the subject. The skill /practical assessments will be conducted in the approved test centers. The training provider will ensure adequate tools and materials are available to conduct the practical test.
- If number of candidates are more than 30, more assessors will be organized on same day to complete the assessment.
- The assessment has to comprise of two components, namely:
 - Knowledge assessment (theory/viva assessment)
 - Skill assessment (practical/hands-on skill assessment)

Mode of assessment:

- Demonstration/Practical for Performance /Skill Assessment
- Synoptic multiple-choice question test
- Viva for Knowledge Assessment

Performance/skill assessment:

- The performance/skill assessment will be conducted through demonstration/practical
- For the practical test trainees are assessed through a given task, which they have to complete correctly for them to be marked as passed.
- The assessment is conducted in a simulated working environment. Due to this fact, the assessors must note that the naturally occurring evidence of competence is unavailable or infrequent. Simulation must be undertaken in a Realistic Working Environment which provides an environment that replicates the



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key characteristics of the workplace in which the skill to be assessed is normally employed.

Knowledge Assessment:

- The knowledge assessments are conducted through written test/ viva.
- Synoptic test is used for this. It is an MCQ (Multiple Choice Question) test which are prepared externally and externally marked, meaning by agency having no link with training partners. The test may be conducted by the assessor in the oral mode, if required, considering the lack of reading and comprehending acumen (skills) of trainees. In such cases, the assessor will mention it on top of the MCQ submitted to CSDCI.
- The assessment strategy, weightage and duration of assessment for false ceiling and dry wall installer is summarized below

| Assessment Type | Formative or Summative | Strategies | Weightage | Duration (hours) |
|-----------------|------------------------|---------------------------|-----------|------------------|
| Knowledge | Summative | MCQ/Viva | 30 | 1.5 |
| skill | Summative | Structured practical task | 70 | 5.5 |

Assessment Quality Assurance framework:

- CSDCI has developed assessment criteria framework for each Qualification pack as per National Occupational Standards. The criteria framework includes weightages/marks for each criterion under knowledge and skill. The criteria ensure quality assurance as it ensures valid, consistent and fair assessments at all locations. Issued to the affiliated Assessment body. The Assessment body develop questions based on CSDCI issued assessment criteria.
- Evidences in the form of answer sheets in case of knowledge assessments are collected. For skill assessments videos and photographs are prepared as evidence. These are submitted by the assessor to the assessment agency. CSDCI does random checks of the same with the participant/ trainee's ID and ascertains authenticity and validity of assessments.
- The training partner will intimate the time of arrival of the assessor and time of leaving the venue. Random spot checks/audit is conducted by CSDCI to monitor assessment.

Methods of Validation:

- Unless the trainee is registered, the person cannot undergo assessment. To further ensure that the person registered is the person appearing for assessment, ID verification is carried out. Aadhar card number is part of registering the candidate for training. This forms the basis of further verification during the assessment.
- Assessor conducts the assessment through theory and practical questions developed in accordance with the assessment criteria and guidelines issued by CSDCI. This too is verified by random audits carried out by CSDCI.
- Evidences for assessments are to be collected and submitted to CSDCI for verification as per demand.
- Assessment agency is responsible to put details in SIP. CSDCI will also validate the data and result received from the assessment agency.

Method of assessment documentation and access:

- The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by CSDCI assessment team. After upload, only CSDCI can access this data.
- CSDCI approves the results within five days after which results are uploaded on SIP by Assessment Agency.



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References

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 a task 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. |



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Acronyms and Abbreviations

| Term | Description |
|-------|---|
| QP | Qualification Pack |
| NSQF | National Skills Qualification Framework |
| NSQC | National Skills Qualification Committee |
| NOS | National Occupational Standards |
| CSDCI | Construction Skill development Council of India |
| MCQ | Multiple Choice Question |
| PPEs | Personal Protective Equipment |
| RCC | Reinforced Cement Concrete |