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कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

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Construction Skill Development Council of India

Facilitator Guide



Sector
Construction

Sub-Sector
Real Estate and Infrastructure Construction

Occupation
Masonry

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NSQF Level 3.0

Assistant Mason

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Disclaimer

"Skilling is building a better India. If we have to move India towards development then Skill Development should be our mission."

Shri Narendra Modi
Prime Minister of India

Acknowledgement

We are thankful to all organizations and individuals who have helped us in the preparation of this Facilitator Guide. We also wish to extend our gratitude to all those who reviewed the content and provided valuable inputs for improving the quality, coherence and content presentation of chapters. This Facilitator Guide will lead to the successful rollout of the skill development initiatives, helping greatly our stakeholders particularly trainees, trainers and assessors etc. We are thankful to our Subject Matter Expert for the content and for helping us in the preparation of this Facilitator Guide.

It is expected that this publication would meet the complete requirements of QP/NOS based training delivery. We welcome suggestions from users, industry experts and other stakeholders for any improvement in future.

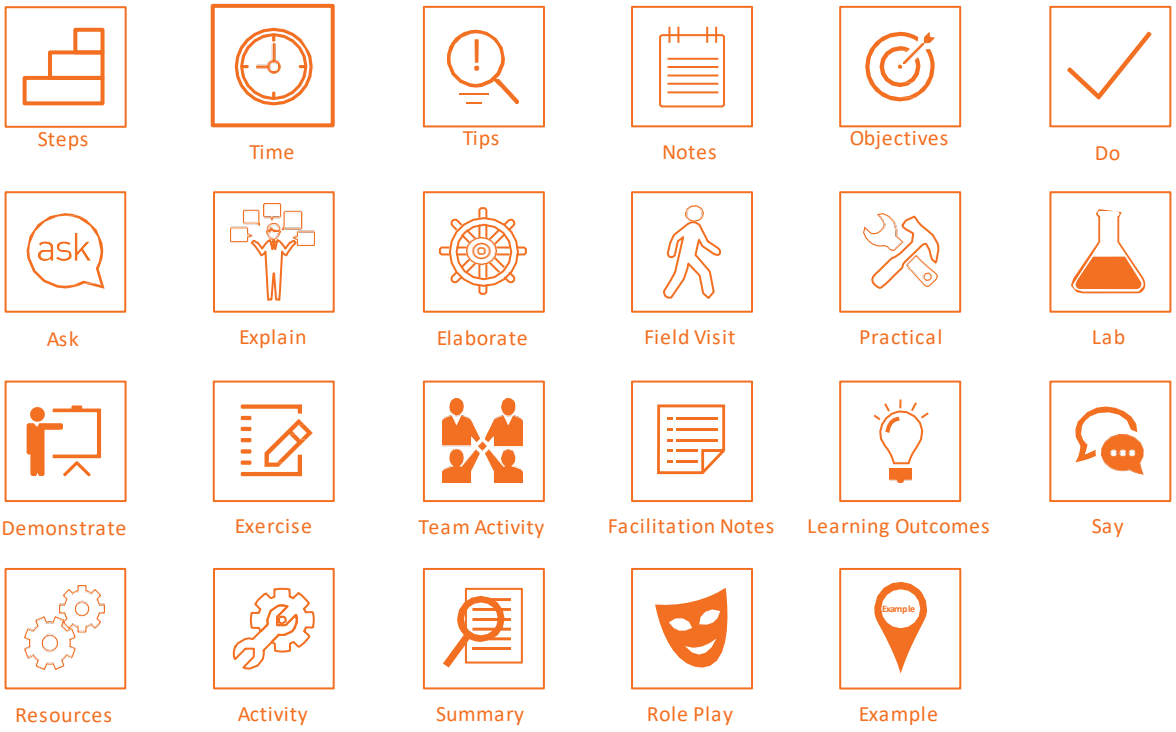
About this book

The objective of the guide is to provide an approach map for interacting with the trainees undergoing training in this job role. The course aims to provide both theoretical and practical knowledge to the trainees and also to guide them about Assistant Mason. The guide is neither a substitute nor a complete road map, but an aid to help to pass on the knowledge on all the aspects to the trainees in a systematic manner. It is expected that the trainer is fully conversant with all the contents of the guide. The guide is just to indicate how to proceed in covering a topic and includes some additional information that may be necessary for the trainer to develop better comprehension of the following aspects:

- **Knowledge and Understanding: Satisfactory operational learning and comprehension to play out the required chore.**
- **Performance Criteria: Pick up the required aptitudes through hands-on preparation and play out the required operations inside the predetermined measures.**
- **Professional Skills: Capacity to settle on operational choices relating to the zone of work.**

The job will also include judging comprehension and also help them learn more through hands-on training. But it has to be ensured that these are following the knowledge imparted and time spent on each unit. It is expected that irrespective of the region, knowledge of all aspects will be imparted to trainees.

Symbols Used



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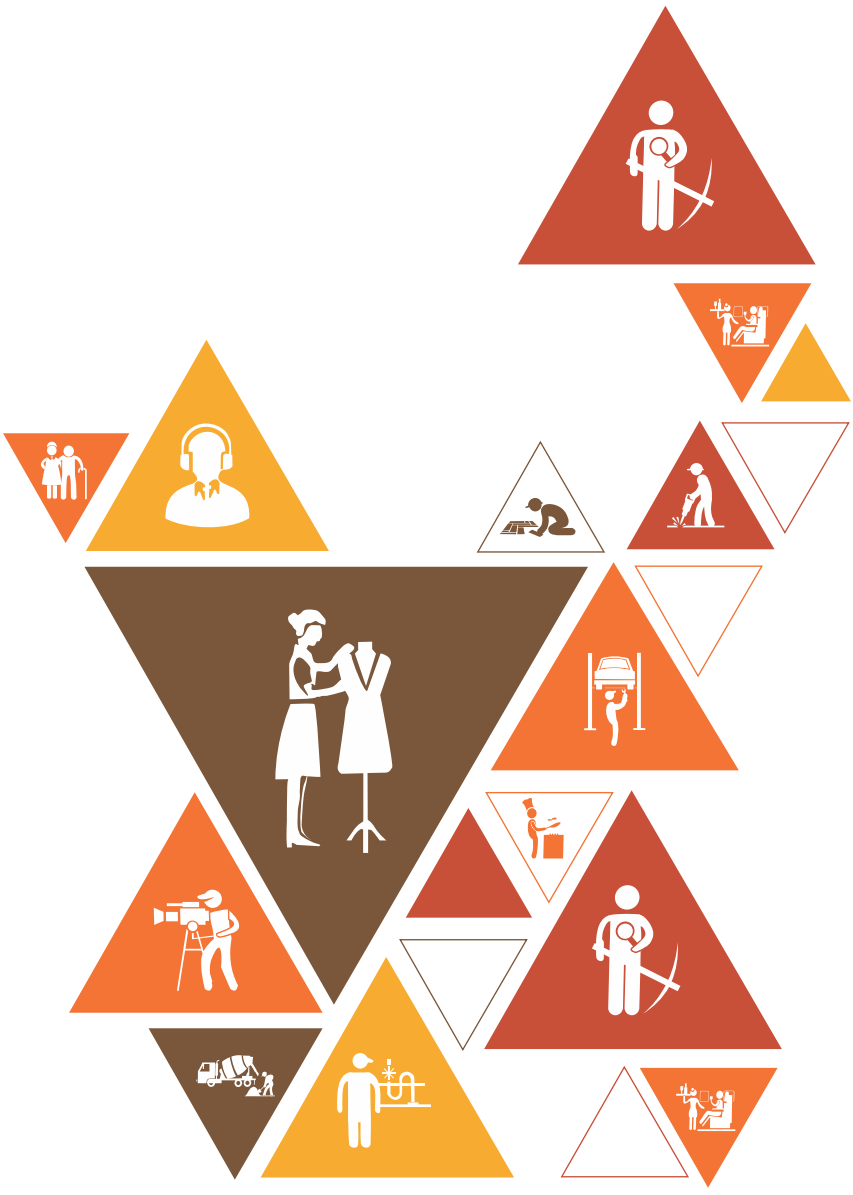
It is recommended that all trainings include the appropriate Employability skills Module. Content for the same can be accessed
https://www.skillindiadigital.gov.in/content/list



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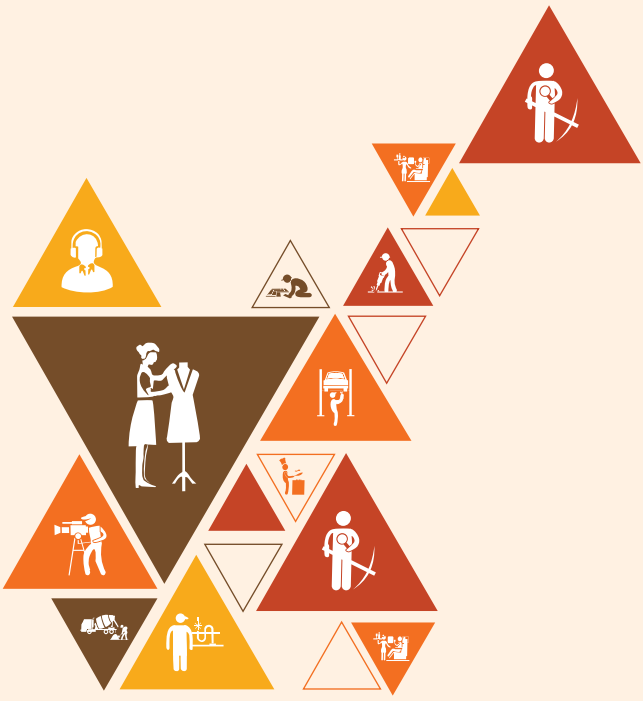
1. Introduction to the Job Role of an Assistant Mason

Unit 1.1 Introduction to Construction

Unit 1.2 Role and Responsibilities of an Assistant Mason



Bridge Module

Key Learning Outcomes 

By the end of this module, participants will be able to:

- Explain the role and responsibilities of Assistant Mason.
- Identify the career progression for the Assistant Mason.

Unit 1.1 Introduction to Construction

Unit Objectives

By the end of this unit, participants will be able to:

- Give an overview of the construction sector.

Resources to be used

- Available objects such as training kit - trainer guide, presentations, whiteboard, marker, projector, laptop, video films, etc.
- PowerPoint slides, pictures/posters and videos depicting various information about the construction industry, types of construction, basic categories of construction projects, and market segments of the construction industry.

Say

- In this session, we shall learn key facts about the construction industry, types of construction, basic categories of construction projects, and market segments of the construction industry.
- Let's begin with an ice-breaking session, introduce yourself and ask participants to introduce themselves.

Team Activity

- **Purpose:** This activity aims to familiarise the participants in the group with one another.
- **Tentative Duration:** 15 Mins
- **Procedure:**
    1. Ask the participants to pronounce their name with an adjective beginning with the initial letter of their name.
    2. Request that they additionally provide a brief introduction of themselves.
- **Expected Outcome:** The outcome of this activity is that the participants will become familiar with each other.

Say

I hope everyone enjoyed our first activity and now let's move on to the topics covered in this session.

Ask

- What do you understand about the construction industry?
- Do you know how many types of construction are there?

Elaborate

With the help of audio-visual aids and the participant handbook, elaborate:

- Construction Industry
- Construction Industry in India
- Types of Construction
- Construction Project Categories
- Market Segments of the Construction Industry

Demonstrate

Show a PowerPoint presentation to the class on Construction Industry in India - https://www.slideserve.com/frieda/construction-sector-in-india-powerpoint-ppt-presentation and ask participants to note down the important points.

Say

Let us now perform an activity based on various market segments of the construction industry.

Team Activity

- **Purpose:** The objective of this activity is to introduce participants to the different market segments within the construction industry.
- **Resources Required:** Presentation materials (slides or handouts) explaining market segments in the construction industry, internet access or library resources for research, whiteboard or flip chart with markers, printed construction industry reports or data (optional but helpful), worksheets for students to complete during the activity.
- **Tentative Duration:** 60-90 minutes
- **Methods/Procedure:**

    1. **Introduction**- Begin the activity by discussing the importance of understanding market segments in the construction industry. Explain that market segmentation helps professionals identify specialized opportunities and areas of expertise within the broader field of construction.
    2. **Presentation**- Deliver a presentation on the different market segments within the construction industry. Include information on residential construction, commercial construction, industrial construction, infrastructure development, and specializations like green building, renovation, and restoration. Use visual aids to make the information more engaging and accessible.
    3. **Group Research**- Divide the students into small groups and assign each group a specific market segment to focus on. Provide the groups with access to the internet or library resources to conduct research on their assigned market segment. They should explore the scope, current trends, major players, challenges, and potential career opportunities within their segment.
    4. **Group Presentation**- Each group presents their findings to the rest of the class. Encourage them to use visuals, statistics, and examples to support their presentation. Allow for a short Q&A session after each presentation to clarify doubts and exchange insights.

5. **Reflection and Discussion**- Lead a class discussion to debrief the activity. Encourage students to share their thoughts on which market segments they find most appealing and why. Discuss the skills and qualifications required for different market segments and how students can prepare to excel in their chosen area.

- **Expected Outcome:** By the end of this classroom activity, students are expected to:
    1. Understand the concept of market segmentation in the construction industry.
    2. Identify the various market segments within the construction field, including residential, commercial, industrial, infrastructure, and specialized sectors.
    3. Analyze the characteristics, opportunities, and challenges associated with each market segment.
    4. Gain insights into potential career paths and specialization options within the construction industry.
    5. Reflect on their interests and skills to make informed decisions about their vocational course and future career goals in construction.

Say

Do you think the activity improved your understanding? I'm hoping now you have a better idea of the various market segment of the construction industry.

Summarize

- Note down the important points related to the construction industry, types of construction, and various market segments.
- Revise these points with the participants.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topics
- Arrange audio-visual aids for a better understanding of the topics.
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 1.2 Role and Responsibilities of an Assistant Mason

Unit Objectives

By the end of this unit, participants will be able to:

- Discuss the roles and responsibilities of an Assistant Mason.
- Explain expected personal attributes required in surveying occupation.
- Discover future possible progression and career development options of an Assistant Mason

Resources to be used

- Available objects such as training kit - trainer guide, presentations, whiteboard, marker, projector, laptop, video films, etc.
- PowerPoint slides, pictures/posters and videos depicting various information about the role and responsibilities, personal attributes, and career path of a Assistant Mason

Say

- In this session, we shall learn key facts about the role and responsibilities, personal attributes, and career path of an Assistant Mason.

Ask

- What do you know about the job role of an Assistant Mason?
- Do you know the career opportunities available for an Assistant Mason?

Elaborate

With the help of audio-visual aids and the participant handbook, elaborate:

- Introduction to the job role of Assistant Mason
- Responsibilities of an Assistant Mason
- Personal Attributes required by an Assistant Mason
- Career Path of an Assistant Mason

Say

Let us now perform an activity based on various career opportunities available for an Assistant Mason

Activity

- **Purpose:** Familiarize participants with diverse employment opportunities for an Assistant Mason, highlighting roles, responsibilities, and potential career paths.
- **Resources Required:** PowerPoint Presentation, Handouts or printouts of job descriptions.
- **Tentative Duration:** 60 Mins

- **Procedure:**
    1. Explain the importance of an Assistant Mason in the construction industry.
    2. Emphasize the objective of exploring employment opportunities in the industry.
    3. Encourage participants to share their initial thoughts on the roles and responsibilities of an Assistant Mason
    4. Provide handouts or printouts of various employment opportunities in the construction industry as per different NSQF Levels.
    5. Discuss each opportunity, highlighting roles, responsibilities, and required skills.
    6. Divide participants into small groups.
    7. Assign each group a specific employment opportunity to discuss key aspects, qualifications, skills, and career progression.
    8. Now ask each group to provide a short researched explanation of the opportunity assigned.
    9. Summarize key points, emphasizing the range of career paths and the importance of an Assistant Mason

Expected outcome: Participants gain awareness of the wide range of employment opportunities in the construction industry, understand the specific roles and responsibilities of an Assistant Mason, and will be inspired to explore potential career paths within the field.

Say

There are various career opportunities available for an Assistant Mason, I'm hoping now you have a better idea of them.

Summarize

- Note down the important points related to the role and responsibilities, personal attributes, and career path of an Assistant Mason
- Revise these points with the participants.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic:
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

Key Solutions to PHB Exercise

A. .

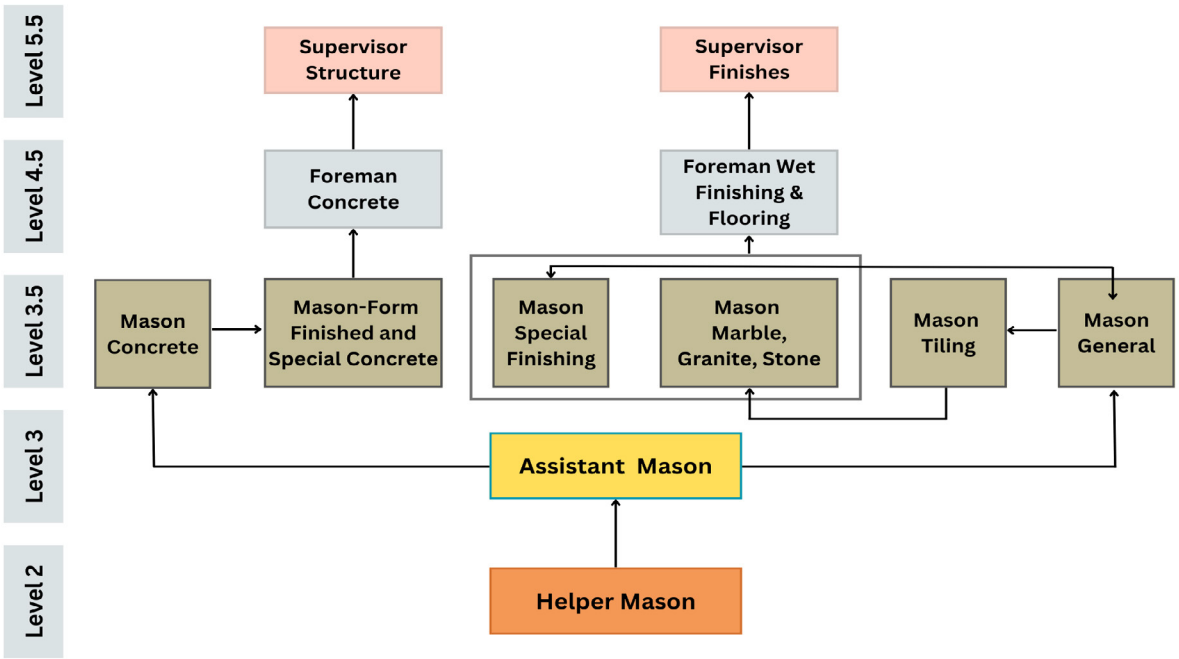
i. True
ii. False
iii. True
iv. True
v. False

A.

i. Surveying
ii. Consciousness
iii. Data
iv. Detail
v. Coordinate systems

B.

1.



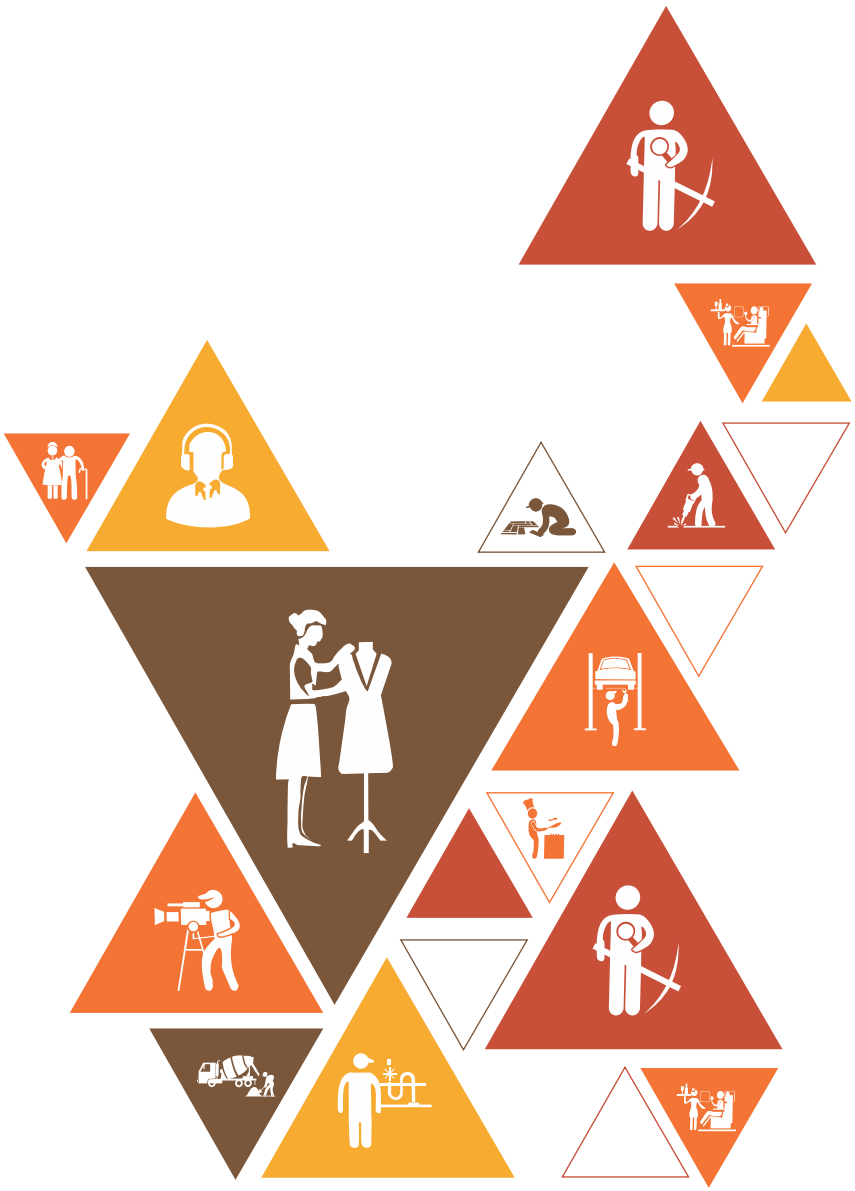
2. The primary responsibilities an Assistant Mason are:

i. Tiling and Stone Laying
ii. Concreting
iii. Anti-Termite Solution
iv. Brick Soling and PCC Flooring
v. Brick/Block Work
vi. Plastering
vii. Door and Window Frames
viii. Scaffold Assembly

3. The personal attributes required by an Assistant Mason are:

   i. Ability to perform physically demanding tasks such as lifting heavy materials and working in various weather conditions.
   ii. Precision in brick/block placement, alignment, and finishing for quality work.
   iii. Strict adherence to safety protocols and practices to prevent accidents.
   iv. Collaborative mindset to work effectively with colleagues and contribute to project success.
   v. Effective communication to coordinate tasks and convey progress.
   vi. Flexibility to handle different masonry tasks and adapt to changing project requirements.

Notes



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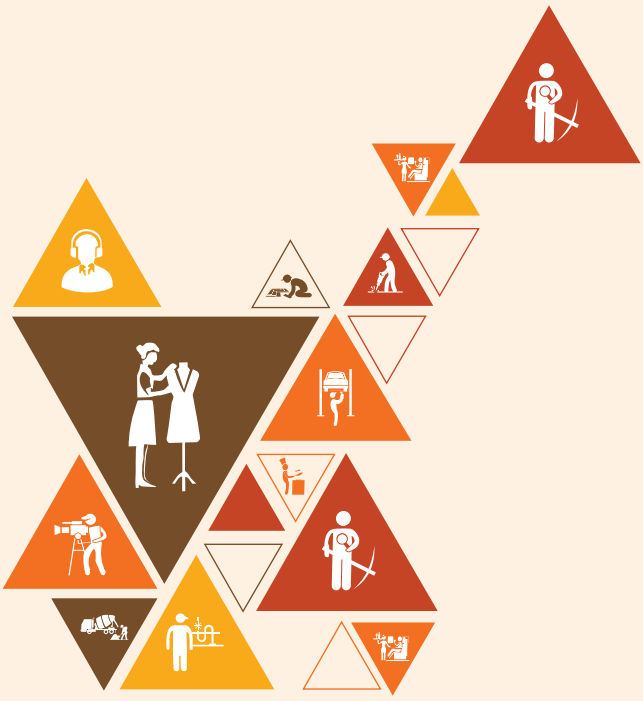
2. Erect and Dismantle Temporary Scaffolding

Unit 2.1 - Basics of Scaffolding

Unit 2.2 - Concept of Conventional Scaffolding

Unit 2.3 - Concept of Modular Scaffolding System

Unit 2.4 - Erecting and Dismantling of Temporary Scaffolding



(CON/N0101)

Key Learning Outcomes 

By the end of this module, participants will be able to:

- Explain the process of erecting and dismantling temporary scaffold.

Unit 2.1 Basics of Scaffolding

Unit Objectives

By the end of this unit, participants will be able to:

- Describe about the basic concept of a temporary scaffolding
- Understand the benefits of a scaffolding
- Discuss the types of temporary scaffolding

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about scaffolding and its uses.

Say

In the previous session, we discussed the roles and responsibilities of an assistant mason. In this session, we shall learn about basic concept of scaffolding, its types and importance.

Ask

- Why do you think scaffolding is important in construction or various other industries?
- Do you think there are different types of scaffolding used in various situations? If so, can you name or describe any of them?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Basic Concept of Temporary Scaffolding
- Benefits of Scaffolding
- Types of Temporary Scaffolding

Activity 1

- **Topic**: Types of Temporary Scaffolding
- **Purpose**: To introduce students to the various types of temporary scaffolding used in construction and help them understand the purposes and characteristics of each type.
- **Resources**: Models, images, or diagrams of different types of scaffolding, safety guidelines for scaffolding.
- **Tentative Duration**: 60 minutes
- **Procedure**:
    - Introduction (10 minutes)
        - Begin the activity by discussing the importance of scaffolding in construction and its role in ensuring safety and efficiency.
        - Explain that there are different types of scaffolding, each designed for specific tasks and conditions.
    - Scaffold Types Presentation (15 minutes)
        - Show images or diagrams of common types of scaffolding such as frame scaffolds, tube and clamp scaffolds, system scaffolds, and suspended scaffolds.
        - Briefly describe the characteristics and typical applications of each type.
    - Group Exploration (20 minutes)
        - Divide students into small groups.
        - Provide each group with images or models of a specific type of scaffold.
        - Instruct each group to examine the provided materials and discuss the following:
        - The key features and components of the scaffold type.
        - When and where this type of scaffold is typically used.
        - Any safety considerations related to the specific scaffold.
    - Group Presentations (10 minutes)
        - Each group presents their findings to the class, explaining the type of scaffold they studied and its main characteristics.
    - Class Discussion (5 minutes)
        - Lead a discussion where students can ask questions and compare the different types of scaffolding they learned about.
    - Safety Guidelines (5 minutes)
        - Emphasize the importance of safety when working on scaffolds.
        - Share essential safety guidelines and regulations related to scaffolding.
- Expected Outcome: By the end of the activity, students should have a better understanding of the various types of temporary scaffolding, their purposes, and the importance of safety when using scaffolds in construction projects.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic**: Benefits of Scaffolding
- **Purpose**: To help students understand the practical advantages of scaffolding in construction and see how it contributes to safety, efficiency, and quality.
- **Resources**: Permission and access to a construction site, construction safety gear (e.g., helmets, vests, steel-toed boots), a knowledgeable guide from the construction site, notepads, and

cameras for students to document their observations.

- **Tentative Duration**: Half a day (approximately 3-4 hours)
- **Procedure**:
  - Preparation (Before the Visit)
    - Coordinate with a local construction site to ensure access and safety for the field visit.
    - Arrange transportation to and from the site.
    - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
  - Introduction (At the Construction Site) (15 minutes)
    - Gather students and introduce them to the construction site manager or guide.
    - Briefly explain the purpose of the visit and the focus on understanding the benefits of scaffolding in construction.
  - Guided Tour/Scaffolding Expert (1-2 hours)
    - Take a guided tour of the construction site, focusing on areas where scaffolding is in use.
    - During the tour, the guide should explain and demonstrate how scaffolding is used to:
      - Provide safe access to elevated areas.
      - Facilitate construction and maintenance tasks.
      - Ensure the safety of workers.
      - Improve work efficiency.
    - Encourage students to take notes and pictures of what they observe.
  - Observation and Discussion (30 minutes)
    - Gather students for a brief discussion.
    - Ask students to share their observations about how scaffolding is being used and its benefits based on what they saw.
  - Q&A Session (15 minutes)
    - Allow students to ask questions to the construction site guide or manager regarding the practical applications and advantages of scaffolding.
  - Reflection (15 minutes)
    - Encourage students to reflect on what they've learned during the visit and how it has enhanced their understanding of the benefits of scaffolding in construction.
  - Documentation (15 minutes)
    - Instruct students to create a short report or presentation summarizing the key benefits of scaffolding they observed during the visit. This can be done individually or in small groups.
  - Closing Remarks (10 minutes)
    - Thank the construction site guide for their time and expertise.
    - Summarize the main takeaways from the field visit.
- **Expected Outcome**: Students should leave the construction site with a clear understanding of how scaffolding contributes to safety, efficiency, and quality in construction projects. They should also be able to articulate the practical benefits of scaffolding in a real-world context.

Do☑

- Summarize the key takeaways from the field visit, emphasizing the importance scaffolding in construction works.
- Encourage students to reflect on their experiences and share their insights.

- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic:
  - https://www.slideshare.net/jag89singh/scaffolding-14601421
  - https://www.slideserve.com/upscaffolding/advantages-of-using-scaffolding-for-construction
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 2.2 Concept of Conventional Scaffolding

Unit Objectives

By the end of this unit, participants will be able to:

- Describe the material used in bamboo scaffolding
- Know how to erect and dismantle a bamboo scaffolding

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about conventional scaffoldings, bamboo scaffolding and its erection and dismantling.

Say

In this session, we shall learn about bamboo scaffolding, including the materials used and the process of erecting and dismantling it. This knowledge is essential to achieve the unit objectives and work safely with bamboo scaffolding in construction.

Ask

- What do you know about bamboo scaffolding?
- Can you name any industries or regions where bamboo scaffolding is commonly used?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Bamboo Scaffolding
- Material Used in Bamboo Scaffolding
- Erecting Bamboo Scaffolding
- Dismantling Bamboo Scaffolding

Activity

- **Topic**: Bamboo Scaffolding
- **Purpose**: To educate students about the use, materials, and techniques involved in bamboo scaffolding while making learning fun and interactive.
- **Resources**: Bamboo sticks (or substitutes), ropes, stopwatches, and a safe outdoor area for the game.
- **Tentative Duration**: 60 minutes
- **Procedure**:
  - Introduction (10 minutes)
    - Start by introducing the topic of bamboo scaffolding and its significance in construction, especially in regions where it's commonly used.
    - Provide a brief overview of the materials and techniques involved in bamboo scaffolding.
  - Game Explanation (5 minutes)
    - Explain that students will participate in a hands-on game to build a small bamboo scaffold structure.
    - Divide the class into teams of 3-4 students.
  - Building Phase - Erecting Bamboo Scaffolding (20 minutes)
    - Provide each team with a set of bamboo sticks and ropes.
    - Instruct each team to erect a small scaffold structure using the provided materials. You can set specific height and stability criteria for the structure.
    - Start the stopwatch to time their progress.
  - Building Evaluation (5 minutes)
    - Once the structures are built, evaluate them for height, stability, and safety.
    - Ask teams to explain the techniques and considerations they used while building the bamboo scaffolding.
  - Dismantling Phase - Dismantling Bamboo Scaffolding (10 minutes)
    - Now, ask the teams to dismantle their bamboo scaffold structures.
  - Discussion (10 minutes)
    - Gather the students for a discussion about their experiences during the game.
    - Discuss the challenges they faced and the lessons they learned about bamboo scaffolding.
  - Quiz (5 minutes)
    - Conduct a short quiz to test the students' knowledge about bamboo scaffolding. Ask questions related to its materials, advantages, and construction techniques.
  - Prizes and Recap (5 minutes)
    - Conclude the activity by announcing prizes or recognition for the winning team or the team that demonstrated the best understanding of bamboo scaffolding.
    - Recap the key takeaways from the game.
- **Expected Outcome**: The students should gain a practical understanding of bamboo scaffolding, including its materials and how it's erected and dismantled. This interactive game will make the learning process engaging and memorable.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic:** Materials Used in Bamboo Scaffolding
- **Purpose**: To provide students with hands-on experience and knowledge about the materials commonly used in bamboo scaffolding and the importance of their properties.
- **Resources**: Permission and access to a location where bamboo scaffolding is being used or constructed (e.g., a construction site with bamboo scaffolding in progress), construction safety gear for students, a knowledgeable guide from the site, notepads, and cameras for students to document their observations.
- **Tentative Duration**: Half a day (approximately 3-4 hours)
- **Procedure**:
    - Preparation (Before the Visit)
        - Coordinate with a local construction site that is currently using bamboo scaffolding to ensure access and safety for the field visit.
        - Arrange transportation to and from the site.
        - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
    - Introduction (At the Construction Site) (15 minutes)
        - Gather students and introduce them to the construction site manager or guide.
        - Briefly explain the purpose of the visit and the focus on understanding the materials used in bamboo scaffolding.
    - Guided Tour (1-2 hours)
        - Take a guided tour of the construction site, focusing on the bamboo scaffolding used.
        - During the tour, the guide should explain and demonstrate the various materials used in bamboo scaffolding, including bamboo poles, lashing materials, and safety components.
    - Observation and Documentation (30 minutes)
        - As students explore the site, encourage them to take notes and photographs of the bamboo scaffolding materials.
        - Students should document the properties and characteristics of the materials, such as the size and type of bamboo poles, the lashing methods used, and any safety features.
    - Discussion (30 minutes)
        - Gather students for a group discussion.
        - Ask students to share their observations and insights regarding the materials used in bamboo scaffolding.
        - Discuss the importance of selecting the right materials and their properties for safe and effective scaffolding.
    - Question-and-Answer Session (15 minutes)
        - Open the floor for a question-and-answer session. Invite students to ask any questions they may have about bamboo scaffolding materials.
    - Reflection (15 minutes)
        - Encourage students to reflect on what they've learned during the visit and how it has enhanced their understanding of the materials used in bamboo scaffolding.
    - Closing Remarks (10 minutes)
        - Thank the construction site guide for their time and expertise.
        - Summarize the main takeaways from the field visit.
- Expected Outcome: Students should leave the construction site with a deeper understanding of the materials used in bamboo scaffolding, their properties, and the importance of selecting appropriate materials for scaffolding construction.

Do ☑

- Summarize the key takeaways from the field visit.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic: https://www.slideserve.com/shalin/bamboo-scaffolding
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 2.3 Concepts of Modular Scaffolding Systems

Unit Objectives

By the end of this unit, participants will be able to:

- Understand about types of modular scaffolding
- Summarize the components of cuplock system scaffolding
- Identify the components of frame system scaffolding

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- Do you know what modular scaffolding is, and can you name any types?
- Have you ever worked with any type of modular scaffolding before?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Modular Scaffolding
- Types of Modular Scaffolding
- Components of Cuplock System Scaffolding
- Components of Frame System Scaffolding

Activity 1

- **Topic:** Components of Cuplock System Scaffolding
- **Purpose:** To familiarize students with the components of Cuplock System Scaffolding, how they are used, and their role in construction.
- **Resources:** Model or diagram of Cuplock System components, handouts with component descriptions.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    - Introduction (10 minutes)
        - Begin by introducing the topic of Cuplock System Scaffolding and its significance in construction projects.
        - Explain that Cuplock is a modular scaffolding system known for its efficiency and ease of use.
    - Components Presentation (15 minutes)
        - Show a model or diagram of Cuplock System components, which may include vertical standards, horizontal ledgers, diagonal braces, and ledger blades.
        - Describe the purpose and function of each component, such as how standards provide vertical support and ledgers connect standards to form the scaffold's structure.
    - Component Exploration (15 minutes)
        - Provide students with handouts that include images and descriptions of Cuplock System components.
        - Instruct students to work individually or in pairs to match the components to their descriptions.
        - Encourage them to discuss the components and their functions as they complete the task.
    - Group Discussion (5 minutes)
        - Conduct a brief group discussion where students can share their findings and check their answers.
        - Clarify any questions or misconceptions about the components.
    - Hands-On Demonstration (10 minutes)
        - If possible, demonstrate the assembly of a small Cuplock System scaffold using a few components.
        - Explain how the components are connected and how they form a secure scaffold structure.
    - Wrap-Up and Summary (5 minutes)
        - Summarize the main takeaways from the activity, emphasizing the significance of understanding the components of Cuplock System Scaffolding in construction.
- **Expected Outcome:** By the end of the activity, students should have a clear understanding of the key components of Cuplock System Scaffolding and their roles in creating a safe and sturdy scaffold structure. This knowledge will prepare them for practical applications in the construction field.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic:** Types of Modular Scaffolding
- **Purpose:** To provide students with a firsthand experience of different modular scaffolding systems and help them understand how they are used in construction.
- **Resources**: Permission and access to a construction site with various modular scaffolding systems in use, construction safety gear for students, a knowledgeable guide from the site, notepads, and cameras for students to document their observations.
- **Tentative Duration**: Half a day (approximately 3-4 hours)
- **Procedure**:
- Preparation (Before the Visit)
    - Coordinate with a local construction site that is currently using various types of modular scaffolding systems.
    - Arrange transportation to and from the site.
    - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
- Introduction (At the Construction Site) (15 minutes)
    - Gather students and introduce them to the construction site manager or guide.
    - Briefly explain the purpose of the visit and the focus on understanding different types of modular scaffolding systems.
- Guided Tour (2-3 hours)
    - Take a guided tour of the construction site, focusing on areas where different modular scaffolding systems are in use.
    - During the tour, the guide should explain and demonstrate various types of modular scaffolding, such as Cuplock System Scaffolding and Frame System Scaffolding.
    - Encourage students to take notes and photographs of the different scaffolding systems they observe.
- Observation and Documentation (30 minutes)
    - As students explore the site, ask them to document the key features and characteristics of each modular scaffolding system they encounter.
    - Note the differences in design, components, and usage between the types.
- Group Discussion (30 minutes)
    - Gather students for a group discussion about the different types of modular scaffolding systems they observed.
    - Encourage students to share their observations and insights, highlighting the unique features and applications of each type.
- Question-and-Answer Session (15 minutes)
    - Open the floor for a question-and-answer session. Invite students to ask any questions they may have about the modular scaffolding systems they encountered.
- Reflection (15 minutes)
    - Encourage students to reflect on what they've learned during the visit and how it has expanded their understanding of different types of modular scaffolding.
- Closing Remarks (10 minutes)
    - Thank the construction site guide for their time and expertise.
    - Summarize the main takeaways from the field visit.
- **Expected Outcome**: Students should leave the construction site with a practical understanding of different types of modular scaffolding systems, their components, and their applications in real-world construction projects. This hands-on experience will enhance their knowledge of scaffolding in the construction industry.

Do ☑

- Summarize the key takeaways from the field visit.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic:
  - https://www.powershow.com/view0/896d5a-ZDQ1M/Modular_Scaffolding_powerpoint_ppt_presentation
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 2.4 Erecting and Dismantling Modular Scaffolding System

Unit Objectives

By the end of this unit, participants will be able to:

- Describe the scaffolding tools
- Use the scaffolding tools
- Erect cuplock system scaffold in correct way
- Erect frame system scaffold in correct way
- Dismantle the scaffold
- Work safely while erecting and dismantling the scaffold

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- Have you ever used scaffolding tools in your work?
- What do you think is the correct way to erect cuplock system scaffolding?
- What about frame system scaffolding? How should it be correctly erected?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Scaffolding Tools Description

- Using Scaffolding Tools
- Erecting Cuplock System Scaffold Correctly
- Erecting Frame System Scaffold Correctly
- Dismantling Scaffold
- Working Safely during Scaffold Erection and Dismantling

Activity 1

- **Topic:** Scaffolding Tools Description
- **Purpose:** To familiarize students with different scaffolding tools and their functions through an engaging and interactive drawing activity.
- **Resources:** A list of scaffolding tools (e.g., wrench, hammer, pliers, level, safety harness), drawing materials (whiteboard, markers, or paper and colored pencils), and a timer.
- **Tentative Duration:** 30-40 minutes
- **Procedure:**
- Preparation (5 minutes)
    - Prepare a list of scaffolding tools you want students to draw. You can select 5-10 tools based on the time available.
- Game Setup (5 minutes)
    - Divide the class into two teams. If the class is large, you can have more teams to increase participation.
- Rules Explanation (5 minutes)
    - Explain the rules of the game to the students:
    - Each team will take turns selecting a tool from the list and assigning one team member to draw it.
    - The drawing team member will have a limited time (e.g., 1-2 minutes) to draw the selected tool while their team tries to guess what it is.
    - The team can shout out their guesses while the drawing is in progress.
    - If the team guesses correctly within the time limit, they earn a point.
- Drawing Round (20-30 minutes)
    - Start with the first team. They select a tool from the list and assign a drawer.
    - Set the timer, and the drawer begins to illustrate the tool without using any letters or numbers.
    - The team can guess as many times as they like within the time limit.
    - If the team guesses correctly, they earn a point. If not, the other team has a chance to steal the point with the correct answer.
- Rotation and Scoring (5 minutes)
    - Rotate between teams for drawing turns until all the tools have been drawn and guessed.
    - Keep track of the points earned by each team.
- Winner Declaration (5 minutes)
    - Announce the winning team based on the total points earned.
- Discussion (5 minutes)
    - After the game, have a brief discussion about the different tools, their functions, and any interesting facts or tips related to scaffolding tools.
- **Expected Outcome**: This Pictionary activity will help students learn about various scaffolding tools and their functions in a fun and engaging way. It encourages teamwork, creativity, and reinforces knowledge of important tools used in scaffolding.

Say

- Did you find this activity interesting? Can you see how much information you had previously

and how much information you have now? Let us do another activity.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

Key Solutions to PHB Exercise

1. The purpose of temporary scaffolding in construction project is:
    a. Providing a secure elevated work area for workers and tools.
    b. Offering a safer alternative for working at heights store than ladders.
    c. Helping workers to access the work area.
    d. Providing a stable platform to transport and store building materials from the base to the topmost parts of structures.

2. Temporary Scaffolding:
    a. Construction support structure.
    b. Primary function: Safety and access

3. Benefits of Temporary Scaffolding
    a. Safety enhancement.
    b. Increased efficiency.
    c. Material handling.
    d. Accommodates multiple workers.
    e. Easier inspection.

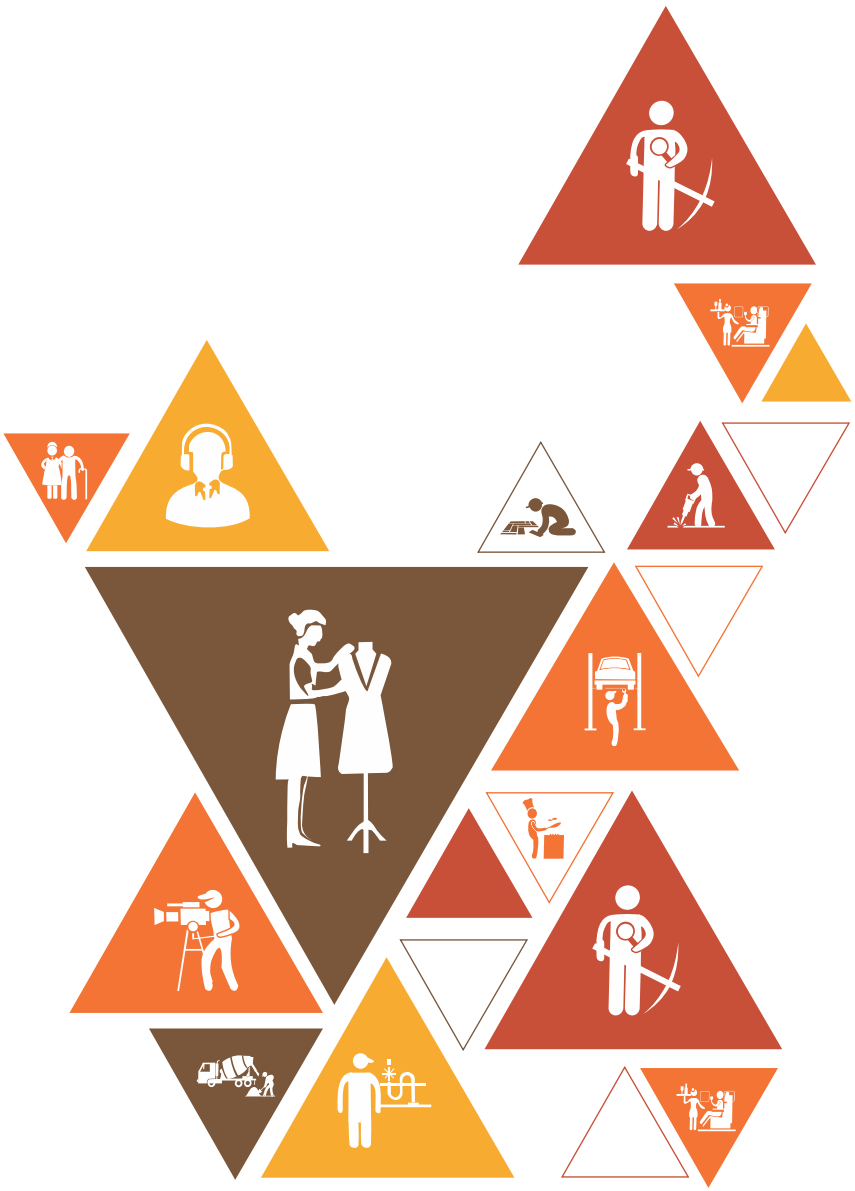
4. Key Components of Conventional Scaffolding:
    a. Standards (Uprights).
    b. Ledgers (Horizontal Braces).
    c. Transoms.
    d. Diagonal Braces.
    e. Toe Boards.
    f. Guardrails.
    g. Platform Boards.
    h. Base Plates.

5. Ensuring Stability of Conventional Scaffolding:
    a. Proper assembly.
    b. Level ground.
    c. Secure fastening.
    d. Regular inspection.
    e. Weight distribution.

6. Modular Scaffolding System:
    a. Adaptable design.
    b. Quick and easy setup.

7. Advantages of Modular Scaffolding:
    a. Flexibility for various projects.
    b. Cost-efficiency.
    c. Quick setup.
    d. Safety features.
    e. Quality control.
    f. Space-efficient storage.

Notes



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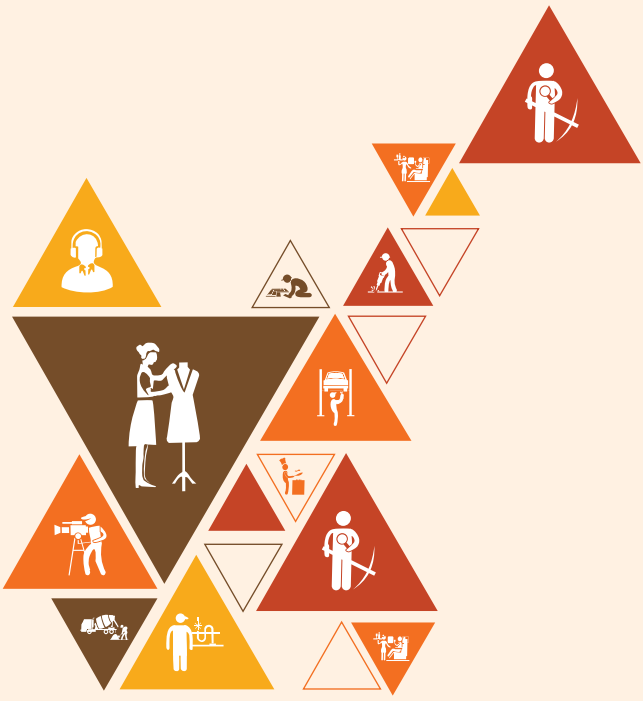
Corporation
Transforming the skill landscape

3. Hand and Power Tools Relevant to Masonry

Unit 3.1 - Hand and Power Tools Relevant to Masonry



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Key Learning Outcomes

By the end of this module, participants will be able to:

- Describe the process of using masonry tools.

Unit 3.1 Hand and Power Tools Relevant to Masonry

Unit Objectives

By the end of this unit, participants will be able to:

- Elucidate the functions, use and maintenance of basic measuring, levelling, manual and power tools used in masonry.
- Discuss the standard masonry practices.
- Explain the safety regulations concerning the handling and use of construction tools, equipment, and materials.
- Explain the importance of personal protection and the use of relevant safety gear and equipment.
- Describe the process of transferring levels using basic leveling devices.
- Demonstrate how to check the usability of tools, including the signs of wear and tear.
- Demonstrate the process of performing minor repair and maintenance of tools and equipment, such as cleaning and oiling.
- Demonstrate the process of setting up and using basic levelling tools, such as spirit level, water level, and straight edge.
- Show how to transfer levels and set out using appropriate tools.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- What are the basic measuring tools used in masonry, and how are they typically used in construction?
- Can you name a few manual tools commonly used in masonry work and explain their functions?
- What safety regulations should be followed when handling construction tools, equipment, and materials on a job site?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.

- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Masonry Tools: Functions and Maintenance
- Standard Masonry Practices
- Construction Tool Safety Regulations
- Personal Protection and Safety Gear
- Transferring Levels with Basic Devices
- Checking Tool Usability and Maintenance
- Repairing and Maintaining Tools
- Using Basic Leveling Tools
- Transferring Levels and Setting Out

Activity 1

- **Topic:** Construction Tool Safety Regulations
- **Purpose:** To educate students about the importance of tool safety regulations in the construction industry and provide hands-on experience in applying safety guidelines to common construction tools.
- **Resources:** Various construction tools (e.g., hammers, saws, power drills), safety gear (helmets, goggles, gloves), safety posters or guidelines, whiteboard, markers.
- **Tentative Duration:** 60 minutes
- **Procedure:**
    - Introduction (10 minutes)
        - Begin by discussing the importance of safety in the construction industry and the role that safety regulations play in preventing accidents and injuries.
        - Explain that the activity will focus on understanding and applying safety regulations to common construction tools.
    - Tool Safety Presentation (10 minutes)
        - Present a brief overview of common construction tools and their potential hazards when used unsafely.
        - Discuss safety guidelines, such as wearing personal protective equipment (PPE), proper tool use, and maintenance.
    - Hands-On Tool Inspection (15 minutes)
        - Provide students with a variety of construction tools.
        - In small groups, students will inspect the tools and discuss safety considerations for each tool.
        - They should identify potential hazards and suggest safety measures for each tool.
    - Safety Poster Creation (15 minutes)
        - In the same small groups, instruct students to create safety posters for one of the construction tools.
        - Each poster should include a visual representation of the tool, safety guidelines,

and tips for safe use.
        - Encourage creativity and clarity in the posters.
    - Poster Presentation (10 minutes)
        - Each group presents their safety poster to the class and explains the key safety points related to the assigned tool.
    - Discussion and Q&A (10 minutes)
        - Open the floor for a class discussion on the importance of tool safety regulations.
        - Encourage students to ask questions and share their insights about how safety regulations can be enforced and followed on construction sites.
    - Conclusion (5 minutes)
        - Summarize the key takeaways from the activity, emphasizing the role of safety regulations in the construction industry and how they help prevent accidents.
- **Expected Outcome:** Through this activity, students will gain a practical understanding of construction tool safety regulations and how they apply to common construction tools. They will also develop an awareness of the importance of following safety guidelines to ensure a safe working environment on construction sites.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic**: Standard Masonry Practices
- **Purpose**: To provide students with real-world exposure to masonry construction and help them understand the standard practices and techniques used in masonry work.
- **Resources**: Permission and access to a masonry construction site, construction safety gear for students, a knowledgeable guide from the construction site, notepads, and cameras for students to document their observations.
- **Tentative Duration:** Half a day (approximately 3-4 hours)
- **Procedure**:
- Preparation (Before the Visit)
    - Coordinate with a local masonry construction site to ensure access and safety for the field visit.
    - Arrange transportation to and from the site.
    - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
- Introduction (At the Construction Site) (15 minutes)
    - Gather students and introduce them to the construction site manager or guide.
    - Explain the purpose of the visit, which is to observe and learn about standard masonry practices.
- Guided Tour (2-3 hours)
    - Take a guided tour of the construction site, focusing on masonry work.
    - During the tour, the guide should explain and demonstrate standard masonry practices, including laying bricks or blocks, mortar preparation, leveling, and alignment techniques.
    - Encourage students to take notes and photographs of the masonry work and practices they observe.
- Observation and Documentation (30 minutes)
    - As students explore the site, ask them to document the standard masonry practices

they observe.
    - Note the techniques used for brick or block laying, mortar application, and any specialized tools or equipment.
- Group Discussion (30 minutes)
    - Gather students for a group discussion about the standard masonry practices they observed.
    - Encourage students to share their observations, ask questions, and discuss the techniques used by masons.
- Question-and-Answer Session (15 minutes)
    - Open the floor for a question-and-answer session. Invite students to ask any questions they may have about masonry practices.
- Reflection (15 minutes)
    - Encourage students to reflect on what they've learned during the visit and how it has enhanced their understanding of standard masonry practices.
- Closing Remarks (10 minutes)
    - Thank the construction site guide for their time and expertise.
    - Summarize the main takeaways from the field visit.
- **Expected Outcome**: Students should leave the construction site with a deeper understanding of standard masonry practices, including brick or block laying, mortar preparation, and alignment techniques. This hands-on experience will provide valuable insights into the practical aspects of masonry construction.

Do ☑

- Summarize the key takeaways from the field visit.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

A. Fill in the blanks

1. bricks and stones
2. tube
3. hammer
4. masonry
5. unit

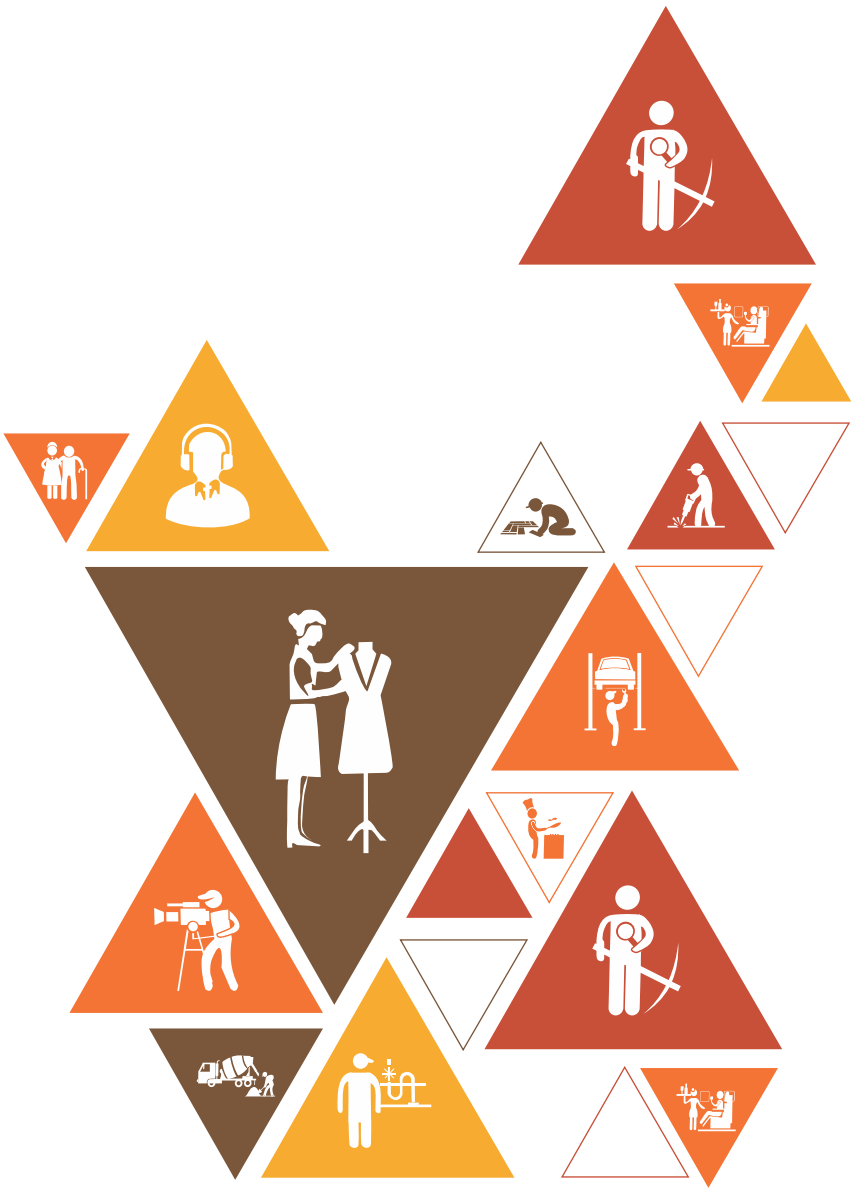
B. Short Answer Questions

1. Primary materials: bricks and stones.
    a. Quality and compliance ensure structural strength and longevity.
2. Spirit level: checks horizontal levelness.
   Plumb: checks vertical alignment.
3. Trowel: spreads and shapes mortar for bonding.
4. Mason's hammer: dual-headed for cutting and setting bricks or stones.
5. Steel square: ensures right angles, maintains structural accuracy.

Tools Name	Image
Power Wet Saws	
Electric Drills	
Jointers	

Mallets	
Grinders	
Concrete Mixer	
Spirit Level	
Plumb Bob	

Notes



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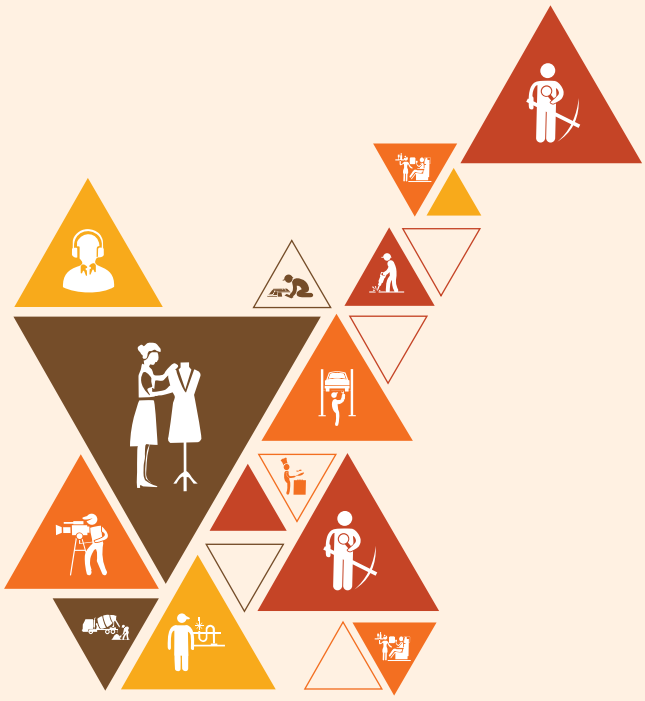
4. Teamwork and Effective Communication at Workplace

Unit 3.1 Preparatory Works Prior to Surveying

Unit 3.2 Assist in Linear Measurement of Distances and Lengths

Unit 3.3 Angular Measurement, Levelling and Setting out



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Key Learning Outcomes

By the end of this module, participants will be able to:

- Describe the process of assisting in tiling and stone laying.
- Explain the process of assisting in concreting.
- Describe the process of preparing and applying anti-termite solution.
- Describe the process of carrying out brick soling and PCC flooring

Unit 4.1 Assist in Tiling Work and Stone Laying

Unit Objectives

By the end of this unit, participants will be able to:

- Explain the use of basics sketches for tiling, stone laying and concrete masonry.
- Discuss the basic principles of measurement.
- State the standard sizes and maintenance of all masonry tiling and concreting tools.
- Elucidate how to select and use basic tools for tiling, stone laying and concreting, such as measuring tape/ruler, hammer, mallet, spade, bolster chisel, wedges, power wet saws, tile scribes or hand-held tile cutters, screeds, floats, shovels, rakes, vibrators etc.
- Describe the techniques and procedures for cutting different types of tiles and stones to size and as per design requirements.
- Elucidate the types, physical properties and applications of different types of tiles.
- Describe the methods and techniques of preparing bed mortar and cement slurry.
- Explain the techniques for preparing different surfaces.
- Explain the importance and process of hacking RCC surfaces.
- Explain the importance of tile/ stone laying as per the specifications within the applicable tolerance limits

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- Have you ever used any surveying tools or instruments before? If so, which ones?
- Do you think surveying tools have changed much with advancements in technology? How?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the

module on the blackboard/whiteboard.

- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Basic Sketches for Tiling, Stone Laying, and Concrete Masonry
- Principles of Measurement
- Standard Sizes and Maintenance of Masonry Tools
- Selecting and Using Basic Tools for Tiling, Stone Laying, and Concreting
- Cutting Tiles and Stones to Size and Design
- Types, Properties, and Applications of Tiles
- Preparing Bed Mortar and Cement Slurry
- Techniques for Surface Preparation
- Hacking RCC Surfaces
- Importance of Tile/Stone Laying and Specifications

Activity 1

- **Topic**: Preparing Bed Mortar and Cement Slurry
- **Purpose**: To teach students the practical skills of preparing bed mortar and cement slurry, which are crucial for various construction and tiling applications.
- **Resources**: Cement, sand, water, mixing containers, shovels, trowels, measuring tools, safety gear (gloves, goggles), and a demonstration area with access to water.
- **Tentative Duration**: 60 minutes
- **Procedure**:
- Introduction (10 minutes)
    - Begin by explaining the importance of bed mortar and cement slurry in construction and tiling.
    - Describe the applications of these materials, such as setting tiles, levelling surfaces, or making repairs.
- Bed Mortar Preparation (20 minutes)
- Mixing the Bed Mortar:
    - Demonstrate the proper ratio of cement and sand to create bed mortar. Explain the significance of using the correct proportions for strength and consistency.
    - Show how to gradually add water while mixing to achieve the desired thickness and texture.
- Student Participation:
    - Divide students into small groups and provide them with the necessary materials for bed mortar preparation.
    - Instruct them to mix bed mortar following the demonstrated process.
    - Emphasize the importance of safety gear and proper mixing techniques.
- Cement Slurry Preparation (20 minutes)

    - Mixing the Cement Slurry:
    - Explain the purpose of cement slurry, which is often used for bonding tiles and filling gaps.
    - Show students how to mix cement and water to create a slurry with the right consistency.
- Student Participation:
    - Instruct students to create cement slurry by mixing cement and water in small groups.
    - Ensure they understand the desired consistency for various applications.
- Demonstration and Testing (10 minutes)
    - Ask each group to present their prepared bed mortar and cement slurry.
    - Demonstrate how to use each material for its intended purpose, such as setting tiles or creating a level surface.
    - Allow students to apply their prepared materials on a surface for testing.
- Discussion (10 minutes)
    - Conclude the activity with a discussion about the properties and applications of bed mortar and cement slurry.
    - Encourage students to share their observations and any challenges they faced during the preparation.
- **Expected Outcome**: Students will gain practical experience in preparing bed mortar and cement slurry, understanding the importance of proper ratios and consistency. They will also learn the applications of these materials in construction and tiling projects.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2

- **Topic**: Types, Properties, and Applications of Tiles
- Purpose: To engage students in a competitive and educational game where they must correctly identify different types of tiles and their properties.
- **Resources**: Tile samples, game cards with descriptions and images of various tiles, a timer, and a scoring system.
- **Tentative Duration**: 30-40 minutes
- **Procedure**:
    - Preparation (10 minutes)
    - Collect various tile samples and arrange them in a visible area.
    - Create game cards that describe each type of tile, including its properties and applications.
    - Prepare a timer and a scoring system to keep track of points.
    - Introduction (5 minutes)
    - Start by explaining the game rules and objectives to the students.
    - Let them know they will participate in a tile identification challenge.
    - Tile Identification Challenge (15 minutes)
    - Divide students into teams (or individuals, depending on the class size).
    - Each team/individual receives a game card with a tile description and image.
    - Set the timer for a specific duration (e.g., 3 minutes).
    - Students must identify the tile from the description and find the corresponding tile sample from the display area.
    - Scoring and Review (10 minutes)
    - After the challenge, gather the students and review the game cards.

    - Award points for each correct identification and determine the winning team or individual.
    - Discussion and Learning (5 minutes)
    - Conclude the game with a discussion about the different types of tiles, their properties, and where they are commonly used.
    - Emphasize the importance of understanding tile properties when choosing tiles for construction and design projects.
- **Expected Outcome**: The Tile Type Challenge game will help students learn about various tile types, their properties, and applications in a fun and competitive way. This activity encourages active participation and reinforces their understanding of tiles in construction and design.

Do ☑

- Summarize the key takeaways from the activity.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 4.2 Assist in Concreting

Unit Objectives

By the end of this unit, participants will be able to:

- List the basic properties of concrete including weight, slump, etc.
- Explain how to assess if concrete has been mixed as per the appropriate ratio for site requirements.
- Elucidate how to select and use basic tools for tiling, stone laying and concreting, such as measuring tape/ruler, hammer, mallet, spade, bolster chisel, wedges, power wet saws, tile scribes or hand-held tile cutters, screeds, floats, shovels, rakes, vibrators etc.
- Describe the process of batching and mixing materials for concreting.
- Explain how to screed the concrete to correct levels.
- Explain the appropriate technique for pouring concrete in the form of layers as per the construction site requirements.
- Explain how to ensure proper curing.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- Have you ever used any surveying tools or instruments before? If so, which ones?
- Do you think surveying tools have changed much with advancements in technology? How?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.

- Give the participants a general idea about what will be covered in the module.

Elaborate

- Concrete Properties: Weight, Slump, etc.
- Assessing Mixing Ratios for Site Needs
- Tool Selection for Concreting
- Material Batching and Mixing
- Concrete Screeding
- Layered Concrete Pouring
- Proper Concrete Curing

Activity 1

- **Topic:** Concrete Properties: Weight, Slump, etc.
- **Purpose:** To help students understand and measure important properties of concrete through hands-on experiments.
- **Resources:** Concrete mix, water, measuring tools (scales, buckets, rulers), slump cone or slump test equipment, safety gear (gloves, goggles), and a whiteboard.
- **Tentative Duration:** 60 minutes
- **Procedure:**
    - Introduction (10 minutes)
    - Start by introducing the topic of concrete properties, emphasizing their significance in construction and how they influence the quality of concrete.
    - Experiment 1: Measuring Concrete Weight (15 minutes)
    - Divide students into small groups.
    - Provide each group with a known quantity of dry concrete mix and a container for measuring water.
    - Instruct each group to measure the weight of the dry mix and calculate the water-to-concrete ratio to create a concrete mix.
    - Group Discussion and Whiteboard (10 minutes)
    - Each group reports its findings on the weight of the dry mix, the water added, and the total weight of the concrete mix.
    - Discuss the implications of the ratio and how it affects the properties of the concrete.
    - Experiment 2: Slump Test (15 minutes)
    - Demonstrate the slump test using a slump cone or similar equipment.
    - Each group is provided with concrete mix.
    - Ask students to perform the slump test by filling the cone and measuring the slump (the change in height of the concrete cone after removal of the cone).
    - Group Discussion and Whiteboard (10 minutes)
    - Discuss the results of the slump test and what they indicate about the workability and consistency of the concrete.
    - Highlight the importance of slump in various construction applications.
    - Conclusion (5 minutes)
    - Summarize the main takeaways from the experiments and emphasize the practical importance of understanding concrete properties for construction projects.
- **Expected Outcome:** This interactive activity will allow students to gain practical experience in measuring and understanding concrete properties, including weight and slump. They will

appreciate the significance of these properties in the construction industry and how they affect concrete quality and workability.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic**: Tool Selection for Concreting
- **Purpose:** To provide students with practical knowledge about the selection and use of tools for concreting on a construction site.
- **Resources:** Permission and access to a construction site with ongoing concreting work, construction safety gear for students, a knowledgeable guide from the construction site, notepads, and cameras for students to document their observations.
- **Tentative Duration:** Half a day (approximately 3-4 hours)
    - **Procedure:**
    - Preparation (Before the Visit)
    - Coordinate with a local construction site that is currently involved in concreting work.
    - Arrange transportation to and from the site.
    - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
    - Introduction (At the Construction Site) (15 minutes)
    - Gather students and introduce them to the construction site manager or guide.
    - Explain the purpose of the visit, which is to observe and learn about the selection and use of tools for concreting.
    - Guided Tour (2-3 hours)
    - Take a guided tour of the construction site, focusing on areas where concreting work is in progress.
    - During the tour, the guide should explain and demonstrate the selection of tools for various concreting tasks, such as pouring, leveling, finishing, and curing.
    - Encourage students to take notes and photographs of the tools they observe and how they are used.
    - Observation and Documentation (30 minutes)
    - As students explore the site, ask them to document the tools they observe and the tasks for which they are used.
    - Students should note the different types of tools, their sizes, and any specialized features.
    - Group Discussion (30 minutes)
    - Gather students for a group discussion about the selection and use of tools for concreting.
    - Encourage students to share their observations and ask questions about specific tools and their applications.
    - Question-and-Answer Session (15 minutes)
    - Open the floor for a question-and-answer session. Invite students to ask any questions they may have about tool selection for concreting.
    - Reflection (15 minutes)
    - Encourage students to reflect on what they've learned during the visit and how it has enhanced their understanding of the importance of tool selection in concreting.
    - Closing Remarks (10 minutes)
    - Thank the construction site guide for their time and expertise.
    - Summarize the main takeaways from the field visit.
- **Expected Outcome:** Students should leave the construction site with a practical understanding

of the selection and use of tools for concreting in real-world construction projects. This hands-on experience will enhance their knowledge of tools used in the construction industry.

Do ☑

- Summarize the key takeaways from the field visit.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 4.3 Assist in Brick Soling and PCC flooring

Unit Objectives

By the end of this unit, participants will be able to:

- Elucidate different types of PCC flooring works.
- Explain the uses of different baton strips.
- Describe the process of brick soling and PCC flooring.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- Have you ever used any surveying tools or instruments before? If so, which ones?
- Do you think surveying tools have changed much with advancements in technology? How?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- PCC Flooring
- Different types of PCC flooring works
- Different baton strips

- Brick soling

Activity 1

- **Topics:** Different Types of PCC Flooring Works and Different Baton Strips
- **Purpose:** To educate students about various PCC flooring works and the types of baton strips used in construction while making learning fun and interactive.
- **Resources:** Flashcards or game cards with images and descriptions of PCC flooring works and baton strips, a timer, a whiteboard, and markers.
- **Tentative Duration:** 30-40 minutes
- **Procedure:**
- Preparation (10 minutes)
- Create game cards with images and brief descriptions of different types of PCC flooring works (e.g., plain cement concrete, reinforced cement concrete) and various types of baton strips.
- Shuffle the cards and divide them into two sets: one for PCC flooring works and one for baton strips.
- Introduction (5 minutes)
- Begin by explaining the game's rules and objectives to the students.
- Inform them that they will participate in a match-up challenge to connect PCC flooring works with the correct baton strips.
- Game Rules (5 minutes)
- Explain that the class will be divided into two teams, and each team will take turns.
- In each turn, a representative from the team will pick one card from each set, trying to match a PCC flooring work with the appropriate baton strip.
- They have a limited time (e.g., 30 seconds) to make a match.
- If they make a correct match, their team earns a point.
- Game Rounds (15 minutes)
- Start the game with Team 1.
- A student from Team 1 draws a card from each set, attempts to make a match, and places the matched cards on the whiteboard.
- If the match is correct, Team 1 earns a point. If not, Team 2 gets a chance to steal the match.
- Rotate between teams, allowing each team to make matches during their turn.
- Keep a timer for each turn to maintain a brisk pace.
- Discussion and Clarification (5 minutes)
- After the game, discuss the correct matches on the whiteboard.
- Clarify any doubts and provide explanations about the PCC flooring works and the corresponding baton strips.
- Scoring and Winner Declaration (5 minutes)
- Tally the points for each team to determine the winner.
- Declare the winning team and recognize their efforts.
- **Expected Outcome:** This match-up game will make learning about different types of PCC flooring works and baton strips engaging and memorable. It encourages teamwork, critical thinking, and reinforces knowledge of construction materials and practices.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topics**: Different Types of PCC Flooring Works
- **Purpose**: To expose students to the practical aspects of different PCC flooring techniques, helping them understand the methods used in real-world construction projects.
- **Resources**: Permission and access to a construction site with ongoing PCC flooring works, construction safety gear for students, a knowledgeable guide from the construction site, notepads, and cameras for students to document their observations.
- **Tentative Duration:** Half a day (approximately 3-4 hours)
- **Procedure**:
- Preparation (Before the Visit)
    - Coordinate with a local construction site that is currently engaged in PCC flooring works with various methods.
    - Arrange transportation to and from the site.
    - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
- Introduction (At the Construction Site) (15 minutes)
    - Gather students and introduce them to the construction site manager or guide.
    - Explain the purpose of the visit, which is to observe and learn about different types of PCC flooring works.
- Guided Tour (2-3 hours)
    - Take a guided tour of the construction site, focusing on areas where different PCC flooring methods are being used. This may include:
    - Plain Cement Concrete (PCC) flooring
    - Reinforced Cement Concrete (RCC) flooring
    - Stamped concrete flooring
    - Exposed aggregate concrete flooring
    - Polished concrete flooring
    - During the tour, the guide should explain the techniques, materials, and processes involved in each type of PCC flooring.
- Observation and Documentation (30 minutes)
    - As students explore the site, ask them to document their observations of the different PCC flooring methods they encounter.
    - Encourage students to take notes, photographs, and even short videos of the various techniques and materials used.
- Group Discussion (30 minutes)
    - Gather students for a group discussion about the different types of PCC flooring works they observed.
    - Encourage students to share their observations, ask questions, and discuss the characteristics and advantages of each method.
- Question-and-Answer Session (15 minutes)
    - Open the floor for a question-and-answer session. Invite students to ask any questions they may have about PCC flooring techniques.
- Reflection (15 minutes)
    - Encourage students to reflect on what they've learned during the visit and how it has enhanced their understanding of different PCC flooring works.
- Closing Remarks (10 minutes)
    - Thank the construction site guide for their time and expertise.
    - Summarize the main takeaways from the field visit.
- **Expected Outcome:** Students should leave the construction site with a practical understanding

of different types of PCC flooring works, their techniques, and applications in real-world construction projects. This hands-on experience will provide valuable insights into the practical aspects of PCC flooring.

Do ☑

- Summarize the key takeaways from the field visit.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

A.

1. *Tolerance limits*
2. *Baton strips*
3. *Sandblasting*
4. *Dry*
5. *Hacking*

B.

1.

a. Tile Scribe
b. Tile Cutter
c. Tile Nippers
d. Tile Hand Saw
e. Tile Drill

2. Brick soling is a construction technique in which bricks are arranged in a specific pattern to create a stable subbase for various types of structures, such as buildings, roads, or pavements.

3. The process of chiseling or indenting the smooth concrete surface to make it rough, so that the required bond strength can be achieved with all the types of plasterworks or tile work is called hacking

4. Batching involves measuring concrete mix components, either by volume or mass, and introducing them into the mixture.

5.

a. Ceramic Tile
b. Quarry (Unglazed) Tile
c. Porcelain Tile
d. Mosaic Tile
e. Marble Tile
f. Vitrified Tiles
g. Terracotta Tiles

Notes

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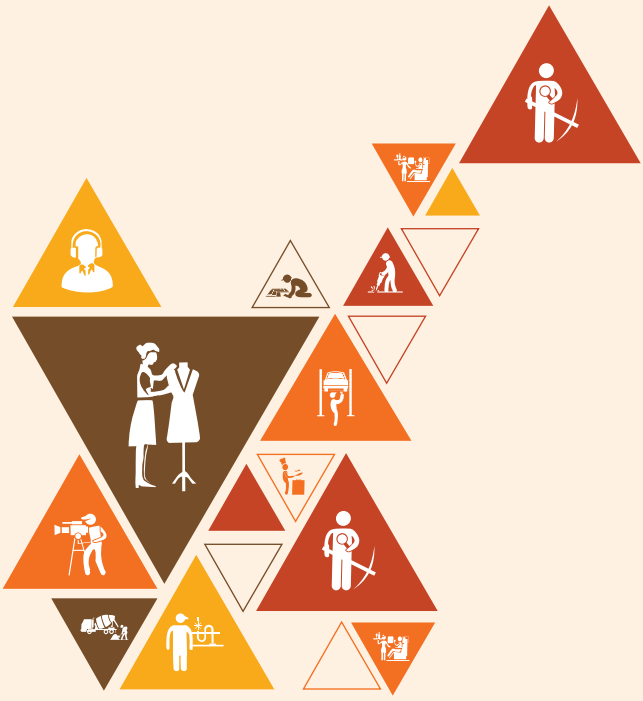
5. Assist in Brick/Block Work, Plastering Work, and fixing Doors and Windows

Unit 5.1 – Assist in Brick and Block Work

Unit 5.2 – Assist in Plastering Work

Unit 5.3 – Assist in Door and Windows Fixing



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Key Learning Outcomes

By the end of this module, participants will be able to:

- Explain the process of assisting in brick/block work.
- Explain the process of assisting in plastering.
- Elucidate ways to fix door and window frames.

Unit 5.1 Assist in Brick and Block Work

Unit Objectives

By the end of this unit, participants will be able to:

- Explain the basics of masonry, including brick and block work.
- Explain the use of relevant tools and equipment, such as measuring tape, trowel, mortar pan, hammer, bolster chisel, spade, rubber/wooden hammers, mallets, wedges, jointers, square, plumb bob, straight edge spirit level, water level tube, line thread, volume box, weighing balance, tile scribes or hand held tile cutters, screeds, floats, power wet saws, electric drills, anglers and grinders, vibrators, wheel barrow, hand operated concrete mixer, etc.
- Explain the use and setting of basic leveling tools, such as plum bob, spirit level, water level.
- Describe the process of transferring levels using basic levelling tools.
- Describe the techniques for cutting different types of bricks to required sizes.
- Describe the process of laying and fixing bricks/blocks in position with correct alignment.
- Explain different types of bonds in brickwork.
- State different mixtures of mortar required for brick/block works.
- Explain the importance of hacking RCC surfaces.
- Describe the process of marking dummy dots for transferring levels.
- Show how to remove loose concrete laitance and roughen the surface before laying brick/block.
- Demonstrate how to sieve fine aggregate as per instructions.
- Show how to mix cement and mortar in the appropriate ratio and quantity.
- Demonstrate ways to assist in setting out layouts as per instructions.
- Demonstrate ways to assist in spreading mortar using a trowel to the required thickness.
- Demonstrate ways to assist in building brick walls using English/Flemish bond.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- How do you use basic leveling tools like a plum bob, spirit level, and water level in masonry work?
- What is the process for transferring levels using basic leveling tools in masonry construction?

- What techniques are used to cut different types of bricks to the required sizes in masonry work?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Basics of Masonry: Brick and Block Work
- Masonry Tools and Equipment
- Setting and Using Basic Leveling Tools
- Transferring Levels with Basic Leveling Tools
- Cutting Bricks to Required Sizes
- Laying and Fixing Bricks/Blocks with Alignment
- Types of Bonds in Brickwork
- Mortar Mixtures for Brick/Block Works
- Importance of Hacking RCC Surfaces
- Marking Dummy Dots for Level Transfer
- Surface Preparation for Brick/Block Laying
- Sieving Fine Aggregate
- Mixing Cement and Mortar
- Layout Setting Assistance
- Spreading Mortar with a Trowel
- Building Brick Walls: English/Flemish Bond

Activity 1

- **Topic**: Types of Bonds in Brickwork
- **Purpose**: To introduce students to various types of brick bonds and their significance in brickwork construction.
- **Resources**: Brick samples, whiteboard, markers, and images or diagrams of different brick bonds.

- **Tentative Duration**: 60 minutes
- **Procedure**:
- Introduction (10 minutes)
    - Begin by explaining the importance of brick bonds in masonry and how they influence the structural stability and appearance of a brick wall.
- Theoretical Overview (10 minutes)
    - Discuss and display images or diagrams of common brick bonds, such as English bond, Flemish bond, Stretcher bond, Header bond, etc.
    - Explain the characteristics, arrangement, and advantages of each bond type.
- Sample Demonstration (10 minutes)
    - Provide students with brick samples and demonstrate how to lay bricks in different bond patterns on a small scale.
    - Show how bricks are oriented and placed to create each type of bond.
- Group Activity (20 minutes)
    - Divide the class into small groups.
    - Provide each group with a set of brick samples and a diagram of a specific bond pattern.
    - Instruct each group to recreate the assigned bond using the brick samples.
- Group Presentations (5 minutes)
    - Each group presents their recreated brick bond to the class, explaining the arrangement and discussing the characteristics of the bond pattern they worked on.
- Class Discussion (5 minutes)
    - Open the floor for a class discussion on the applications and advantages of different brick bonds.
    - Discuss how each bond is suited for specific structural and aesthetic requirements.
- Quiz (5 minutes)
    - Conduct a brief quiz or question-and-answer session to test students' understanding of the material covered.
- Conclusion (5 minutes)
    - Summarize the key takeaways from the activity, emphasizing the importance of selecting the right brick bond for specific construction projects.
- **Expected Outcome**: Through this activity, students will gain a practical understanding of different brick bonds, their characteristics, and their role in brickwork construction. They will be better prepared to make informed choices when working on brick masonry projects.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic**: Transferring Levels with Basic Leveling Tools in Brick Masonry
- **Purpose**: To provide students with practical experience in using basic leveling tools to ensure level and plumb brickwork in masonry projects.
- **Resources**: Brick samples, mortar, basic leveling tools (spirit level, plumb bob, string line), trowels, notepads, pencils, safety gear (gloves, goggles), and a designated area for the activity.
- **Tentative Duration**: 60 minutes
- **Procedure**:
- Introduction (10 minutes)
    - Start by discussing the importance of maintaining level and plumb walls in brick masonry

construction.
    - Explain that the activity will focus on using basic leveling tools to achieve this.
- Tool Familiarization (10 minutes)
    - Introduce students to the basic leveling tools: spirit level, plumb bob, and string line.
    - Explain the purpose and usage of each tool in brick masonry work.
- Demonstration (15 minutes)
    - Conduct a live demonstration of how to use a spirit level to check for horizontal (level) surfaces and a plumb bob to check for vertical (plumb) surfaces in brick masonry.
    - Explain the use of string lines for establishing straight and level guidelines.
- Hands-On Activity (15 minutes)
    - Divide students into small groups.
    - Provide each group with brick samples, mortar, a spirit level, a plumb bob, and a string line.
    - Instruct each group to build a small brick wall, ensuring that it is level and plumb.
    - Encourage them to use the spirit level and plumb bob to check their work and the string line to maintain straight alignment.
- Review and Adjustments (5 minutes)
    - Walk around to each group and review their progress.
    - Provide guidance and corrections as needed to ensure the brick wall is level and plumb.
- Group Presentation (5 minutes)
    - Each group presents their completed brick wall to the class, explaining the use of leveling tools and the challenges they encountered.
- Class Discussion (5 minutes)
    - Open the floor for a class discussion on the importance of transferring levels in brick masonry and the effectiveness of basic leveling tools.
- Conclusion (5 minutes)
    - Summarize the key takeaways from the activity, emphasizing the role of basic leveling tools in maintaining quality brickwork.
- **Expected Outcome**: Through this practical activity, students will gain hands-on experience in transferring levels with basic leveling tools in brick masonry. They will understand the importance of maintaining level and plumb surfaces and be better prepared for actual bricklaying tasks.

Do ☑

- Summarize the key takeaways from the activity.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand

- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 5.2 Assist in Plastering Work

Unit Objectives

By the end of this unit, participants will be able to:

- Explain the basics of plastering work.
- State different mix of mortar required for plastering works.
- Describe the techniques for surface preparation for plastering work.
- Show how to remove excess mortar from the face of the wall to keep the surface clean.
- Demonstrate how to remove all loose concrete laitance and assist in roughening the surface.
- Demonstrate the process of carrying out pre-wetting of the base surface before plastering.
- Show how to prepare a mix of cement mortar and cement slurry in the required quantity and proportion.
- Show how to remove excess mortar from the face of the wall to keep the surface clean.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- Can you name different mortar mixes required for various types of plastering works, and why is mortar essential in plastering?
- What techniques are used for surface preparation in plastering work, and why is this step crucial?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Basics of Plastering Work
- Types of Mortar Mix for Plastering
- Surface Preparation for Plastering
- Removing Excess Mortar and Laitance
- Pre-Wetting of Base Surface

Activity 1

- **Topic:** Basics of Plastering Work
- **Purpose:** The objective of this activity is to introduce students to the fundamental concepts of plastering in a fun and interactive way.
- **Resources:** Cardboard sheets (cut to size), plaster-like modeling compound, spatulas or trowels, water, a stopwatch, and safety gear (gloves, goggles).
- **Tentative Duration:** 60 minutes
- **Procedure:**
- Introduction (10 minutes)
    - Begin by explaining the importance of plastering in construction and renovation projects.
    - Describe the objectives of the game and its connection to real plastering work.
- Game Setup (10 minutes)
    - Divide the class into small groups (2-4 students per group).
    - Provide each group with cardboard sheets and plaster-like modeling compound (premixed with water to the right consistency for plastering).
    - Give each group a spatula or trowel and safety gear.
- Simulation Game (30 minutes)
    - In this game, each group will simulate the plastering of a wall using the provided materials.
    - Set a timer for 15 minutes, and during this time, each group must apply the plaster-like compound to their cardboard sheet.
    - They should aim to create a smooth and uniform plastered surface, just like they would on a real wall.
    - Encourage them to follow proper plastering techniques, including pre-wetting the surface, achieving the desired thickness, and achieving a smooth finish.
- Review and Discussion (5 minutes)
    - After the simulation game, gather the groups to discuss their experiences and challenges they faced during the plastering activity.
    - Encourage them to share any insights they gained about the basics of plastering.
- Scoring and Evaluation (5 minutes)
    - Evaluate each group's plastered surface based on smoothness, uniformity, and proper application techniques.
    - Provide feedback and scores to each group.
- Prize and Recognition (5 minutes)
    - Announce the winning group or groups based on their performance.
    - Reward the winning groups with certificates or small prizes.
- Conclusion (5 minutes)
    - Summarize the key takeaways from the activity, emphasizing the importance of proper plastering techniques and the significance of surface preparation in plastering work.
- **Expected Outcome**: This plastering simulation game will allow students to have a hands-on experience with the basics of plastering and appreciate the skills and techniques involved in

achieving a smooth and uniform plastered surface. It makes learning about plastering more engaging and memorable.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Do

- Summarize the key takeaways from the activity.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic:
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 5.3 Assist in Door and Windows Fixing

Unit Objectives

By the end of this unit, participants will be able to:

- State the standard size of doors/windows and the types of materials and fittings used in them.
- Explain how to align the frames and check the holdfast position.
- Describe the process of anchoring frames to walls and filling gaps between walls and frames.
- Demonstrate how to mark and set out the location for fixing doors and windows as per the supervisor's instructions.
- Demonstrate how to anchor window frames in frames/openings in the wall using nails and secure the frame.
- Demonstrate ways to assist in fixing standard sections for wooden/metal windows, doors, and vent frames.
- Demonstrate how to measure the dimensions of rooms/floors/walls, right angles, and surface planes under supervision.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the linear measurement instruments used in surveying.

Say

In the previous session, we discussed the roles and responsibilities of an assistant surveyor. In this session, we shall learn about various linear measurement instruments used in surveying.

Ask

- What are the standard sizes for doors and windows, and why is it important to know them in construction?
- Can you name some common materials and fittings used in the construction of doors and windows?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Door/Window Sizes, Materials, Fittings
- Frame Alignment and Holdfast Check
- Frame Anchoring and Gap Filling
- Marking and Setting Locations
- Anchoring Window Frames
- Assisting with Frame Fixing
- Measuring Dimensions Under Supervision

Activity 1

- **Topic:** Door/Window Sizes, Materials, Fittings
- **Purpose:** To provide students with hands-on experience in simulating the installation of doors and windows, helping them understand the various components, sizes, and materials involved.
- **Resources:** Cardboard sheets, cardboard cutouts representing doors and windows, adhesive, rulers, measuring tapes, markers, safety gear (gloves, goggles), and a designated area for the activity.
- **Tentative Duration**: 60 minutes
- **Procedure:**
- Introduction (10 minutes)
    - Begin by discussing the importance of correctly installing doors and windows in construction.
    - Explain the objectives of the activity and its relevance to real-world scenarios.
- Simulation Setup (10 minutes)
    - Divide the class into small groups (2-4 students per group).
    - Provide each group with cardboard sheets, cardboard cutouts representing doors and windows, adhesive, rulers, measuring tapes, markers, and safety gear.
- Door/Window Installation Simulation (30 minutes)
    - In this simulation, each group will mimic the process of installing a door or window.
    - Provide guidelines and scenarios for each group. For example, one group might be installing a wooden door, while another group is installing an aluminum window.
    - Instruct them to measure the dimensions of the opening, cut the cardboard to size, and simulate the installation process.
    - They should pay attention to details like selecting appropriate materials, fittings, and ensuring proper alignment.
- Group Presentation (5 minutes per group)
    - Each group presents their simulated door or window installation to the class.
    - They should explain their choice of materials, fittings, and how they ensured proper alignment and fit.
- Class Discussion (10 minutes)
    - Engage the class in a discussion about the challenges and lessons learned during the simulation.
    - Discuss the importance of accurate measurements, proper materials, and correct fitting in actual door and window installations.
- Conclusion (5 minutes)
    - Summarize the key takeaways from the activity, emphasizing the importance of careful planning and precise execution in door and window installations.
- **Expected Outcome:** Through this practical simulation, students will gain a better understanding

of the considerations involved in door and window installations, including size, materials, and fittings. This hands-on experience will prepare them for real-world scenarios in construction and carpentry.

Say

- Did you find this activity interesting? Can you see how much information you had previously and how much information you have now? Let us do another activity.

Activity 2 – Field Visit

- **Topic**: Door/Window Sizes, Materials, Fittings
- **Purpose**: To expose students to the practical aspects of door and window installation, focusing on size, materials, and fittings used in construction.
- **Resources**: Permission and access to a construction site with ongoing door and window installation work, construction safety gear for students, a knowledgeable guide from the construction site, notepads, and cameras for students to document their observations.
- **Tentative Duration**: Half a day (approximately 3-4 hours)
- **Procedure**:
- Preparation (Before the Visit)
    - Coordinate with a local construction site that is currently engaged in door and window installation work.
    - Arrange transportation to and from the site.
    - Ensure that all students have the necessary safety gear and are informed of safety guidelines.
- Introduction (At the Construction Site) (15 minutes)
    - Gather students and introduce them to the construction site manager or guide.
    - Explain the purpose of the visit, which is to observe and learn about door and window installation, with a focus on size, materials, and fittings.
- Guided Tour (2-3 hours)
    - Take a guided tour of the construction site, focusing on areas where doors and windows are being installed.
    - During the tour, the guide should explain the different sizes, materials, and fittings used for doors and windows in various parts of the building.
- Observation and Documentation (30 minutes)
    - As students explore the site, ask them to document their observations related to door and window installation.
    - Encourage students to take notes, photographs, and even short videos of the different sizes, materials, and fittings used.
- Group Discussion (30 minutes)
    - Gather students for a group discussion about what they observed during the door and window installation.
    - Encourage students to share their insights and ask questions about size, materials, and fittings.
- Question-and-Answer Session (15 minutes)
    - Open the floor for a question-and-answer session. Invite students to ask any questions they may have about the practical aspects of door and window installation.
- Reflection (15 minutes)

    - Encourage students to reflect on what they've learned during the visit and how it has enhanced their understanding of door and window installation.
- Closing Remarks (10 minutes)
    - Thank the construction site guide for their time and expertise.
    - Summarize the main takeaways from the field visit.
- **Expected Outcome**: Students should leave the construction site with practical knowledge of door and window installation, including the importance of size, materials, and fittings. This hands-on experience will provide valuable insights into the practical aspects of these construction components.

Do ☑

- Summarize the key takeaways from the field visit, emphasizing the importance of precise measurements in surveying.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

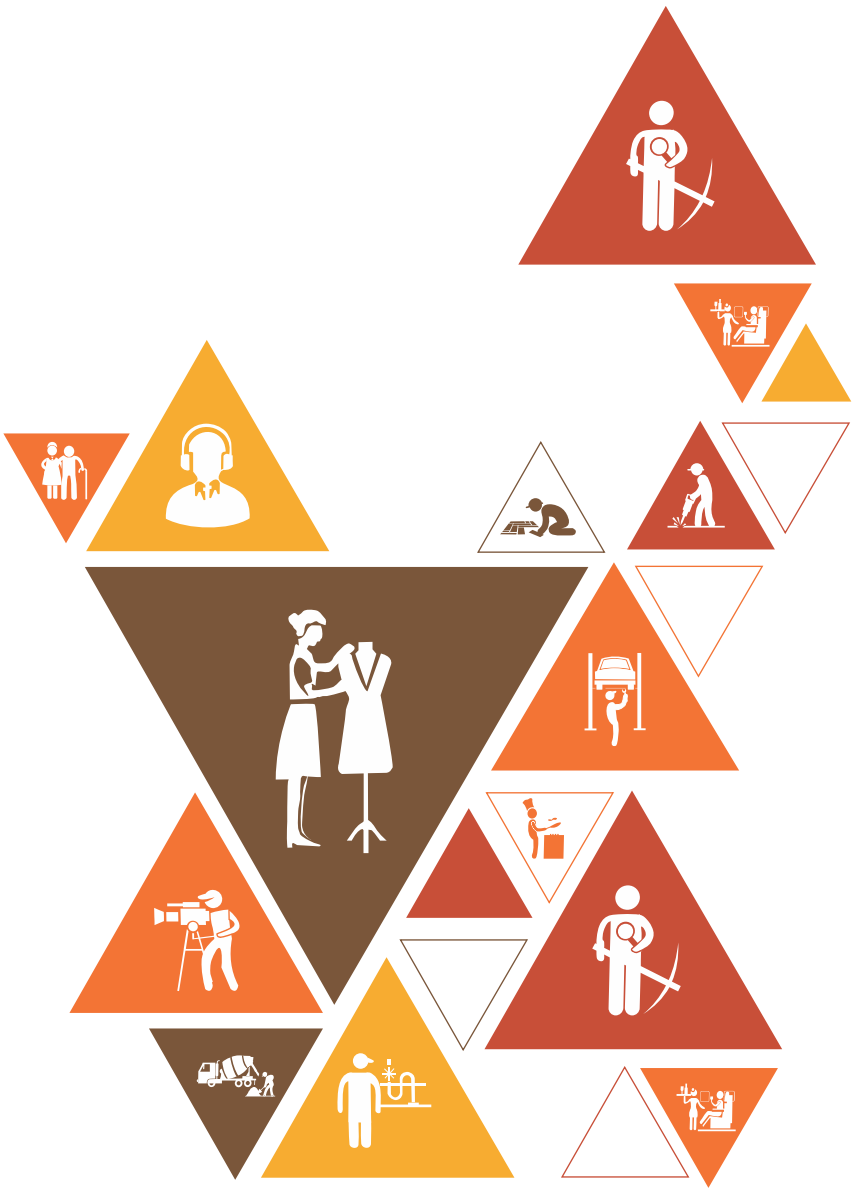
A.

1. **concrete blocks**
2. 190, 90, 90
3. Strength, durability
4. Concrete laitance
5. sill

B. Short Answer Questions

1. Brick Cutting Techniques:
    a. Brick Trowel for rough cutting.
    b. Brick Hammer for rough cuts.
    c. Club Hammer & Bolster for precise cutting.
    d. Power Saws/Grinders for accurate trimming.
2. Types of Bonds in Brickwork:
    a. Stretcher Bond: Suitable for half-brick walls.
    b. Header Bond: Used for single-brick walls.
    c. English Bond: Strong and suitable for various wall widths.
    d. Flemish Bond: Ideal for thicker walls.
3. Mortar Mixtures for Brick and Block Works:
    a. Cement Mortar (1:3) for smooth interior plastering.
    b. Cement Mortar (1:4) for durable exterior plastering.
    c. Lime Mortar (1:3) for heritage buildings.
    d. Gypsum Plaster for quick-drying interior finish.
    e. Cement-Lime Mortar (1:1:6) for workable exterior plastering.
    f. Mud Plaster for eco-friendly construction.
    g. Exterior Insulation and Finish System (EIFS) for energy-efficient exterior finishes.
    h. Acrylic Plaster for interior and exterior with excellent adhesion.
4. Significance of Removing Concrete Laitance and Roughening the Surface:
    a. Improves adhesion of plaster or finishes.
    b. Ensures secure bond for subsequent layers.
    c. Enhances durability and longevity of construction work.

Notes



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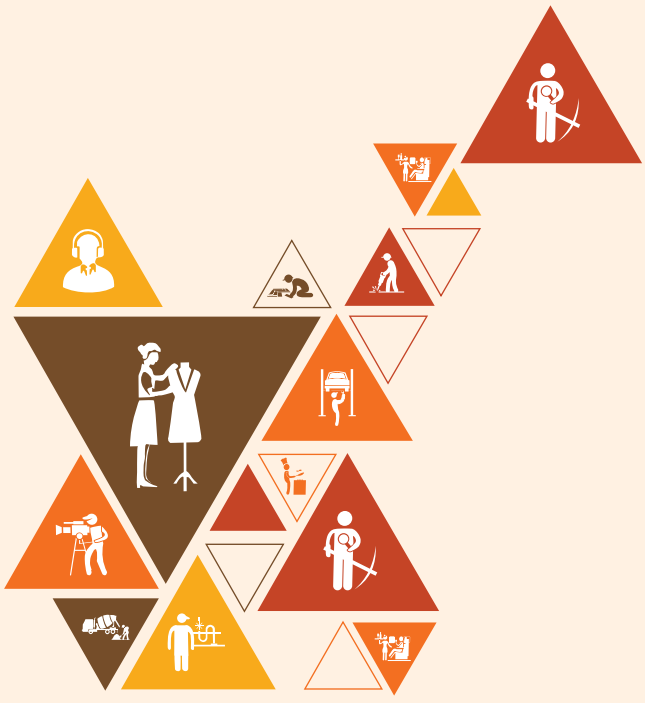
6. Work effectively in a Team to deliver Desired Results at the Workplace

Unit 6.1 – Effective Communication and Teamwork

Unit 6.2 – Working Effectively and Maintaining Discipline at Work

Unit 6.3 – Maintaining Social Diversity at Work



(CON/N8001)

Key Learning Outcomes

At the end of this module, you will be able to:

- Elucidate own roles and responsibilities.
- Explain the importance of effective communication.
- Elucidate the consequence of poor teamwork on project outcomes, timelines, safety at the construction site, etc.
- Demonstrate how to pass on work related information/ requirement clearly to the team members.
- Explain different modes of communication used at workplace.
- Explain the importance of creating healthy and cooperative work environment among the gangs of workers.
- Show how to report any unresolved problem to the supervisor immediately.
- Elucidate applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement.
- Demonstrate ways to hand over the required material, tools, tackles, equipment and work fronts timely to interfacing teams.
- Explain the importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timeliness, safety, risks at the construction project site.
- Explain the importance and need of supporting co-workers facing problems for the smooth functioning of work.
- Demonstrate ways to work together with co-workers in a synchronized manner.
- Discuss the fundamental concept of gender equality.
- Explain how to recognise and be sensitive to issues of disability, culture and gender.
- Discuss legislation, policies, and procedures relating to gender sensitivity and cultural diversity including their impact on the area of operation.
- Demonstrate effective implementation of gender neutral practices at workplace.
- Demonstrate ways to address discriminatory and offensive behaviour in a professional manner as per organizational policy.

Unit 6.1 Effective Communication and Teamwork

Unit Objectives

By the end of this unit, participants will be able to:

- Elucidate own roles and responsibilities.
- Explain the importance of effective communication.
- Explain different modes of communication used at the workplace.
- Elucidate the consequence of poor teamwork on project outcomes, timelines, safety at the construction site, etc.
- Demonstrate how to pass on work-related information/requirements clearly to the team members.
- Show how to report any unresolved problem to the supervisor immediately.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computers, projectors, flipcharts etc.
- PowerPoint slides, pictures/posters depicting effective interaction and communication at the workplace.

Say

In this session, we shall learn about the importance of the effect and benefit of timely actions, the importance of teamwork and its effects, proper and effective communication and its adverse effects, effective communication skills while interacting with various stakeholders, etc.

Demonstrate

Use a projector and show the following link- https://www.youtube.com/watch?v=sEzTXTRo9L4 to participants on how to build effective communication skills.

Ask

- Does anyone know the Cs of effective communication?
- Why do you think it is important for a construction painter and decorator to learn about effective communication?

Elaborate

In this unit, we will discuss the following topics:

- Effective communication
- Teamwork

- Interpersonal Conflicts

Roleplay Activity

- **Purpose:** The purpose of this activity is to help students understand and practice effective communication skills.
- **Resources Required:** Whiteboard, markers, printed scenarios, timer, and notebooks.
- **Tentative Duration:** 60 minutes
- **Procedure:**
  1. Introduce the importance of communication.
  2. Provide communication scenarios to small 4-5 groups.
     Scenario 1: Safety Briefing for New Workers
     You are the site supervisor on a construction project, and several new workers have joined the team. The challenge is to conduct a safety briefing for the new workers, ensuring they understand the potential hazards on the site, safety protocols, and the proper use of personal protective equipment (PPE).

     Scenario 2: Communicating Changes in the Construction Plan
     During a construction project, unexpected challenges arise, leading to changes in the initial plan. As the project manager, you need to communicate these changes to the entire construction team effectively, addressing their concerns and ensuring everyone is on the same page to avoid delays and confusion.
  3. Groups discuss and come up with solutions.
  4. Groups perform role-plays of scenarios.
  5. Provide feedback after each role-play.

  Note: Trainer can introduce more similar scenarios
- **Expected outcome:** By the end of this practical activity, students are expected to achieve the following:
  1. Improved understanding of effective communication.
  2. Application of knowledge in real-life scenarios.
  3. Ability to adapt communication style.
  4. Enhanced collaboration and teamwork.
  5. Increased confidence in communication skills.

Notes for facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand effective communication at the workplace- https://youtu.be/V1RQG1nB4Kg
- Ask the participants if they have any questions.

Notes

Unit 6.2 Working Effectively and Maintaining Discipline at Work

Unit Objectives

By the end of this unit, participants will be able to:

- Discuss how to take initiative in resolving issues among co-workers in a given situation.
- Discuss reporting procedure followed at the workplace.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computers, projectors, flipcharts etc.
- PowerPoint slides, pictures/posters depicting effective interaction and communication at the workplace.

Say

In this session, we shall learn about working effectively and maintaining discipline at work.

Ask

- Why is creating a healthy and cooperative work environment important within gangs of workers on a construction site?
- Why is adhering to safety standards crucial for co-workers in a construction project? What are the potential consequences of neglecting safety?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Importance of Healthy Work Environment
- Techniques, Materials, Tools, Safety
- Effective Communication and Impact
- Supporting Co-Workers

- Timely Handover to Interfacing Teams
- Synchronized Work Approach

Activity 1

- **Topic:** Co-Worker Support Relay
- **Purpose**: This activity is designed to promote teamwork and the importance of supporting co-workers facing challenges in a construction environment.
- **Resources**:
  - Cones or markers.
  - Blindfolds (optional).
  - Various construction-related objects (tools, materials, etc.).
- **Tentative Duration**: 30-45 minutes
- **Procedure**:
  - Preparation:
    - Set up a course area with cones or markers to create a clear path.
    - Place different construction-related objects along the path.
  - Introduction:
    - Briefly discuss the significance of supporting co-workers in a construction team and how it contributes to smoother operations.
  - Divide into Teams:
    - Divide participants into teams of equal size.
  - Explanation of the Relay:
    - Explain the relay race concept: Each team member will take turns being blindfolded (if using blindfolds) and guided by their teammates through the course to collect specific objects.
  - Teammate Support:
    - One team member wears a blindfold (if using blindfolds).
    - Other team members guide the blindfolded teammate using verbal instructions.
    - The objective is to navigate the course and collect designated objects.
  - Rotating Roles:
    - After completing the course, rotate roles within the team, so each participant gets a chance to be blindfolded and guided.
  - Debrief and Discussion:
    - Gather participants and discuss the experience.
  - Ask questions:
    - How did you feel while blindfolded and relying on your team's guidance?
    - How important was effective communication during the activity?
    - How does this activity relate to supporting co-workers in a construction setting?
  - Learning Points:
    - Emphasize the value of clear communication, trust, and teamwork.
    - Discuss how supporting each other enhances efficiency and prevents errors in real work scenarios.
  - Reflect and Share:
    - Encourage participants to share their thoughts on how they can apply the lessons learned from the activity to their daily work interactions.
- **Expected Outcome**: This activity will help participants experience the challenges of relying

on their teammates' support and reinforce the importance of cooperation and effective communication. It also encourages problem-solving and teamwork, essential skills in a construction environment

Say

Did you find this activity interesting? Can you see how much information you had previously and how much information you have now?

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic:
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 6.3 Maintaining Social Diversity at Work

Unit Objectives

By the end of this unit, participants will be able to:

- 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.
- 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.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computers, projectors, flipcharts etc.
- PowerPoint slides, pictures/posters depicting inclusivity practices at workplace.

Say

In this session, we shall learn about concept of gender equality, disability and gender Issues and cultural diversity.

Ask

- Why is creating a healthy and cooperative work environment important within gangs of workers on a construction site?
- Why is adhering to safety standards crucial for co-workers in a construction project? What are the potential consequences of neglecting safety?
- Can you share a personal experience or example where effective teamwork and cooperation led to the successful completion of a construction task?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Gender Equality
- Disability and Gender Issues
- Cultural Diversity
- Gender-neutral practices
- Organizational policy

Activity 1

- **Topic:** Diversity Role-Play
- **Purpose**: This activity aims to enhance participants' understanding of gender equality, disability awareness, cultural diversity, and professional behavior through interactive role-play scenarios.
- **Resources**:
    - Scenario cards (prepared in advance) depicting various workplace situations.
    - Props for role-play (optional).
- **Tentative Duration**: 30-45 minutes
- **Procedure**:
    - Preparation:
        - Prepare scenario cards that reflect real-life workplace situations related to gender, disability, cultural diversity, and professionalism.
        - Create a diverse range of scenarios that require participants to respond to various challenges.
    - Introduction:
        - Start by discussing the importance of sensitivity to gender equality, disability, and cultural diversity in the workplace.
        - Briefly explain the activity and its goals.
    - Group Formation:
        - Divide participants into small groups.
    - Scenario Role-Play:
        - Distribute scenario cards to each group. Each scenario should involve challenges related to the topics covered in the learning objectives.
        - Instruct each group to read and discuss the scenario, assigning roles for each group member.
    - Role-Play:
        - Groups take turns performing their role-plays based on the scenarios assigned.
        - Encourage participants to immerse themselves in their roles and respond authentically.
    - Discussion:
        - After each role-play, open the floor for a discussion.
    - Ask questions:
        - How did the group handle the situation?
        - What aspects of gender equality, disability awareness, or cultural diversity were addressed?
        - Were there any challenges or dilemmas faced during the role-play?

- Alternate Responses:
  - For each scenario, have different groups present alternative responses to showcase diverse ways of addressing the challenges.
- Debrief and Reflection:
  - After all role-plays are performed, facilitate a debriefing session.
  - Discuss insights gained, lessons learned, and potential improvements in handling similar situations.
- Link to Learning Objectives:
  - Relate the role-play scenarios to the key learning objectives, highlighting how each scenario reflects real-world challenges.

- **Expected Outcome**: This activity encourages participants to apply their knowledge of gender equality, disability awareness, cultural diversity, and professionalism in practical scenarios. It promotes empathy, critical thinking, and collaborative problem-solving while reinforcing the importance of respectful and inclusive behavior in a diverse workplace.

Say

Did you find this activity interesting? Can you see how much information you had previously and how much information you have now?

Do

- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic:
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

Key Solutions to PHB Exercise

1)

The communication process refers to the steps involved in the exchange of information, ideas, thoughts, or messages between individuals or groups. It is a dynamic process that involves a sender, a receiver, a message, and various channels to convey the information effectively.

2)

Scenario: Once miscommunication arose between the client and the painting contractor regarding the choice of paint colors for each room. The client had verbally communicated their preferences, assuming the contractor understood. However, the contractor's interpretation differed, leading to the wrong colors being applied. This resulted in dissatisfaction and delays.

To prevent such issues in the future, clear written communication is essential. Both parties should exchange emails or messages specifying the chosen colors, finishes, and any other details. Visual aids like color swatches or digital mock-ups can also help ensure a shared understanding. Regular checkpoints during the project can address any emerging discrepancies before they escalate into problems.

3)

Active listening is a critical skill at a construction site as it lays the foundation for effective communication, promotes safety, and fosters a cohesive and productive work environment. Construction projects involve numerous tasks, complex instructions, and potential hazards, making it essential for workers to actively listen and comprehend information accurately.

4)

a. PPE (Personal Protective Equipment): Ensure proper use of safety goggles, respirators, gloves, and coveralls.
b. Ventilation: Maintain good air circulation with open windows, doors, and exhaust fans.
c. Training: Provide comprehensive training on techniques, equipment, and safety protocols.
d. Equipment Inspection: Regularly check and maintain painting tools and equipment.
e. Fall Protection: Use appropriate harnesses and lanyards when working at heights.
f. Emergency Procedures: Establish clear protocols for emergencies and contacts.
g. First Aid Kits: Keep well-equipped first aid kits on-site and train workers in basic first aid.
h. Safe Storage: Properly store paints, chemicals, and flammables.
i. Communication: Encourage open communication between all team members.
j. Work Area Organization: Maintain clean and organized workspaces.
k. Risk Assessment: Conduct thorough pre-project risk assessments.
l. Safety Audits: Regularly review and improve safety measures.
m. Hygiene: Promote proper handwashing and personal hygiene.
n. Hazard Communication: Clearly label hazardous materials and provide MSDS.

o. Fire Safety: Ensure fire extinguishers are accessible and workers understand their use.

p. Personal Accountability: Foster a culture of individual responsibility for safety.

q. Disposal: Follow proper guidelines for waste materials.

r. Regulatory Compliance: Adhere to local safety regulations and guidelines.

5)

To enhance gender equity, one should:

a. Follow gender-neutral practices at all levels at work.

b. Participate together in decision-making.

c. Help in promoting women's participation in different forums.

d. Assist women in getting exposure to relevant skills and practices.

e. Assist women in capacity building by mentoring, coaching or motivating them, as appropriate.

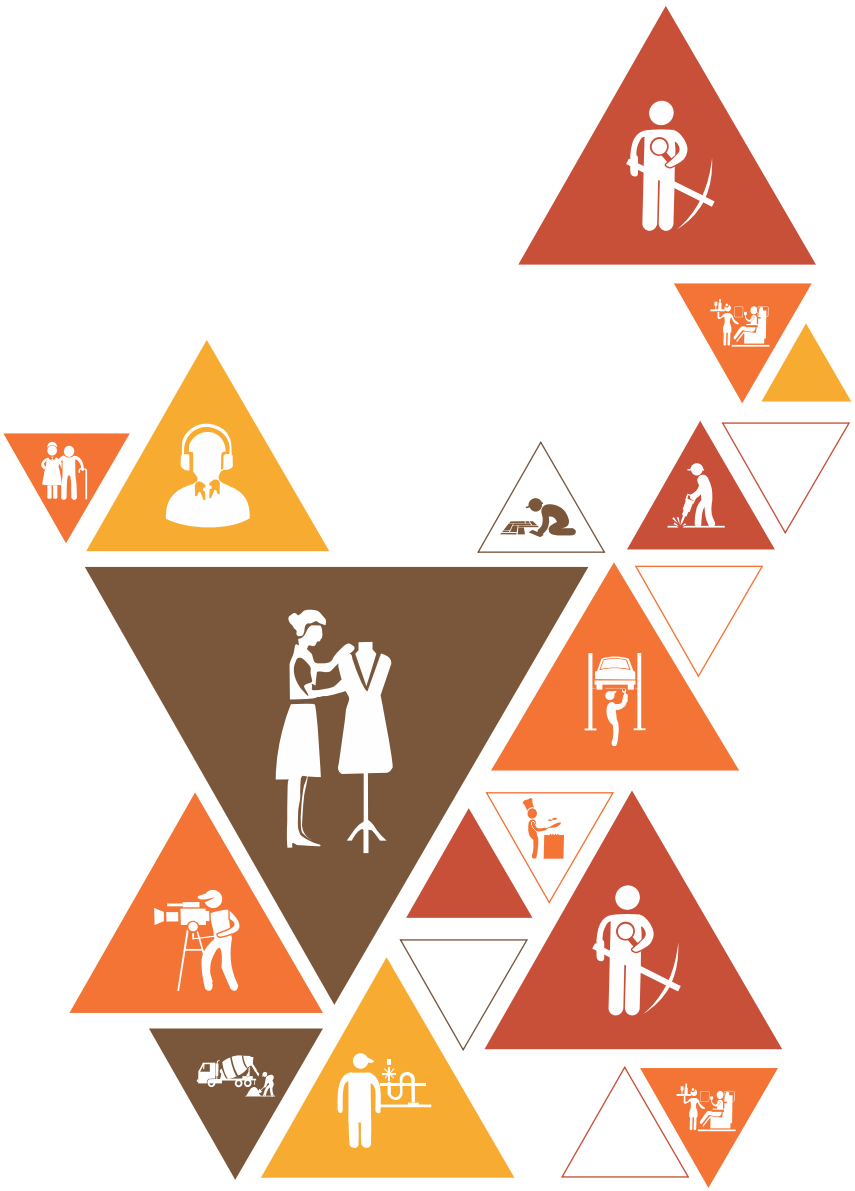
f. Assist in the formation and operation of women support groups.

g. Assist in the implementation of women-centric programmes.

h. Combine technical training with reproductive health and nutrition for coffee farming households.

i. Assist in making a work environment that is healthy, safe, and free from discrimination.

Notes



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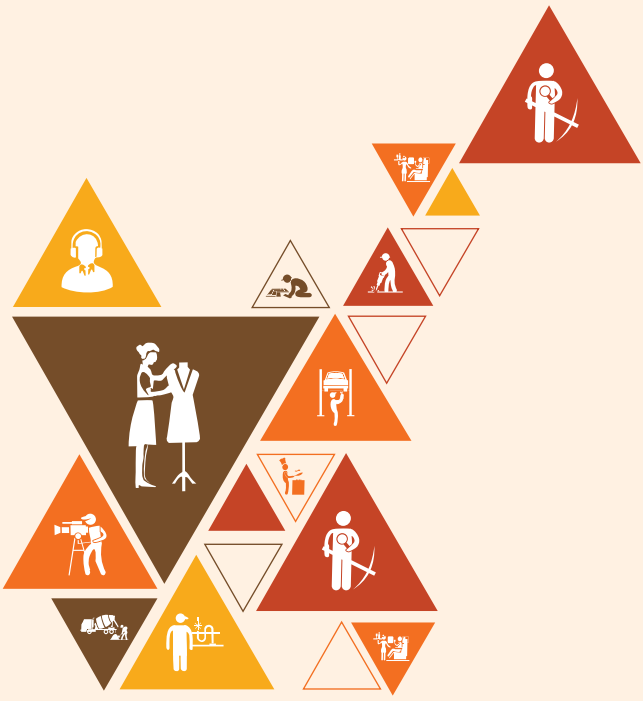
7. Work according to Personal Health, Safety and Environment Protocols at Construction Site

Unit 7.1 – Hazards and Emergency Situations

Unit 7.2 - Safety Drills, PPEs and Fire Safety

Unit 7.3 - Hygiene and Safe Waste Disposal Practices

Unit 7.4 - Infectious Disease and Its Cure



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Key Learning Outcomes

- Explain the importance of following safety norms as defined by the organization.
- Explain the need to adopt healthy & safe work practices.
- Describe the process of implementing good housekeeping and environment protection process and activities.
- Explain the importance of following infection control guidelines as per applicability.

Unit 7.1 Hazards and Emergency Situations

Unit Objectives

By the end of this unit, participants will be able to:

- Understand the types of hazards at the construction sites and identify the hazards specific to the domain related works.
- Recognize the safety control measures and actions to be taken under emergency situations.
- Know the reporting procedure to the concerned authority in case of emergency situations.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computers, projectors, flipcharts etc.
- PowerPoint slides, pictures/posters depicting the types of hazards at the construction sites, use of PPEs as per work requirements during the construction painting job, etc.

Say

In this session, we shall learn about the importance of the types of hazards at the construction sites and identify the hazards, standard procedure for handling, storing and stacking of material, tools, equipment and accessories, PPEs as per work requirements during construction painting jobs, safety control measures and actions to be taken under an emergency situation, the types and benefits of basic ergonomic principles, etc.

Ask

- Does anyone know the types of hazards at the construction sites?
- Why do you think it is important to use PPEs as per work requirements during construction jobs?

Elaborate

In this unit, we will discuss the following topics:

- Workplace Safety
- Workplace Safety at Construction Site
- Workplace Hazards
- Workplace Hazard at Construction Site
- Hazard Identification and Risk Assessment (HIRA)
- Workplace Warning Signs
- Personal Protective Equipment
- Basic Ergonomic Principles

- Emergency Response Plan for Construction Site

Roleplay Activity

- **Purpose:** The purpose of this practical activity is to educate students about the importance of Personal Protection Equipment (PPE) used at construction sites.
- **Resources Required:** Various PPE (e.g., hard hat, safety goggles, earplugs, dust masks, reflective vests, gloves, and safety boots), hazard posters, and safety guidelines.
- **Tentative Duration:** 60-90 minutes
- **Procedure:**
  1. Introduction: Discuss workplace safety and PPE's significance.
  2. Hazard Awareness: Identify construction site hazards.
  3. Set up stations with examples of different types of PPE.
  4. Divide the students into groups and assign each group to a station.
  5. Instruct each group to inspect the PPE, discuss its purpose, and identify the types of hazards it protects against.
  6. Allow students to try on the PPE to experience how it fits and functions.
  7. Gather the students for a recap of the key points learned during the activity.
  8. Encourage questions and facilitate a Q&A session to address any remaining doubts.

- **Expected outcome:** The participants will understand PPE's importance, recognize hazards, and know how to use various PPE correctly.

Notes for facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topics
- Arrange audio-visual aids for a better understanding of the topics.
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Notes

Unit 7.2 Safety Drills, PPEs and Fire Safety

Unit Objectives

By the end of this unit, participants will be able to:

- Explain the classes of fire and types of fire extinguishers.
- Demonstrate the operating procedure of the fire extinguishers.
- Explain the importance of participation of workers in safety drills.
- List out basic medical tests required for working at construction site.
- Explain the purpose and importance of vertigo test at construction site.
- Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites.
- Demonstrate use of PPEs as per work requirements.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computers, projectors, flipcharts etc.
- PowerPoint slides, pictures/posters depicting the steps in safety drills, different methods involved in providing First aid to the affected person, safe waste disposal practices followed at construction site, etc.

Say

In this session, we shall learn about the importance of housekeeping works, purpose and importance of vertigo test at construction site, basic medical tests required for working at construction site, different methods involved in providing First aid to the affected person, safe waste disposal practices, etc.

Ask

- Why do you think the safe housekeeping practices are important at construction site?
- Can you tell me how should the construction waste disposed of?

Elaborate

In this unit, we will discuss the following topics:

- Safety, Health and Environment at Work Place
- Good Housekeeping
- Safety Drills at Construction Site

- Medical Examination for Construction Workers
- Vertigo Test
- First Aid
- Treating Minor Cuts and Scrapes
- Waste Management

Roleplay Activity

- **Purpose:** The participant will learn more about the first aid kits in this activity.
- **Resources Required:** Computer, internet.
- **Tentative Duration:** 1 Hour
- **Process:**
  1. Divide participants into 5 groups and provide them with first aid kit essentials.
  2. Ask them to surf the internet and explain the usage of each item included in the kit.
  3. Alternatively show them a video about the usage and ask them to make notes.
  4. Also, provide them cardboard, paper, scissors, glue stick, and colour pens to make the first aid box.
- **Estimated Outcome:** The participants will have detailed knowledge about first aid kits.

Notes for facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topics
- Arrange audio-visual aids for a better understanding of the topics.
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Unit 7.3 Hygiene and Safe Waste Disposal Practices

Unit Objectives

By the end of this unit, participants will be able to:

- Follow the practices to maintain personal hygiene, workplace hygiene and site/ workplace sanitization
- Understand the importance of housekeeping works
- Keep an eye on safe housekeeping practices
- Understand different types of waste at construction sites and their disposal method
- Know safe waste disposal practices followed at construction site

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computers, projectors, flipcharts etc.
- PowerPoint slides, pictures/posters related to prioritization of tasks, strategic planning, Recognition and arrangement of resources.

Say

In this session, students will learn about maintaining hygiene and sanitation, understanding housekeeping's significance, practicing safe waste disposal, and implementing effective site organization for construction safety and efficiency.

Ask

- Why do you think maintaining hygiene and sanitation is crucial on construction sites? What potential risks or challenges can arise from neglecting these practices?

Elaborate

In this unit, we will discuss the following topics:

- Hygiene and Sanitization Practices
- Importance of Housekeeping
- Safe Housekeeping Practices
- Types of Waste at Construction Sites
- Waste Disposal Methods
- Safe Waste Disposal Practices at Construction Sites

Activity

- **Topic**: Waste Sorting and Disposal Simulation

- **Purpose:** Allow students to experience and understand the importance of proper waste disposal methods at construction sites.
- **Resources Required:**
  - Variety of paint colors and types
  - Different types of brushes, rollers, and painting tools
  - Sample walls or surfaces for painting
  - Timer or stopwatch
  - Cost calculation sheets
- **Tentative Duration:** 45 minutes
- **Procedure:**
  - Introduction
    - Explain the importance of responsible waste disposal in construction to minimize environmental impact and ensure safety.
    - Briefly discuss different types of waste commonly found at construction sites.
  - Waste Sorting Challenge
    - Distribute gloves and masks to each participant.
    - Place the bins labeled with waste categories in a visible area.
    - Provide a mix of waste materials to the participants.
    - Instruct participants to sort the waste materials into the appropriate bins based on their category.
  - Discussion and Reflection
    - After sorting, gather the participants and discuss the challenges they faced during the activity.
    - Reflect on the significance of proper waste sorting in terms of recycling, safety, and environmental impact.
  - Waste Disposal Methods
    - Present different waste disposal methods, such as recycling, reusing, and proper disposal, and their implications.
    - Discuss why following correct disposal methods is crucial in construction projects.
  - Application and Takeaways
    - Ask participants to share their insights on how the activity relates to real construction site waste management.
    - Emphasize the importance of responsible waste disposal practices in their future careers.
- **Expected outcome:** Participants will gain practical experience in sorting and understanding the various types of waste at construction sites. They will also comprehend the significance of adhering to proper waste disposal methods for safety, environmental preservation, and regulatory compliance. This activity will promote awareness and responsible behavior regarding waste management in construction settings.

Notes for facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand effective communication at the workplace
- Ask the participants if they have any questions.

Notes

Unit 7.4 Infectious Disease and Its Cure

Objectives:

By the end of this unit, participants will be able to:

- List different types of infectious diseases that can spread/ originate at a construction site
- Discuss the ways of transmission of various infectious disease.
- Explain the methods to check the spread of the infectious disease.
- Describe the symptoms and cure of the various infectious disease.
- Demonstrate the procedure to report to the concerned authority regarding the outbreak/ hazard of any infectious disease/ pandemic.

Resources to be used

- Available objects such as whiteboard, duster, marker, notepad, pens, participant handbooks, computer, projector, flipcharts etc.
- PowerPoint slides, pictures/ posters depicting various information about the tools and instruments used in surveying.

Say

In this session, we shall learn about infectious diseases in construction sites, including types, transmission, prevention, symptoms, treatments, and reporting procedures.

Ask

- Have you ever used any surveying tools or instruments before? If so, which ones?
- Do you think surveying tools have changed much with advancements in technology? How?

Notes for Facilitation

- Initiate the session with the participants by discussing the objectives of the module.
- Make the session interactive by asking the participants to share their expectations from the module on the blackboard/whiteboard.
- Introduce the topics to be covered and give some information about them.
- Give the participants a general idea about what will be covered in the module.

Elaborate

- Types of Infectious Diseases
- Transmission Methods
- Disease Prevention
- Symptoms and Treatment

- Reporting Procedures

Activity

- **Topic**: Infectious Disease Prevention Simulation
- **Objective**: This interactive simulation activity is designed to engage participants in a hands-on experience that reinforces the importance of infectious disease prevention measures at construction sites.
- **Materials Needed:**
    - Mock construction site setup (can be a scaled-down model or simulated site)
    - Simulated infectious disease agent (e.g., harmless colored powder)
    - Hand sanitizers, gloves, masks, and disinfectant wipes
    - Construction safety gear (hard hats, vests, goggles)
    - Information posters on disease prevention
- **Duration**: Approximately 60-90 minutes, depending on the complexity of the simulation.
- **Procedure**:
    - Introduction (10 minutes):
        - Begin by explaining the purpose of the activity and its relevance to construction site safety.
        - Briefly discuss the potential risks of infectious diseases in construction.
    - Simulation Setup (15 minutes):
        - Set up the mock construction site with various workstations and tools.
        - Introduce the simulated infectious disease agent (e.g., colored powder) as a representation of a contagious substance.
    - Safety Briefing (10 minutes):
        - Provide participants with construction safety gear, including hard hats, vests, goggles, gloves, and masks.
        - Emphasize the importance of wearing and using the gear correctly.
    - Simulation (20-30 minutes):
        - Instruct participants to perform various construction tasks while being exposed to the simulated infectious disease agent.
        - For example, participants might need to move materials, assemble structures, or conduct inspections.
        - During the simulation, introduce scenarios that demonstrate how infectious diseases can spread in a workplace.
    - Hand Hygiene and Safety Measures (10 minutes):

        - Pause the simulation to emphasize the importance of hand hygiene and other safety measures.
        - Provide hand sanitizers, gloves, masks, and disinfectant wipes.
        - Encourage participants to clean their hands and follow safety protocols.
    - Discussion (10 minutes):
        - After the simulation, gather participants for a group discussion.
        - Ask them to share their observations and experiences during the exercise.
        - Discuss how the simulated disease spread and how it could have been prevented.
    - Review and Information (5 minutes):
        - Review key takeaways regarding infectious disease prevention at construction sites.
        - Display information posters with safety guidelines and reminders.
    - Conclusion (5 minutes):
        - Summarize the main points of the activity and its relevance to real construction site scenarios.
        - Encourage participants to apply what they've learned in their work.

- **Expected Outcomes:**

  This interactive simulation activity will help participants grasp the importance of infectious disease prevention measures in a construction site context. It promotes hands-on learning, safety awareness, and reinforces the significance of proper hygiene and safety protocols to reduce the risk of disease transmission.

Do ☑

- Summarize the key takeaways from the activity.
- Encourage students to reflect on their experiences and share their insights.
- Discuss the challenges and lessons learned during the activity.
- Conduct a question-and-answer session to address any queries or concerns.
- Jot down the crucial points on the whiteboard as the students speak.
- Share your input and insight to encourage the students and add onto what they talk about.
- Ensure that all students participate in the class.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

Key Solutions to PHB Exercise

1.

a. Physical Hazards
b. Electrical Hazards
c. Fire and Explosion Hazards
d. Vehicle-Related Hazards
e. Chemical Hazards
f. Psychosocial Hazards

2.

a. Assess the Situation
b. Activate the Alarm
c. Call Emergency Services
d. Provide Essential Information
e. Notify On-Site Personnel
f. Follow the Construction Site's Emergency Response Plan
g. Cooperate with Authorities
h. Inform Contractors or Site Management
i. Document the Incident
j. Review and Improve Procedures

3. The basic principles of first aid involve assessing the situation, ensuring safety, and providing timely assistance to injured or ill individuals. Employees can be trained in administering first aid through certified training programs that cover topics such as CPR, wound care, and handling medical emergencies. These training programs typically include hands-on practice, simulations, and theoretical instruction to equip employees with the skills and knowledge needed to respond effectively in emergency situations.

3. Fire safety measures at a construction site include maintaining clear pathways, proper storage of flammable materials, and ensuring functional fire alarms. Employees should be trained in using fire extinguishers and understanding evacuation routes. In the event of a fire, swift evacuation to designated assembly points while avoiding elevators and following site-specific emergency protocols is crucial.

3. Importance of PPE in Construction:

- Safety
- Compliance
- Productivity

Care and Maintenance of PPE:

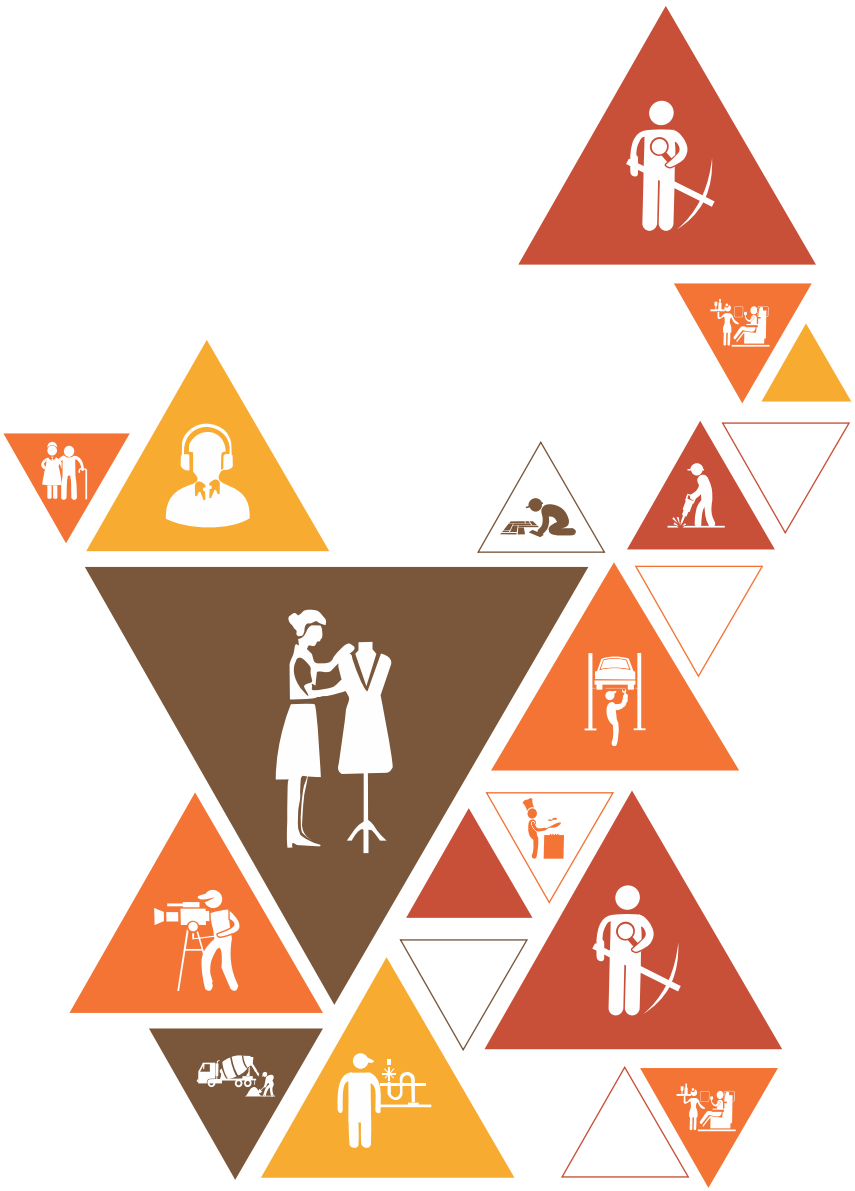
- Regular Inspection
- Cleaning
- Storage
- Replacement
- Training

4. Good housekeeping practices be effectively implemented at a construction site by:

    i. Clearing walkways.
    ii. Regular clean-ups.
    iii. Proper waste disposal.
    iv. Tool organization.
    v. Material segregation.
    vi. Accessible emergency points.
    vii. Clear signage.
    viii. Worker training.
    ix. Supervision.
    x. Continuous improvement.

5. Safe waste disposal practices that should be followed in the construction industry are:

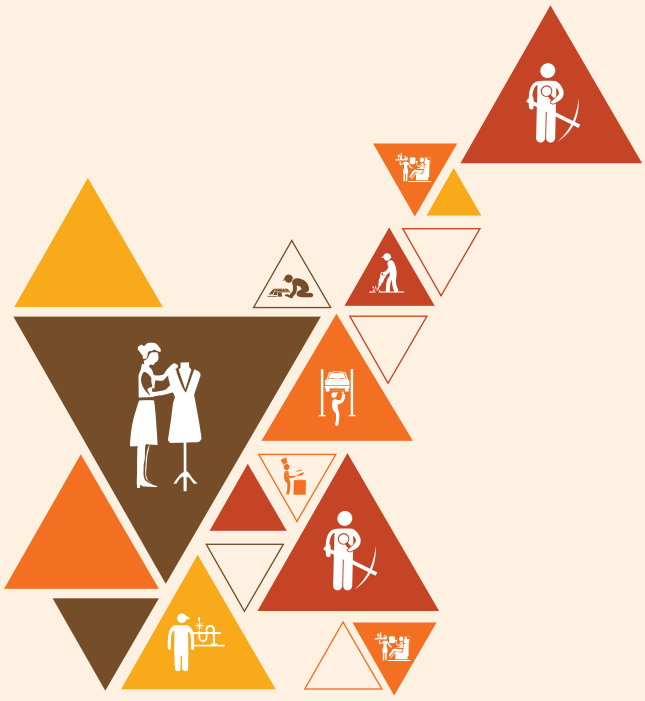
    a. Segregate waste (hazardous, recyclable, and non-recyclable).
    b. Use proper containers.
    c. Store waste in designated areas.
    d. Follow local regulations and obtain permits.
    e. Use authorized waste disposal services for hazardous waste.
    f. Maximize recycling of materials like concrete and metals.
    g. Maintain disposal records.
    h. Educate workers on waste handling.
    i. Regularly inspect waste storage areas.
    j. Establish emergency response procedures.



8.Employability Skills (30 Hours)

It is recommended that all trainings include the appropriate Employability skills Module. Content for the same can be accessed

https://www.skillindiadigital.gov.in/content/list



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Notes

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शल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N S
National
Skill Development
Corporation
Transforming the

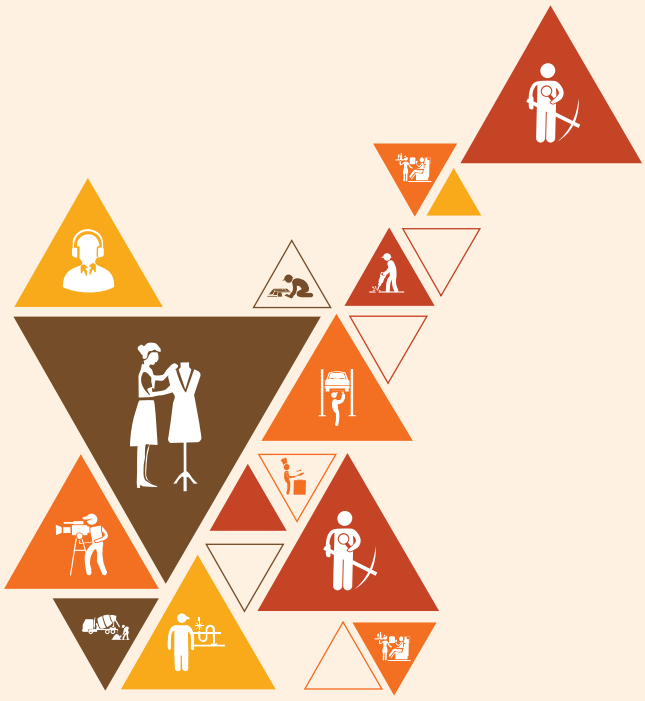
Construction Skill Development Council

Annexures

Annexure I- Training Delivery Plan

Annexure II- Assessment Criteria

Annexure III- QR Codes –Video Links



Annexure I- Training Delivery Plan

Training Delivery Plan			
Program Name:	Assistant Mason		
Qualification Pack Name & Ref. ID	CON/Q0102		
Version No.	3.0	Version Update Date	19/06/2020
Pre-requisites to Training (if any)	Minimum Educational Qualification: Grade 10 Pass OR Grade 8 pass with 2-year of (NTC/ NAC) after 8th OR 9th grade pass with 1-year relevant experience OR 8th grade pass with 2-year relevant experience OR 5th grade pass with 5-year relevant experience OR Previous relevant Qualification of NSQF Level 2 with 3-year relevant experience OR Previous relevant qualification of NSQF Level 2.5 with 1.5 relevant experience		
Training Out-comes	After completing this program, participants will be able to: • Describe the process of erecting and dismantling temporary scaffold up to 3.6-meter height. • Describe the process of using hand and power tools relevant to masonry. • Explain the process of assisting in tiling, stone laying and concrete masonry. • Explain the process of assisting in brick/block work, plastering work, and fixing doors and windows. • Explain the importance of working effectively in a team to deliver desired results at the workplace. • Elucidate ways to work according to personal health, safety and environ-ment protocols at construction site.		

S.no	Module name	Session name	Session objectives	NOS reference	Methodology	Training tools/ aids	Duration
1.	Introduction to the Job Role of an Assistant Mason T- 05:00 (HH: MM)	1. Introduction to Construction Industry	Overview of construction industry	Bridge Module	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 01:00
		2. Role and Responsibilities of Assistant Mason	Explain role and responsibilities of an Assistant Mason. Explain expected personal attributes required from this job role. Discuss future possible progression and career options for Assistant Mason.				T- 04:00

2	Erect and dismantle temporary scaffold up to 3.6 meter height T- 15:00 P- 45:00 (HH: MM)	1. Types of Scaffolds and Their Uses	Explain the use of different types of scaffolds (e.g. cup-lock, frame scaffold).	CON/N0101	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 02:00 P- 05:00
		2. Tools and Tackles in Scaffolding	Explain the use of tools and tackles in scaffolding, including tools for erecting and dismantling a 3.6-meter temporary scaffold.				T- 02:00 P- 05:00
		3. Identifying and Using Scaffolding Components	Elucidate the identification and use of different scaffolding components.				T- 02:00 P- 05:00
		4. Standard Sizes of Scaffolding Components	List the standard size of scaffolding components				T- 02:00 P- 05:00
		5. Erecting and Dismantling 3.6m Temporary Scaffold	Describe the standard procedure for erecting and dismantling a 3.6 m temporary scaffold.				T- 02:00 P- 06:00
		6. Ground Preparation and Leveling for Scaffolding	Explain the process of carrying out leveling in the area where scaffold needs to be erected and check for ground compactness.				T- 02:00 P- 06:00
		7. Erecting a Temporary Scaffold Step-by-Step	Explain the use of appropriate components and follow the standard procedure for erecting a temporary scaffold up to 3.6 m in height.				T- 02:00 P- 06:00
		8. Safety Components and Assembly in Scaffolding	Describe the process of setting up walk-boards, guard rails, toe-boards, and other components on the scaffold's working platform. Explain how to clean and stack all components properly after dismantling.				T- 01:00 P- 07:00

3	Use hand and power tools relevant to masonry T- 15:00 P- 15:00 (HH: MM)	1. Functions and Maintenance of Masonry Tools	Elucidate the functions, use, and maintenance of basic measuring, leveling, manual, and power tools used in masonry. Demonstrate how to check the usability of tools, including the signs of wear and tear. Demonstrate the process of performing minor repair and maintenance of tools and equipment, such as cleaning and oiling.	CON/N0105	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 03:00 P- 03:00
		2. Standard Masonry Practices	Discuss the standard masonry practices.				T- 03:00 P- 03:00
		3. Safety Regulations for Construction Tools and Equipment	Explain the safety regulation concerning the handling and use of construction tools, equipment, and materials.				T- 03:00 P- 03:00
		4. Importance of Personal Protection and Safety Gear	Explain the importance of personal protection and the use of relevant safety gear and equipment.				T- 03:00 P- 03:00
		5. Transferring Levels and Using Basic Leveling Tools	Describe the process of transferring levels using basic leveling devices.				T- 03:00 P- 03:00

4	Assist in tiling, stone laying and concrete masonry T- 45:00 P- 45:00 (HH: MM)	Basics of Sketches for Tiling, Stone Laying, and Concrete Masonry	Explain the use of basic sketches for tiling, stone laying, and concrete masonry.	CON/N0106	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 04:00 P- 03:00
		Principles of Measurement in Masonry Work	Discuss the basic principles of measurement.				T- 04:00 P- 03:00
		Standard Sizes and Maintenance of Masonry Tiling and Concreting Tools	State the standard sizes and maintenance of all masonry tiling and concreting tools.				T- 04:00 P- 03:00
		Selection and Use of Tools for Tiling, Stone Laying, and Concreting	Elucidate how to select and use basic tools for tiling, stone laying, and concreting, such as measuring tape/ruler, hammer, mallet, spade, bolster chisel, wedges, power wet saws, tile scribes or hand-held tile cutters, screeds, floats, shovels, rakes, vibrators, etc.				T- 03:00 P- 04:00
		Techniques for Cutting Tiles and Stones	Describe the techniques and procedures for cutting different types of tiles and stones to size and as per design requirements.				T- 04:00 P- 04:00
		Types and Applications of Different Tiles	Elucidate the types, physical properties, and applications of different types of tiles.				T- 04:00 P- 04:00
		Methods of Preparing Bed Mortar and Cement Slurry	Describe the methods and techniques of preparing bed mortar and cement slurry.				T- 04:00 P- 04:00

		Techniques for Preparing Surfaces in Masonry	Explain the techniques for preparing different surfaces. Explain the importance and process of hacking RCC surfaces.				T- 04:00 P- 04:00
		Proper Tile and Stone Laying Within Tolerance Limits	Explain the importance of tile/ stone laying as per the specifications within the applicable tolerance limits.				T- 04:00 P- 04:00
		Properties of Concrete and Mixing Ratios	List the basic properties of concrete, including weight, slump, etc. Explain how to assess if concrete has been mixed as per the appropriate ratio for site requirements.				T- 03:00 P- 04:00
		Batching, Mixing, and Pouring Concrete for Concreting Work	Describe the process of batching and mixing materials for concreting. Explain how to screed the concrete to correct levels. Explain the appropriate technique for pouring concrete in the form of layers as per the construction site requirements. Explain how to ensure proper curing.				T- 04:00 P- 04:00
		Different Types of PCC Flooring Works	Elucidate different types of PCC flooring works. Explain the uses of different baton strips. Describe the process of brick soling and PCC flooring.				T- 03:00 P- 04:00

5	Assist in brick/ block work, plastering work, and fixing doors and windows T- 35:00 P- 25:00 (HH: MM)	Basics of Masonry, Plastering, Tiling, Concreting, and Stone Installation Works	Explain the basics of masonry, plastering, tiling, concreting, and stone installation works.	CON/N0107	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 04:00 P- 03:00
		Use of Relevant Tools and Equipment in Masonry Work	Explain the use of relevant tools and equipment, such as measuring tape, trowel, mortar pan, hammer, bolster chisel, spade, rubber/wooden hammers, mallets, wedges, jointers, square, plumb bob, straight edge spirit level, water level tube, line thread, volume box, weighing balance, tile scribes or hand-held tile cutters, screeds, floats, power wet saws, electric drills, anglers and grinders, vibrators, wheelbarrow, hand-operated concrete mixer, etc. Explain the use and setting of basic leveling tools, such as plumb bob, spirit level, water level. Describe the process of transferring levels using basic leveling tools.				T- 05:00 P- 04:00
		Techniques for Cutting Different Types of Bricks to Size	Describe the techniques/procedures for cutting different types of bricks to required sizes.				T- 05:00 P- 03:00

		Laying and Fixing Bricks/Blocks with Correct Alignment	Describe the process of laying and fixing brick/blocks in position with correct alignment. Explain different types of bonds in brickwork.				T- 05:00 P- 03:00
		Different Types of Bonds in Brickwork	Elaborate on different types of bonds in brickwork.				T- 04:00 P- 03:00
		Mix of Mortar for Brick/Block and Plastering Works	State different mix of mortar required for brick/block and plastering works.				T- 04:00 P- 03:00
		Techniques for Surface Preparation in Plastering Works	Explain the techniques for surface preparation for plastering works. Explain the importance of hacking RCC surfaces.				T- 04:00 P- 03:00
		Works Door and Window	State the standard size of doors/windows and the types of materials and fittings used in them. Explain how to align the frames and check the holdfast position. Describe the process of anchoring frames to walls and filling the gap between the wall and frames.				T- 04:00 P- 03:00
6)	Work effectively in a team to deliver desired results at the workplace T- 05:00 P- 25:00 (HH: MM	1. Effective communication skills 2. Teamwork 3. Working Effectively and Maintaining Discipline at Work 4. Inclusivity at work	Explain the importance of proper and effective communication and its adverse effects in case of failure of proper communication.	CON/N8001 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 01:30 P- 05:30

			Explain the importance of teamwork and its effects relevant to the task at hand with examples. Discuss how to take initiative in resolving issues among co-workers in a given situation.				T- 01:30 P- 05:30
			Explain the effects and benefits of timely actions relevant to the task at hand with examples. Discuss the basic rules and regulations related to gender sensitivity, disabilities, and cultural diversity, with their impact on operations of a workplace. Discuss reporting procedure followed at the workplace.				T- 01:00 P- 07:00
			Explain the effects and benefits of timely actions relevant to the task at hand with examples. Discuss the basic rules and regulations related to gender sensitivity, disabilities, and cultural diversity, with their impact on operations of a workplace. Discuss reporting procedure followed at the workplace.				T- 01:00 P- 07:00

7	Work according to personal health, safety and environment protocol at construction site T- 05:00 P- 25:00 (HH: MM)	1. Construction Site Hazards	Explain the types of hazards at the construction sites Identify the hazards specific to the painting and decoration work Recall the safety control measures and actions to be taken under emergency situation	CON/N9001 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC10, PC11, PC12, PC13, PC14 KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10, KU11, KU12, KU14	Classroom lecture, games, group participation, group activity, field visit	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop Tools and Equipment Required: Safety Helmets, Face shield, Overalls, Knee pads, Safety shoes, Safety belts, Safety harness, Safety Gloves, Safety goggles, Particle masks, Ear Plugs, Reflective jackets, Fire Extinguisher, Fire prevention kit, First Aid box, Safety tags, Safety Notice board	T- 01:30 P- 06:00
		2. Worker Safety and Health	Explain the classes of fire and types of fire extinguishers Demonstrate the operation of fire extinguisher. Explain the importance of participation of workers in safety drills. List out basic medical tests required for working at construction site. Explain the purpose and importance of vertigo test at construction site. Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites.				T- 01:30 P- 06:00

		3. Hygiene and Safe Waste Disposal Practices	Follow the practices to maintain personal hygiene, workplace hygiene and site/ workplace sanitization Understand the importance of housekeeping works Keep an eye on safe housekeeping practices Understand different types of waste at construction sites and their disposal method Know safe waste disposal practices followed at construction site				T- 01:00 P- 07:00
		4. Infectious Diseases	List different types of infectious disease that can spread/ originate at a construction site Discuss the ways of transmission of the various infectious disease. Explain the methods to check the spread of the infectious disease. Describe the symptoms and cure of the various infectious disease.				T- 01:00 P- 06:00
8.	Employability Skills (30 hours)	1. Introduction to Employability Skills	Describe the importance of Employability Skills Prepare a note on different industries, trends, required skills	DGT/VSQ/ N0101		Whiteboard and Markers Chart paper and sketch pens LCD Projector, Laptop for Presentation, audio visual aids, note pad, paper, pen, computers etc.	01:00
		2. Constitutional values - Citizenship	Detail the principles of the Constitution of India Identify the various environmentally sustainable practices				01:00

		3. Becoming a Professional in the 21st Century	Discuss relevant 21st century skills required for employment. Practice critical thinking and decision making skill		01:00
		4. Basic English Skills	Read English text with appropriate articulation. Practice English words, sentences and punctuation.		02:00
		5. Communication Skills	Explain the importance of communication at workplace. Demonstrate effective communication strategies Demonstrate how to communicate effectively using verbal and non-verbal communication		04:00
		6. Diversity & Inclusion	Explain the need of diversity at workplace Identify the various PwD policies applicable at workplace Discuss the significance of PSH Act		01:00
		7. Financial and Legal Literacy	Discuss various financial institution, products and services Explain the common component of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), Tax		04:00

		8. Essential Digital Skills	Detail the use and features of various MS Office tools, like MS Word, MS Excel, MS PowerPoint, etc. Demonstrate how to operate digital devices Create an email id and follow e-mail etiquette to exchange e -mails Describe the role of digital technology in day-to- day life and the workplace		03:00
		9. Entrepreneurship	Describe the types of entrepreneurship and enterprises Describe the 4Ps of Marketing- Product, Price, Place and Promotion and apply them as per requirement		07:00
		10. Customer Service	Identify types of customers and how to deal with them Identify methods to get customer feedback and how to implement them Explain various tools used to collect customer feedback Discuss the significance of maintaining hygiene and dressing appropriately		04:00

		11. Apprentice-ships and Jobs	Practice personal grooming strate-gies Illustrate the use of online platforms for job hunting Detail the concept of Apprenticeship Demonstrate how to enroll for Apprenticeship programs. Draft a profes-sional Curriculum Vitae (CV) Role play a mock interview				02:00

Annexure II- Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

For updated Assessment criteria please refer to Qualification Pack of this Job role available at

https://www.nqr.gov.in/

Assessment Criteria for CSDCI- Assistant Mason	
Job Role	Assistant Mason
Qualification Pack	CON/Q0102
Sector Skill Council	Construction

S. No.	Guidelines for Assessment
1.	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) 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.
2.	The assessment for the theory part will be based on knowledge bank of questions created by the 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 this criterion
5.	The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6.	The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7.	The trainee shall be provided with a chance to repeat the test to correct their procedures in case of improper performance, with a deduction of marks for each iteration.
8.	After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
9.	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.
10	Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

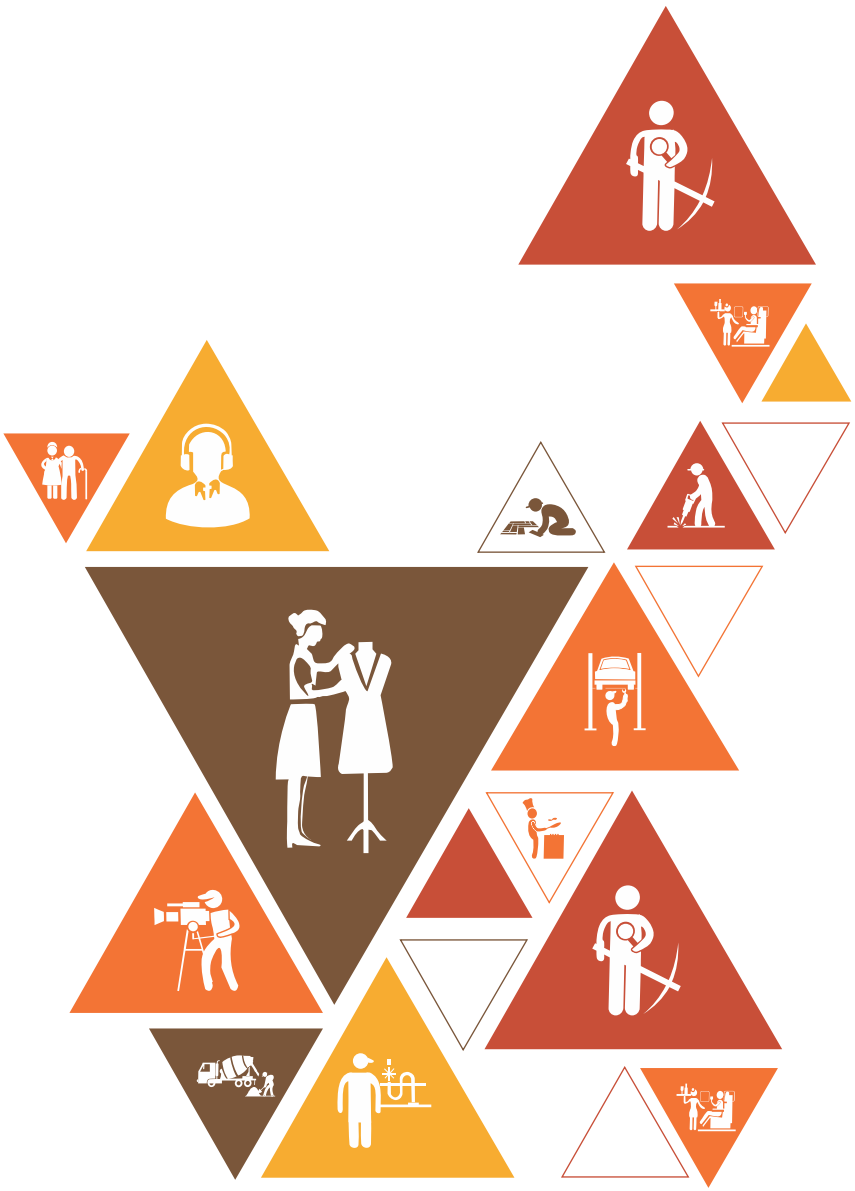
National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0101: Erect and dismantle temporary scaffold up to 3.6 meter height	30	60	-	10	100	20
CON/N0105: Use hand and power tools relevant to masonry	30	60	-	10	100	20
CON/N0106: Assist in tiling, stone laying and concrete masonry	30	60	-	10	100	25
CON/N0107: Assist in brick/block work, plastering work, and fixing doors and windows	30	60	-	10	100	20
CON/N8001.Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	5
CON/N9001.Work according to personal health, safety and environment protocol at construction site	30	70	-	-	100	5
DGT/VSQ/N0101- Employability Skills (30 Hours)	20	30	-	-	50	5
Total	230	470	-	50	750	100

Annexure III- QR Codes –Video Links

Chapter Name	Unit Name	Topic Name	URL	QR Code
Chapter 1: Introduction to the Job Role of an Assistant Mason	UNIT 1.1: Introduction to Construction Industry	Types of Construction	https://youtu.be/1WVzo2U-Fyo8	Types of Construction
	UNIT 1.2: Role and Responsibilities of an Assistant Mason	Role and Responsibilities of an Assistant Mason	https://youtu.be/B82slHh-nUrQ	Role and Responsibilities of an Assistant Mason
Chapter 2: Erect and Dismantle Temporary Scaffolding	Unit 2.1: Basics of Scaffolding	Scaffolding Components Size	https://youtu.be/Qi-GqH-XYo94	Scaffolding
	Unit 2.2: Concept of Conventional Scaffolding	Types of Scaffold	https://youtu.be/YuBFUtGG-cbk	Types of Scaffold
	Unit 2.3: Concepts of Modular Scaffolding Systems	Staging with Cuplock System	https://youtu.be/fIEaRC07D1M	Staging with Cuplock System
	Unit 2.4: Erecting and Dismantling Modular Scaffolding System	Scaffolding Safety Erection and Dismantle Procedure	https://youtu.be/OKawvyUhUkA	Scaffolding Safety Erection and Dismantle Procedure

Chapter 3: Hand and Power Tools Relevant to Masonry	UNIT 3.1: Introduction to Construction Industry	Common Masonry Tools	https://youtu.be/PCVIAvs5c88	Common Masonry Tools
Chapter 4: Assist in Tiling, Stone Laying and Concrete Masonry	Unit 4.1: Assist in Tiling Work and Stone Laying	Types of Tiles	https://youtu.be/HaTprFLx-WoQ	Types of TilesTypes
		Tools used in Tiling Work	https://youtu.be/gKNRXd-Dc514	Tools used in Tiling Work
	Unit 4.2: Assist in Concreting	Concreting Tools	https://youtu.be/r--ZbW03-3E	Concreting Tools
	Unit 4.3: Assist in Brick Soling and PCC flooring	Calculate Number of Bricks Required for Brick Flat Soling	https://youtu.be/rZgJWUUS-jCY	Calculate Number of Bricks Required for Brick Flat Soling

Chapter 5: Assist in Brick/Block Work, Plastering Work, and fixing Doors and Windows	Unit 5.1: Basics of Scaffolding	Types of Brick Bond	https://youtu.be/iyLCRO-5MOWk	Types of Brick Bond
	Unit 5.2: Concept of Conventional Scaffolding	Plastering Tools	https://youtu.be/U_1huBQtD-o	Plastering Tools
	Unit 5.3: Concepts of Modular Scaffolding Systems	Types of Windows	https://youtu.be/CZZCvNQWx-_E	Types of Windows
		Types of Doors and Windows	https://youtu.be/xUW3-luLv28	Types of Doors and Windows



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