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MINISTRY OF SKILL DEVELOPMENT
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Construction Skill Development Council

Facilitator Guide



Sector
Construction

Sub-Sector
Real Estate and Infrastructure Construction

Occupation
Masonry

Brick Mason

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NSQF Level 4

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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.

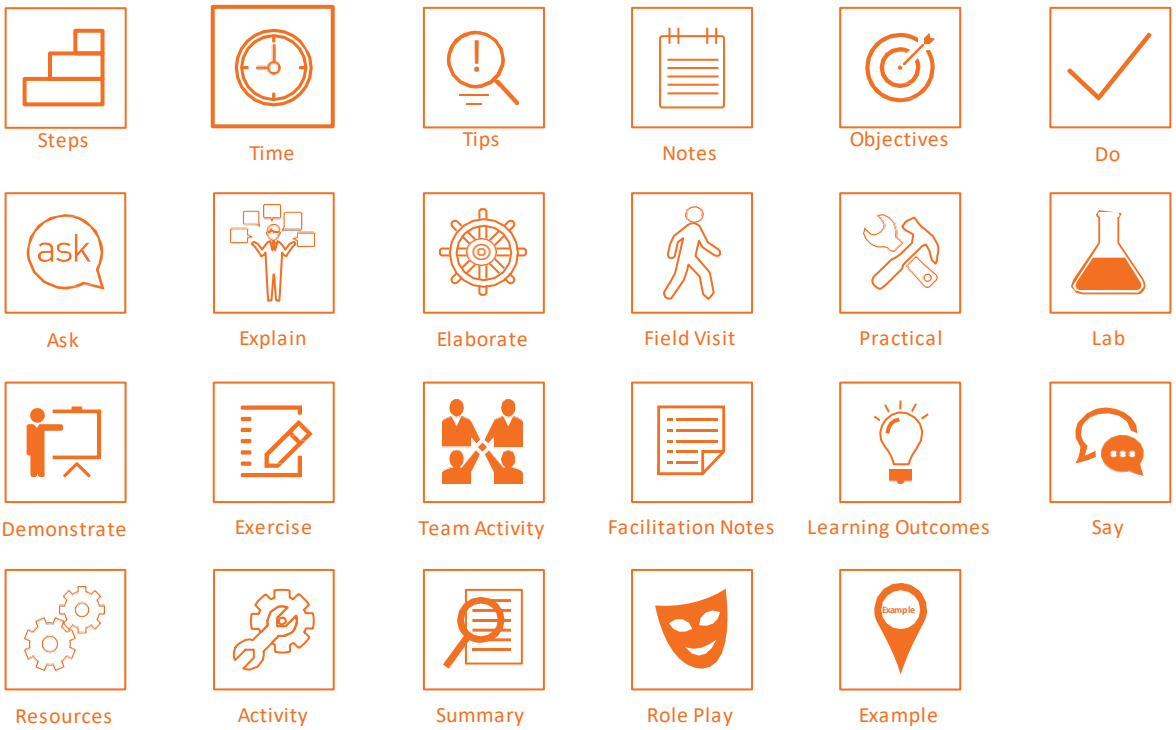
About this book

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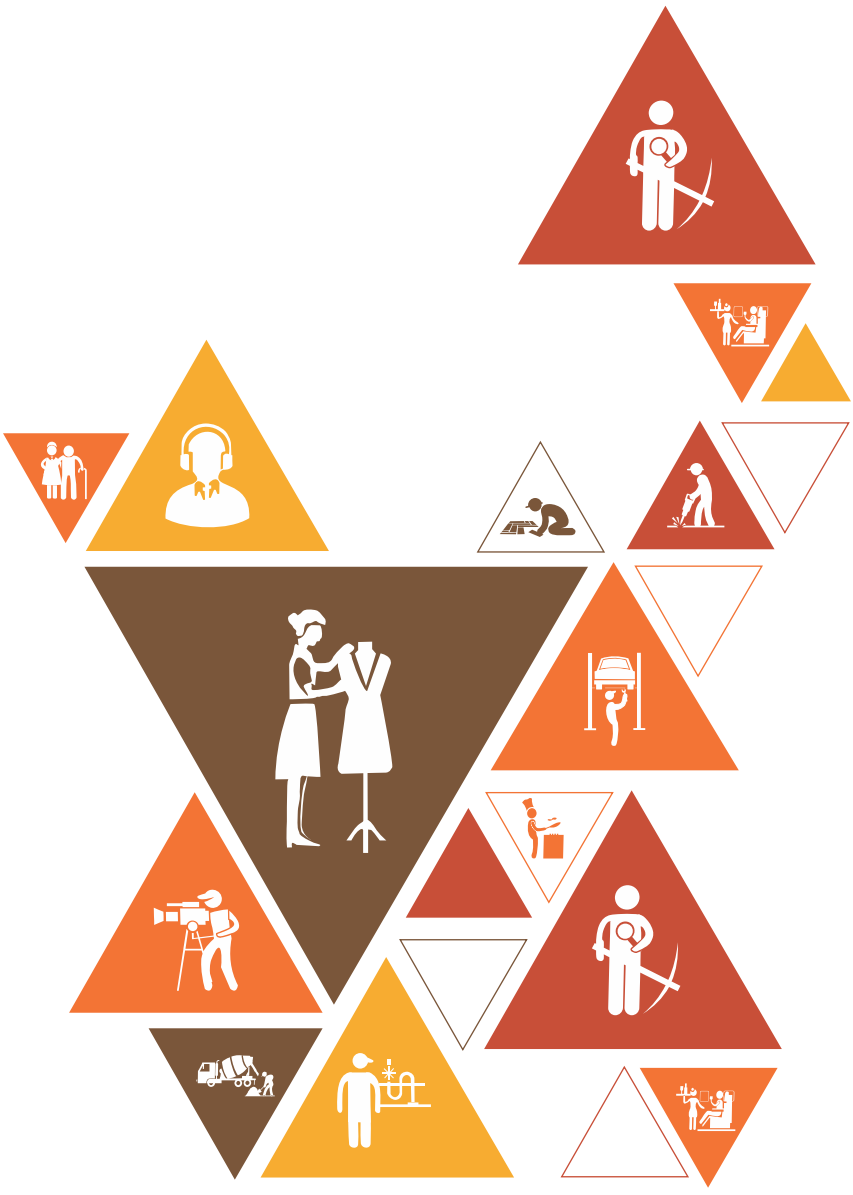
https://www.skillindiadigital.gov.in/content/list



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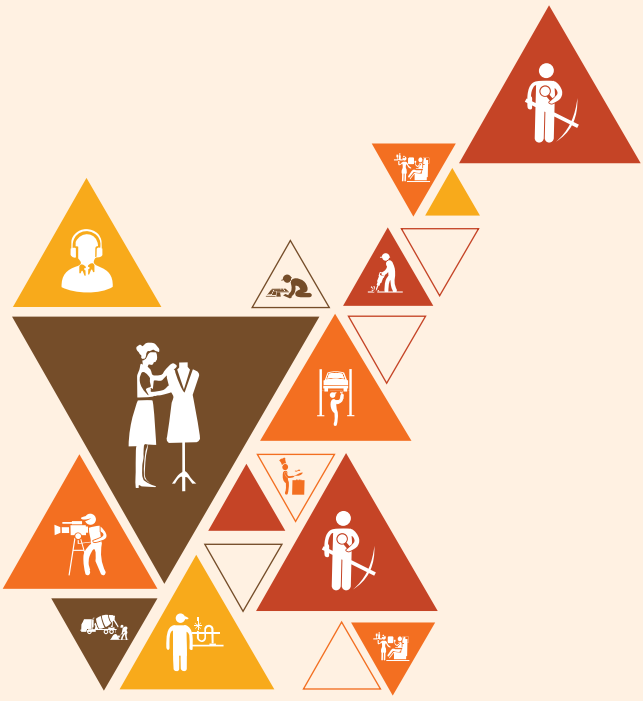
1. Introduction to the Job Role of a Brick Mason

Unit 1.1 Introduction to Construction Industry

Unit 1.2 Role and Responsibilities of a Brick Mason



Bridge Module

Key Learning Outcomes 

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

- Explain the role and responsibilities of Brick Mason.
- Discuss the career progression for the job role for Brick Mason.

Unit 1.1 Introduction to Construction Industry

Unit Objectives

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

- Describe the size and scope of the Construction industry and its sub-sectors.

Resources to be used

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.

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. **Step 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. **Step 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. **Step 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. **Step 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. **Step 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

Did 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.

Summary

- 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 a Brick Mason

Unit Objectives

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

- Describe the role and responsibilities of Brick Mason (general/ plastering).
- Define the personal attributes required in masonry occupation.
- Explain the future possible progression and career development options of a Brick Mason (general/ plastering).

Resources to be used

PowerPoint slides, pictures/posters and videos depicting various information about the roles and responsibilities of a brick mason, personal attributes required in masonry occupation, and career progression of a brick mason.

Say

In this session, we shall learn key facts about the roles and responsibilities of a brick mason, personal attributes required in masonry occupation, and career progression of a brick mason in the construction industry.

Ask

- What do you know about the job role of a construction brick mason?
- Do you know the career opportunities available for a brick mason?

Elaborate

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

- Brick mason and types of masonry
- Roles and responsibilities of a brick mason in general brick masonry and plastering
- Personal attributes required in masonry
- Career progression for a brick mason

Say

Let us now perform an activity based on various career opportunities available for a brick mason.

Activity

- **Purpose:** Familiarize participants with diverse employment opportunities for a brick 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 a brick 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 a brick 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 a brick mason.

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

Say

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

Summary

- Note down the important points related to the role and responsibilities, personal attributes, and career path of a brick 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 role and responsibilities, personal attributes, and career path of a brick mason.
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Exercise

I. Multiple Choice Questions (MCQs)

1. c. Infrastructure development
2. d. Engineering Bricks
3. c. Building structural walls with bricks
4. d. To arrange alternating headers and stretchers for stability
5. d. Safety awareness

II. Fill in the Blanks

1. largest
2. bricks and mortar
3. Flemish
4. Sand
5. manual dexterity

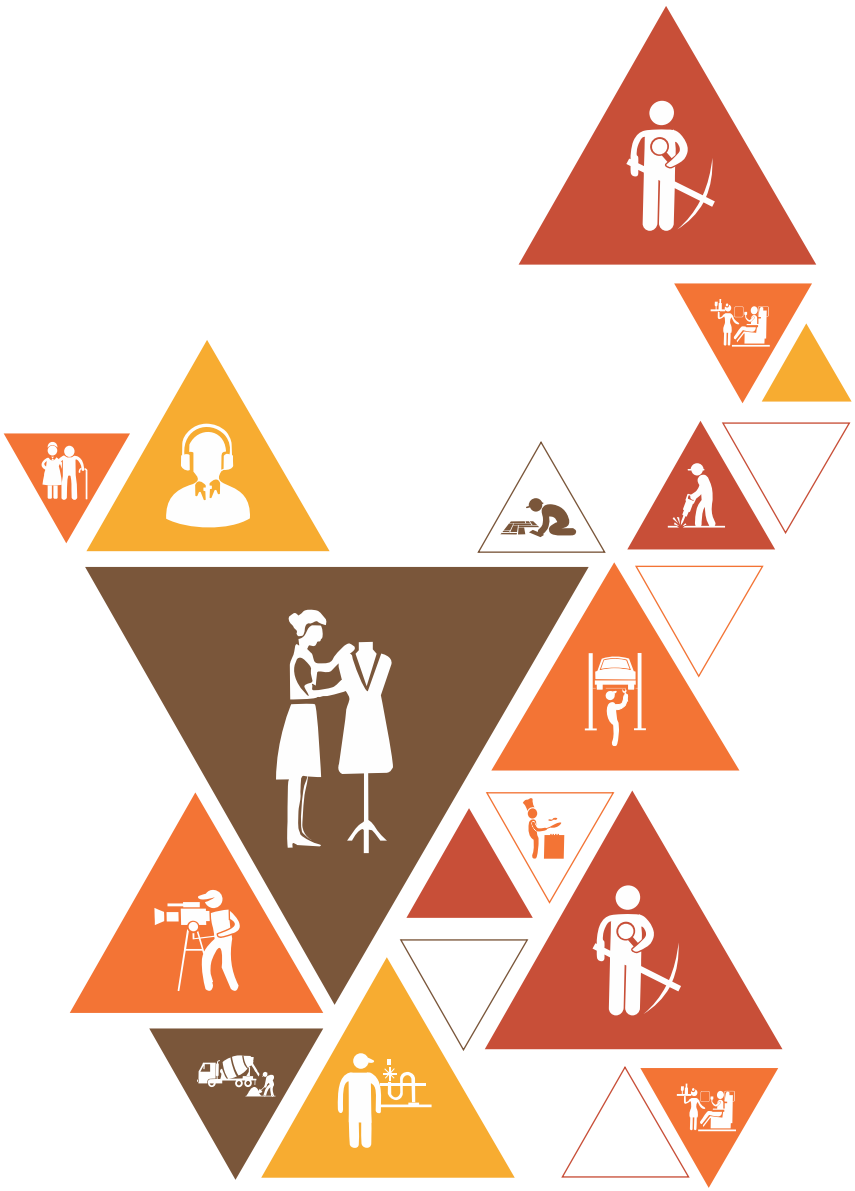
III. Short Answer Questions

1. A brick mason in general brick masonry is responsible for building structures using bricks and mortar. This includes laying bricks in various patterns, ensuring proper alignment and spacing, and using mortar to bond the bricks together. They must also follow construction plans and specifications to create walls, foundations, and other brickwork components in a structurally sound and aesthetically pleasing manner.
2. A brick mason specializing in plastering focuses on applying plaster materials to surfaces to create a smooth and finished appearance. Their primary responsibilities include preparing the surface to be plastered, mixing and applying plaster, ensuring an even and consistent finish, and often adding decorative elements. They may work on both interior and exterior surfaces, including walls and ceilings.
3. Proper surface preparation is crucial in plastering because it ensures a strong bond between the plaster and the substrate (the surface being plastered). This bond is essential for the durability and longevity of the plastered surface. Surface preparation typically involves cleaning the surface, repairing any cracks or imperfections, applying a bonding agent if necessary, and creating a smooth and level base for the plaster. Without proper preparation, the plaster may not adhere well and could lead to defects or failures.
4. Success in the masonry occupation requires several personal attributes, including:
    - Manual dexterity: Masons need excellent hand-eye coordination and the ability to work with precision.
    - Physical stamina: The job can be physically demanding, so good physical fitness is important.
    - Attention to detail: Masons must ensure that their work is precise and meets construction specifications.
    - Safety awareness: Prioritizing safety on construction sites is crucial to prevent accidents and injuries.
    - Adaptability: Masons may need to work in various weather conditions and on different types of projects, so adaptability is key.
    - Teamwork: Collaboration with other construction professionals is common, so being a good team player is important.
5. Career progression for a brick mason specializing in general brick masonry can involve several stages, including:
    - Apprenticeship: Starting as an apprentice to learn the trade and gain hands-on experience.

- Journeyman: After completing an apprenticeship and gaining experience, becoming a journey man brick mason with more responsibilities.
- Foreperson: Progressing to a leadership role as a foreperson, responsible for supervising a team of masons and managing projects.
- Estimator/Project Manager: Transitioning to roles involving project estimation and management, where the focus shifts to project planning, budgeting, and coordination.
- Business Owner: Some experienced brick masons may choose to start their own masonry businesses.
- Specialization: Depending on interests and skills, masons can specialize in areas such as restoration, decorative masonry, or working with specific types of materials.

Career progression often involves gaining additional certifications, expanding skills, and taking on more challenging projects to advance in the field.

Notes



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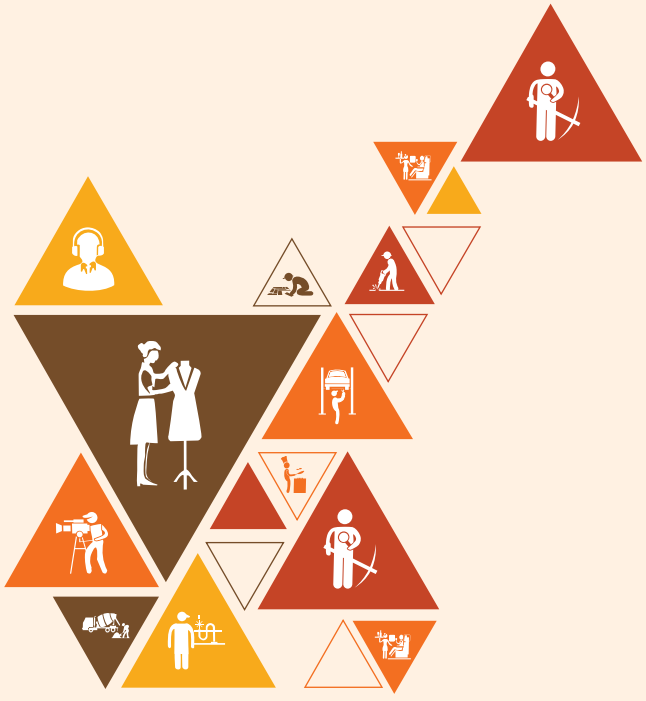
2. Process of Marking the Layout for Brick/Block Works

Unit 2.1 Interpretation of Construction Drawings

Unit 2.2 Marking the Layout for Brick/Block Works



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Key Learning Outcomes

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

- Demonstrate transfer of levels as per drawings/instructions.
- Demonstrate the setting out of the layout as per drawings/instructions.

Unit 2.1 Interpretation of Construction Drawings

Unit Objectives

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

- Interpret the sketches/basic working drawing for brick/block

Resources to be used

PowerPoint slides, pictures/posters and videos depicting various information about the construction drawings (various types), and construction symbols reference materials.

Say

In this session, we shall learn about the construction Drawings, understanding their types, the various lines used, and the essential symbols employed in these drawings.

Ask

- How do construction drawings contribute to the successful execution of a construction project?
- Can you name a few different types of construction drawings?

Elaborate

- Introduction to Construction Drawings
- Importance of Construction Drawings in the Building Process
- Types of Construction Drawings (e.g., architectural, structural, electrical, plumbing)
- Understanding Different Line Types in Construction Drawings
- Interpretation of Symbols in Construction Drawings

Activity 1

- **Topic:** Identifying Symbols in Construction Drawings
- **Purpose:** To familiarize participants with common symbols used in construction drawings.
- **Resources Required:** A collection of construction drawings with symbols, reference materials on construction symbols.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Show participants various construction drawings (architectural, structural, etc.) containing symbols.
    2. Provide a list of commonly used construction symbols.
    3. Ask participants to identify and match the symbols in the drawings with the list.
    4. Discuss the significance of each symbol as they identify them.
- **Expected Outcome:** Participants will gain a better understanding of how to read and interpret symbols in construction drawings.

Say

Have you ever been confused by the symbols in construction drawings before? This activity will help you decode these symbols more effectively.

Activity 2

- **Topic:** Analyzing Different Types of Construction Drawings
- **Purpose:** To explore various types of construction drawings and their roles.
- **Resources Required:** A set of architectural, structural, electrical, and plumbing drawings.
- **Tentative Duration:** 60 minutes
- **Procedure:**
    1. Divide participants into small groups.
    2. Assign each group a different type of construction drawing (e.g., architectural, structural).
    3. Provide a brief overview of the type of drawing assigned to each group.
    4. Ask each group to analyze their assigned drawing and present its key features to the class.
    5. Encourage discussions on how the drawings are interconnected and crucial for project coordination.
- **Expected Outcome:** Participants will gain a deeper understanding of the different types of construction drawings and their significance in construction projects.

Do

- Facilitate discussions among the groups, ensuring everyone has a chance to participate.
- Share your insights and experiences related to construction drawings.

Ask

- How do errors or misinterpretations in construction drawings affect the construction process?
- What steps can be taken to ensure accurate interpretation and implementation of construction drawings?

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand the construction drawings (various types), and construction symbols reference materials.
- 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 Marking the Layout for Brick/Block Works

Unit Objectives

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

- Describe the basic principles of measurement, simple arithmetic's and conversion of units of measurement
- Explain the process of 3-4-5 method.
- Explain the use of levelling instruments like spirit level and water levelling and their setting.
- Explain the process of transferring levels.
- Explain the use of tools for marking of layout and checks for their serviceability.
- Performing checks to confirm workability of tools.
- Demonstrate transfer of levels as per drawings/instructions.
- Demonstrate the setting out of the layout as per drawings/instructions.
- Demonstrate marking of the centre lines of a room by 3-4-5 method
- Demonstrate marking of acute angle, obtuse angle, splayed wall etc.
- Demonstrate the checking of diagonals of a marked square/rectangle.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about the basic principles of measurement, simple arithmetic's and conversion of units of measurement.

Say

In this session, we will delve into the fundamental principles of construction measurement and layout. These skills are essential for ensuring accuracy and precision in construction projects.

Ask

1. How does accurate measurement and layout contribute to the successful execution of a construction project?
2. Can you name some common measuring and layout tools used in construction?

Elaborate

- Introduction to Construction Measurement and Layout Principles
- Basic Principles of Measurement and Simple Arithmetic
- The 3-4-5 Method
- Use of Leveling Instruments
- Transferring Levels
- Tools for Marking Layout

Ask

1. How can inaccuracies in measurement and layout impact construction quality?
2. What measures can be taken to ensure precise measurement and layout in construction projects?

Say

Let's perform an activity on Applying the 3-4-5 Method

Activity 1

- **Purpose:** To practice the 3-4-5 method for ensuring right angles.
- **Resources Required:** Measuring tools (e.g., tape measure, chalk line), notepads, pens.
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Divide participants into pairs.
  2. Provide each pair with measuring tools and a designated area.
  3. Ask them to use the 3-4-5 method to create a right angle within their area.
  4. Have them measure and confirm that the angles are indeed right angles.
  5. Discuss the results as a group and address any questions or challenges.
- **Expected Outcome:** Participants will have hands-on experience with the 3-4-5 method and a better understanding of its application.

Say

Let's perform another activity on Layout and Marking Practice

Activity 2

- **Purpose:** To practice layout and marking techniques.
- **Resources Required:** Layout tools (e.g., chalk line, plumb bob), reference materials on layout.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Provide participants with layout tools and materials.
  2. Assign them specific layout tasks, such as marking the center lines of a room, creating acute angles, obtuse angles, and splayed walls.
  3. Ask participants to check the diagonals of marked squares or rectangles.
  4. Encourage participants to discuss their experiences and challenges.
  5. Provide guidance and feedback as needed.
- **Expected Outcome:** Participants will gain practical experience in layout and marking techniques commonly used in construction.

Notes for Facilitation:

- Ensure that all necessary tools and materials are readily available.
- Use visual aids and diagrams to enhance understanding.
- Create a supportive and collaborative learning environment.
- Encourage active participation and hands-on practice.

Exercise

I. Multiple Choice Questions (MCQs):

1. b) To ensure accurate right angles
2. b) Spirit level
3. b) To transfer dimensions from drawings to the actual site
4. c) 3-4-5 method
5. c) Centimeter

II. Fill in the Blanks:

1. spirit levels; plumb bobs
2. 3-4-5
3. details
4. inch
5. architectural plans

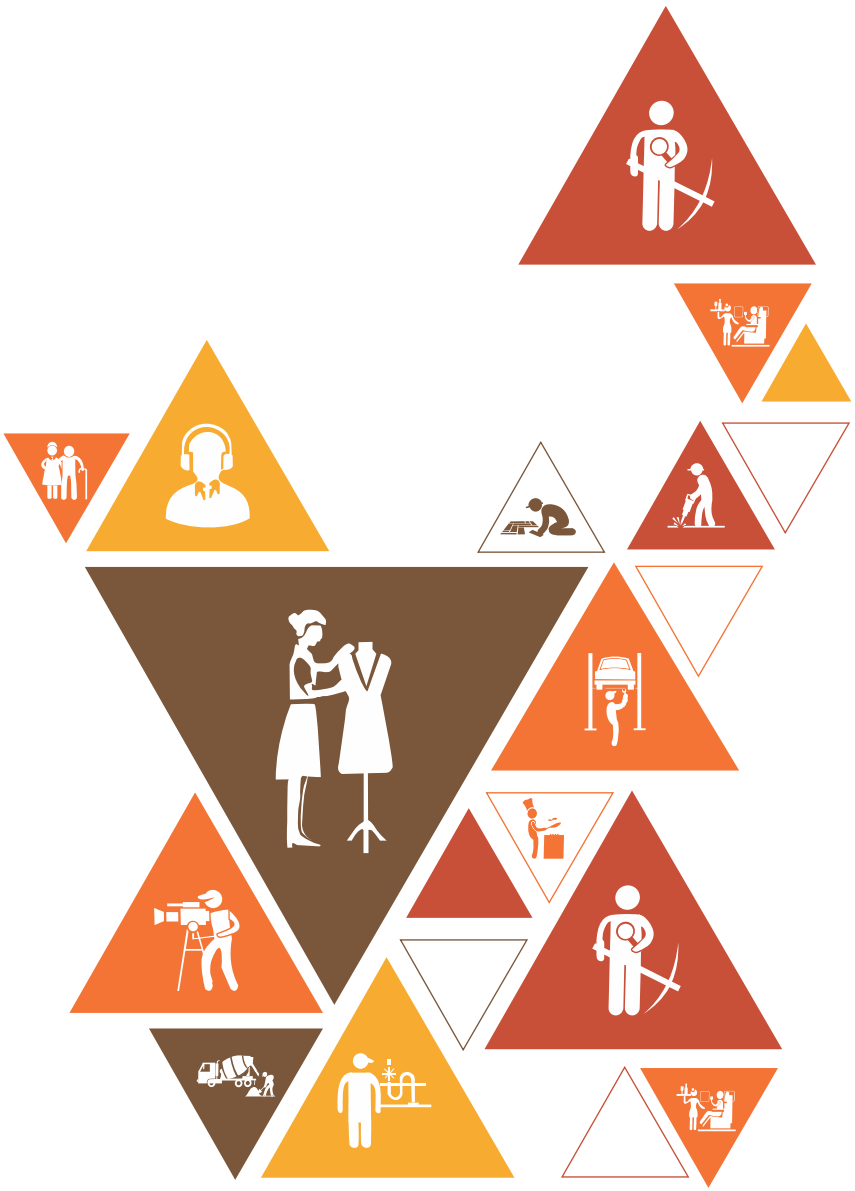
III. Short Answer Questions:

1. Using a spirit level to ensure a level surface involves placing the level on the surface to be checked. The bubble within the level's vial should be centered between the two reference lines. The significance of centering the bubble is that it indicates that the surface is level. If the bubble is off-center, it means the surface is not level, and adjustments need to be made to bring the bubble to the center by raising or lowering one end of the level until the bubble is centered.
2. The 3-4-5 method is used to ensure accurate right angles in construction layout. Here are the steps:
    - Choose a starting point and mark it as point A.
    - From point A, measure and mark a distance of 3 units along one reference line (e.g., the horizontal line) and label it point B.
    - From point B, measure and mark a distance of 4 units perpendicular to the first line (e.g., along the vertical line) and label it point C.
    - Now, measure the diagonal distance from point A to point C. It should be 5 units. If it's not, adjust the points until you achieve a 3-4-5 ratio, ensuring a perfect 90-degree angle at point B.
3. Architectural plans play a crucial role in construction by providing detailed information about a building's design and construction requirements. A brick mason can obtain the following information from various parts of architectural plans:
    - Floor Plans: These provide a top-down view of each floor, showing the layout of rooms, walls, doors, and windows.
    - Elevations: Elevations show the building's exterior views, including the arrangement of windows, doors, and exterior finishes.
    - Sections: Sections provide vertical views, often showing details of the building's structure and interior spaces.
    - Details: These drawings offer close-up views and specifications for specific building elements like staircases, foundations, and connections.
4. Accurate level transfer is essential in construction to ensure that different parts of the building align correctly and that it is safe and functional. To transfer levels using a leveling staff and a benchmark:
    - Set up a benchmark at a known elevation on the site.
    - Place the leveling staff at the point where you want to transfer the level.
    - Use a level or theodolite to determine the difference in height between the benchmark and the staff's reading. This is the required level at the new point.

- Adjust the ground or construction elements at the new point until the staff's reading matches the required level obtained from the benchmark.

5. Common symbols used in construction drawings include:
    - Building Material Symbols: Examples include symbols for bricks, concrete blocks, steel beams, and roofing materials.
    - Plan Symbols: These represent various elements such as doors, windows, stairs, and plumbing fixtures. For instance, a door might be represented by a rectangle with a diagonal line.
    - Electrical Symbols: These symbols represent electrical components like outlets, switches, and lights. For example, a light bulb symbol is a circle with a cross inside.

Notes



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3. Process of carrying out Brick Laying Work

Unit 3.1 Performing Brick Laying

Unit 3.2 Staircases

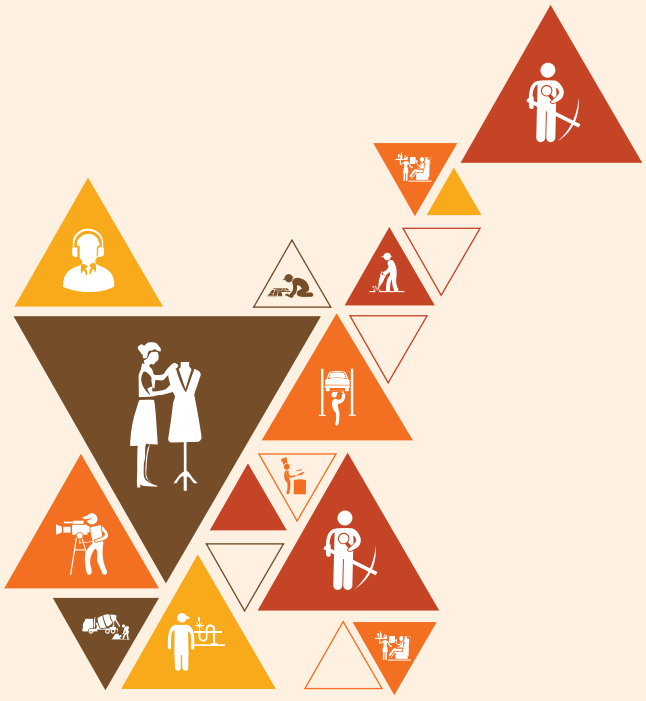
Unit 3.3 Paver's Block

Unit 3.4 Arches

Unit 3.5 Manholes

Unit 3.6 Repair and Restore Brickwork

Unit 3.7 Pointing in Masonry Works



(CON/N0144)

Key Learning Outcomes

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

- Construct load bearing /non load bearing wall, columns and footings using bricks.
- Carry out pointing in brick masonry.
- Perform specialized masonry works such as arches, staircase, manholes and walkways
- Repair and restore brick masonry.

Unit 3.1 Performing Brick Laying

Unit Objectives

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

- Explain the use of various tools used in bricklaying.
- Describe the use of raw materials like cement, sand, aggregate, bricks/blocks etc., the size and physical attributes.
- Explain the visual checks required for assessing the quality of bricks.
- Describe the techniques for cutting, and chiselling of bricks as per closure using appropriate tools.
- Explain cement mix proportion and its importance.
- Discuss the water-cement ratio.
- Describe the English, Flemish, stretcher and header bond.
- Explain the process of laying and fixing bricks in position with uniform joints.
- Explain the use of the 3-4-5 method for squaring corners.
- Explain the various method of curing masonry structure
- Show how to interpret sketches, method statements, formats, permits, protocols and checklists for brickwork.
- Demonstrate the visual checks for brick/block, cement, aggregate
- Provide a rough estimate for the quantity of material required for work.
- Demonstrate the breaking of breaks to the required size and shape.
- Demonstrate the construction of a brick wall as per the standard tolerance limit, as per the relevant drawing.
- Demonstrate checks for maintaining the line and level of each course of brick wall
- Demonstrate setting out of 90° corners using builders square or 3-4-5 method.
- Demonstrate raking and cleaning of joints as specified before drying of bonding mortar

Resources to be Used:

PowerPoint slides, pictures/posters and videos depicting various information about the Bricklaying tools (trowel, mallet, jointer, spirit level, etc.), Raw materials (cement, sand, aggregate, bricks/blocks), Visual aids (sketches, method statements, formats), brickwork techniques, etc.

Say

In this session, we will learn about bricklaying, covering a wide range of topics, from understanding the tools of the trade to mastering various bricklaying techniques.

Elaborate

- Introduction to Bricklaying
- Importance of Proper Bricklaying Techniques in Construction
- Tools of the Trade: Types and Uses
- Understanding Raw Materials: Cement, Sand, Aggregate, Bricks/Blocks
- Visual Checks for Assessing Brick Quality
- Techniques for Cutting and Chiselling Bricks with Appropriate Tools
- Cement Mix Proportion and Its Significance
- Exploring Water-Cement Ratio

- Different Brick Bonds: English, Flemish, Stretcher, Header
- Process of Laying and Fixing Bricks with Uniform Joints
- Using the 3-4-5 Method for Squaring Corners
- Various Methods of Curing Masonry Structures
- Interpreting Sketches, Method Statements, Formats, and Checklists for Brickwork
- Visual Checks for Brick/Block, Cement, and Aggregate

Ask

- How do proper bricklaying techniques contribute to the overall quality and durability of a structure?
- Can you name some essential tools used in bricklaying?

Say

Let's perform an activity about identifying Key Bricklaying Techniques.

Activity 1

- **Purpose:** To familiarize participants with essential bricklaying techniques.
- **Resources Required:** Bricklaying tools, bricks/blocks, visual aids (sketches, method statements)
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Demonstrate key bricklaying techniques using visual aids.
    2. Divide participants into small groups.
    3. Provide each group with bricks/blocks, tools, and sketches.
    4. Ask groups to practice and identify the techniques demonstrated.
    5. Discuss the importance of each technique as they identify them.
- **Expected Outcome:** Participants will gain hands-on experience in essential bricklaying techniques.

Say

Bricklaying is not just about stacking bricks; it's about mastering these crucial techniques. Let's perform an activity for it.

Activity 2

- **Purpose:** To apply bricklaying techniques in constructing a brick wall.
- **Resources Required:** Raw materials (bricks, cement, sand, aggregate), bricklaying tools, visual aids (drawings)
- **Tentative Duration:** 60 minutes
- **Procedure:**
    1. Divide participants into teams.
    2. Provide each team with bricks, cement, sand, and tools.
    3. Give them a brick wall construction task based on provided drawings.
    4. Teams must work together to construct the wall, applying the techniques learned.

5. Evaluate the quality and alignment of the completed walls.

- **Expected Outcome:** Participants will gain practical experience in constructing a brick wall while applying learned techniques.

Notes for Facilitation

- Ensure a safe and controlled environment for practical activities.
- Encourage participants to ask questions and share their experiences.
- Provide constructive feedback during practical exercises.
- Emphasize the importance of precision and quality in bricklaying.

Notes

Unit 3.2 Staircases

Unit Objectives

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

- Describe the technique of marking and layout of tread and risers for the staircase.
- Explain the process of laying and fixing bricks in the staircase.
- Demonstrate set out of tread and riser and building of small staircase maintaining bond, alignment and plumb.

Resources to be used:

PowerPoint slides, pictures/posters and videos depicting various information about the technique of marking and layout of tread and risers for the staircase, process of laying and fixing bricks in the staircase, etc.

Say

In this session, we will learn about the construction of staircases, covering key techniques and processes involved in creating a functional and aesthetically pleasing staircase.

Elaborate

- Introduction to Staircase Construction
- Marking and Layout of Tread and Risers
- Laying and Fixing Bricks in the Staircase
- Demonstration of Set Out and Building of Small Staircase

Ask

- Can you name some common techniques for laying and fixing bricks in a staircase?
- How crucial is it to maintain bond, alignment, and plumb while building a staircase?

Say

Let's perform an activity about Marking and Layout of Tread and Risers

Activity 1

- **Purpose:** To familiarize participants with the technique of marking and laying out tread and risers for a staircase.
- **Resources Required:** Diagrams and visual aids demonstrating the marking and layout process.
- **Tentative Duration:** 30 minutes
- **Procedure:**
    1. Present diagrams and visual aids of staircase layout.
    2. Explain the step-by-step process of marking and layout.
    3. Have participants practice marking and laying out tread and risers on paper or whiteboards.
- **Expected Outcome:** Participants will gain a practical understanding of marking and layout techniques for staircases.

Say

Let's perform an activity about Laying and Fixing Bricks in the Staircase.

Activity 2

- **Purpose:** To explore the process of laying and fixing bricks in a staircase.
- **Resources Required:** Visual aids or videos demonstrating bricklaying in staircases.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Show visual aids or videos of the bricklaying process in a staircase.
    2. Discuss best practices for brick selection, mortar application, and leveling.
    3. Allow participants to practice basic bricklaying techniques.
- **Expected Outcome:** Participants will gain insights into the bricklaying process in staircases.

Notes for Facilitation

- Ensure that necessary visual aids and diagrams are available.
- If possible, arrange a hands-on practical session for participants to practice marking, layout, and brick-laying.
- Encourage active participation and peer learning within the class.

Notes

Unit 3.3 Paver's Block

Unit Objectives

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

- Demonstrate fixing of paver blocks

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about the fixing of paver blocks.

Say

In this session, we will learn about the process of fixing paver blocks, covering essential techniques, tools, and safety measures. Paver blocks are commonly used in landscaping and paving projects, and understanding their proper installation is crucial.

Elaborate

- Introduction to Paver Blocks
- Importance of Proper Paver Block Installation
- Tools and Materials for Paver Block Fixing
- Step-by-Step Guide to Fixing Paver Blocks
- Safety Measures

Ask

- What are some advantages of using paver blocks in landscaping and paving projects?
- Can you name a few common mistakes or challenges people face when installing paver blocks?

Say

Let's perform an activity about Hands-on Paver Block Installation.

Activity 1

- **Purpose:** To provide participants with practical experience in fixing paver blocks.
- **Resources Required:** Paver blocks, sand, tools, and safety equipment.
- **Tentative Duration:** 60 minutes
- **Procedure:**
    1. Divide participants into pairs or small groups.
    2. Provide each group with a designated area, paver blocks, sand, tools, and safety equipment.
    3. Instruct participants to follow the step-by-step guide to install a section of paver blocks.
    4. Encourage them to discuss and solve any challenges they encounter.
    5. Monitor and assist as needed.

- **Expected Outcome:** Participants will gain practical experience in fixing paver blocks and a better understanding of the process.

Say

Hands-on experience is often the best way to learn. This activity will help you apply the knowledge we've discussed about Troubleshooting Paver Block Installation.

Activity 2

- **Purpose:** To identify and discuss common issues and solutions in paver block installation.
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Ask participants to share any challenges they faced during the hands-on activity.
  2. List these challenges on the whiteboard.
  3. Facilitate a discussion on possible causes and solutions for each challenge.
- **Expected Outcome:** Participants will learn to identify and address common problems encountered during paver block installation.

Do

- Provide guidance and insights based on your experience with paver block installation.
- Share examples of successful paver block projects.

Notes for Facilitation:

- Ensure all safety precautions are followed during the hands-on activity.
- Use visual aids or demonstrations to clarify concepts.
- Encourage participants to ask questions and share their experiences.
- Summarize key takeaways from the session.

Notes

Unit 3.4 Arches

Unit Objectives

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

- Describe the different components of the arch and their terminology.
- Explain the process of laying and fixing bricks in arches providing keystones, levelling and aligning appropriately.
- Explain the importance of providing proper joint spacing and gauging in arches.
- Demonstrate installations and fixing of arch elements for building arches.
- Demonstrate building of arches, cutting creepers around corners and filling of joints for arches.

Resources to be Used:

PowerPoint slides, pictures/posters and videos depicting various information about the process of laying and fixing bricks in arches, the significance of proper joint spacing and gauging, and practical demonstrations of arch building techniques.

Say

In this session, we will learn about arch construction. We'll explore the different components of arches, the terminology associated with them, the process of laying and fixing bricks in arches, the significance of proper joint spacing and gauging, and practical demonstrations of arch building techniques.

Elaborate:

- Introduction to Arch Construction
- Components and Terminology of Arches
- Laying and Fixing Bricks in Arches
- Importance of Proper Joint Spacing and Gauging
- Demonstration of Arch Building

Ask

- What do you think are some key elements in building arches?
- Why is it important to understand the terminology and process of arch construction?

Say

Let's perform an activity about Identifying Arch Components.

Activity 1:

- **Purpose:** To familiarize participants with the components and terminology of arches.
- **Resources Required:** Visual aids, reference materials on arch construction.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Show visual aids depicting various arch components and terminology.

2. Ask participants to identify and label these components.
3. Discuss the role of each component as they identify them.

- **Expected Outcome:** Participants will gain a better understanding of arch components and terminology.

Say

Understanding the terminology and components of arches is crucial, as it forms the foundation for successful arch construction. Now let's perform another activity on Analysing Arch Construction Techniques.

Activity 2

- **Purpose:** To explore different arch construction techniques.
- **Resources Required:** Visual aids, reference materials, and practical demonstration materials.
- **Tentative Duration:** 60 minutes
- **Procedure:**
    1. Divide participants into small groups.
    2. Assign each group a specific arch construction technique (e.g., segmental arch, pointed arch).
    3. Provide visual aids and materials for each technique.
    4. Ask each group to analyze their assigned technique and present its key features to the class.
    5. Encourage discussions on when and where each technique is best suited.
- **Expected Outcome:** Participants will gain insights into various arch construction techniques.

Do

- Facilitate group discussions, ensuring active participation.
- Share your experiences related to arch construction.

Notes for Facilitation:

- Prepare visual aids and reference materials in advance.
- Use the whiteboard for diagrams and explanations.
- Encourage questions and peer learning.
- Conduct practical demonstrations with the necessary materials.

Notes

Unit 3.5 Manholes

Unit Objectives

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

- Demonstrate building of manhole as per required drawing as per specifications

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about building of manhole as per required drawing as per specifications.

Say

In this session, we will learn about the construction of manholes by understanding how to interpret construction drawings and specifications tailored for this specific task.

Elaborate

1. Introduction to Manhole Construction Drawings and Specifications
2. The Critical Role of Accurate Interpretation in Building Manholes
3. Types of Manhole Construction Drawings and Specifications
4. Understanding Different Line Types and Symbols in Manhole Construction Drawings
5. Interpretation of Key Specifications for Building Manholes

Ask

- How do accurate interpretations of construction drawings and specifications contribute to the successful building of a manhole?
- Can you name a few different types of construction drawings and specifications specific to manhole construction?

Say

Let's perform an activity about interpreting manhole construction drawings and specifications.

Activity 1

- **Purpose:** To familiarize participants with common symbols and specifications used in manhole construction.
- **Resources Required:** Manhole construction drawings, reference materials on construction symbols and specifications.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Display various manhole construction drawings containing symbols and specifications.
  2. Provide a list of commonly used symbols and specifications specific to manhole construction.

3. Ask participants to identify and match the symbols and specifications in the drawings with the provided list.
4. Discuss the significance and relevance of each symbol and specification as they identify them.

- **Expected Outcome:** Participants will gain a better understanding of how to interpret symbols and specifications in manhole construction drawings, ensuring accurate construction.

Say

Accurate interpretation of manhole construction drawings and specifications is crucial for building manholes that meet safety and regulatory standards. The following activity will equip with the skills to build a manhole as per specifications.

Activity 2

- **Purpose:** To demonstrate the practical application of interpreting construction drawings and specifications in the construction of a manhole.
- **Resources Required:** Manhole construction materials and tools, a model or simulation of a manhole, participant handbooks, drawings, and specifications.
- **Tentative Duration:** 60 minutes
- **Procedure:**
    1. Divide participants into small groups.
    2. Provide each group with a set of manhole construction drawings and specifications.
    3. Give them access to manhole construction materials and tools.
    4. Ask each group to follow the provided drawings and specifications to build a manhole.
    5. After the construction, have each group present their constructed manhole, explaining how they followed the drawings and specifications.
- **Expected Outcome:** Participants will gain hands-on experience in building a manhole according to drawings and specifications, reinforcing the importance of accurate interpretation.

Do

- Facilitate discussions among the groups, ensuring everyone has a chance to participate.
- Share your insights and experiences related to interpreting and applying construction drawings and specifications.
- Provide guidance and assistance as needed during the construction activity.

Notes for Facilitation:

- Ensure all necessary manhole construction materials and tools are readily available.
- Encourage participants to ask questions and foster peer learning throughout the session.
- Emphasize the importance of precision and attention to detail when interpreting and implementing construction drawings and specifications for manhole construction.

Unit 3.6 Repair and Restore Brickwork

Unit Objectives

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

- Describe the various techniques for repairing and finishing brickwork.
- Demonstrate removal of deteriorated elements from old masonry works and reinstallation of bricks to match adjacent surfaces.
- Demonstrate filling and raking of repaired masonry work.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about the various techniques for repairing and finishing brickwork, filling and raking of repaired masonry work.

Say

In this session, we will delve into essential techniques for repairing and finishing brickwork. These skills are crucial for maintaining and restoring the integrity of masonry structures. We'll explore various methods, removal of deteriorated elements, and the filling and raking of repaired masonry work.

Elaborate

- Techniques for Repairing and Finishing Brickwork
- Removal of Deteriorated Elements
- Reinstallation of Bricks to Match Adjacent Surfaces
- Filling and Raking of Repaired Masonry Work

Ask

- What do you already know about repairing and finishing brickwork?
- Why is it important to learn these techniques in masonry?

Say

Let's perform an activity about brickwork repair and finishing simulation.

Activity 1

- **Purpose:** To engage participants in a hands-on activity to reinforce their understanding of the techniques discussed.
- **Resources Required:** Mock masonry wall, bricks, mortar, and tools.
- **Tentative Duration:** 90 minutes
- **Procedure:**
    1. Divide participants into small groups.

2. Provide each group with a damaged mock masonry wall section.
3. Instruct them to identify deteriorated elements, remove them, and reinstall bricks to match adjacent surfaces.
4. Demonstrate filling and raking techniques.
5. Have each group repair their section, explaining their approach.
6. Discuss and evaluate the results as a class.

- **Expected Outcome:** Participants will gain practical knowledge of brickwork repair and finishing techniques, including removal, reinstallation, and filling/raking. They will understand the importance of these skills in preserving masonry structures.

Summary

- Recap the key points related to brickwork repair and finishing techniques.
- Encourage participants to take notes for future reference.

Notes for Facilitation

- Prepare a mock masonry wall and necessary materials in advance.
- Use hands-on activities and demonstrations to enhance participant learning.
- Encourage questions and group discussions to promote active engagement.
- Ensure safety measures are followed during the practical activity.

Notes

Unit 3.7 Pointing in Masonry Works

Unit Objectives

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

- Explain the various pointing in brickwork including flush pointing, keyed/grooved pointing, recessed pointing, struck pointing etc.
- Discuss the different mortar mixes used for pointing works.
- List the various tools used for pointing and raking
- Demonstrate preparation of pointing mortar and filling of joints with the same to obtain the specified type of pointing using appropriate tools.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about the various pointing in brickwork including flush pointing, keyed/grooved pointing, recessed pointing, struck pointing etc.

Say

In this session, we will learn about the essential aspects of pointing in brickwork, including various pointing techniques, mortar mixes, tools used, and a practical demonstration of preparing pointing mortar and filling joints.

Ask

- Have you heard about pointing in brickwork before?
- Are you familiar with different types of pointing techniques?

Elaborate

With the aid of visual materials and participant handbooks, let's explore the following KLOs:

- Explain the various pointing in brickwork techniques.
- Discuss different mortar mixes used for pointing works.
- List the various tools used for pointing and raking.
- Demonstrate preparation of pointing mortar and filling of joints.

Say

Now, we will engage in a hands-on activity to reinforce these concepts.

Activity

- **Purpose:** To provide participants with a practical understanding of pointing techniques and mortar preparation.
- **Resources Required:** Demonstration materials, pointing tools, mortar ingredients.
- **Tentative Duration:** 90 Mins
- **Procedure:**
    1. Begin by discussing the importance of proper pointing in brickwork and how it enhances both

aesthetics and structural integrity.

2. Introduce the different pointing techniques and mortar mixes covered in the session.
3. Display and explain the various tools used for pointing and raking.
4. Conduct a live demonstration of mortar preparation, showcasing the correct ratios of ingredients and mixing techniques.
5. Invite participants to practice pointing on sample bricks using the prepared mortar and appropriate tools.
6. Provide guidance and feedback as participants engage in the practical activity.
7. Allow participants to experiment with different pointing techniques.
8. Summarize key takeaways from the activity and emphasize the significance of proper pointing in construction.

- **Expected Outcome:** Participants will gain practical experience in pointing techniques, understand the importance of mortar selection, and become familiar with the tools used for pointing.

Summary

- Highlight the key points related to pointing techniques, mortar mixes, and tools used for pointing.
- Encourage participants to review and consolidate their knowledge.

Notes for Facilitation

- Ensure that all necessary materials for the practical demonstration are prepared in advance.
- Be attentive to participants' questions and concerns during the activity.
- Encourage participants to share their experiences and insights during the session.

Exercise

I. Multiple Choice Questions (MCQs)

1. c. Squaring corners
2. c. Struck pointing
3. c. Keystone
4. c. Increasing compressive strength
5. c. Cutting

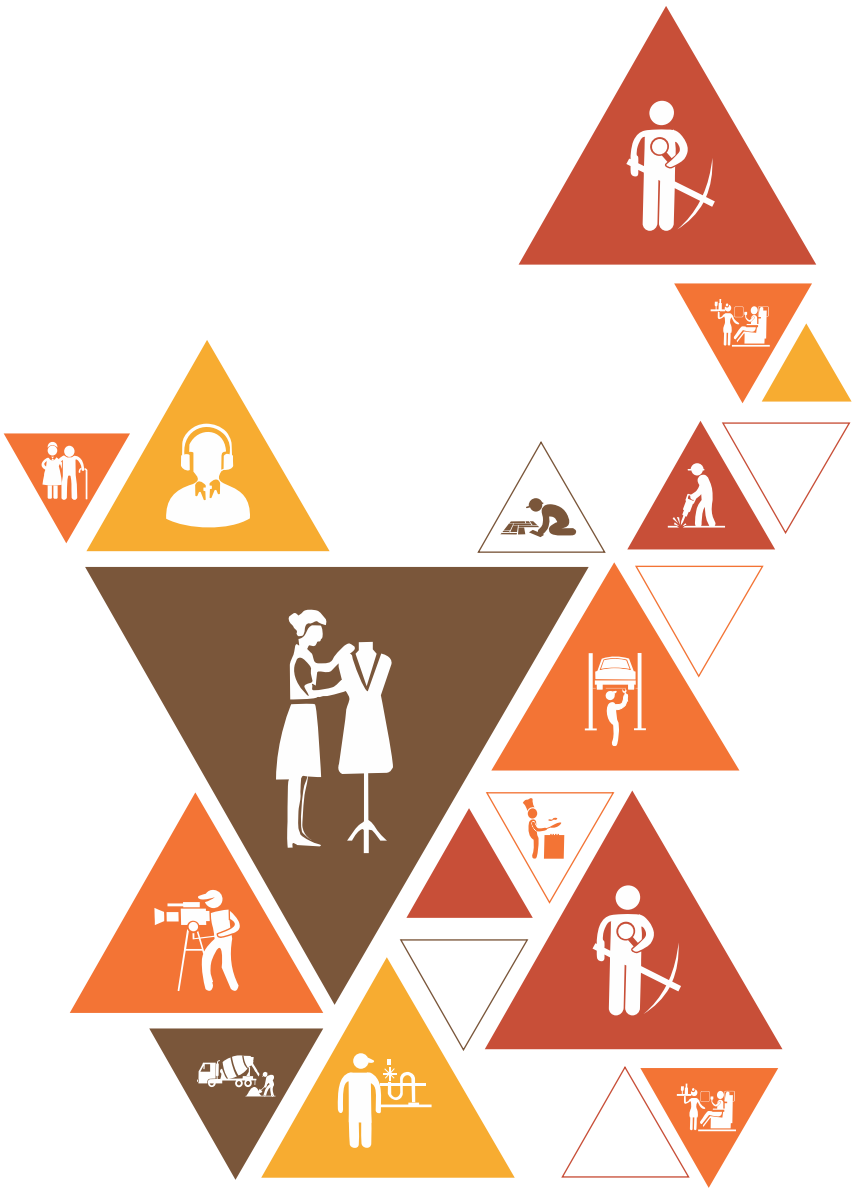
II. State whether True or False

1. True
2. True
3. False
4. True
5. False

III. Very Short Answer

1. Keystone
2. Recessed pointing
3. The purpose of curing in masonry is to increase the compressive strength of the masonry units by maintaining adequate moisture levels during the initial curing period.
4. The 3-4-5 method is used to ensure accurate right angles in construction layout, particularly in squaring corners.
5. Maintaining line and level in bricklaying is essential to ensure the structural integrity and aesthetics of the wall. It helps prevent leaning or uneven walls and ensures that the bricks are laid in straight and level rows.

Notes



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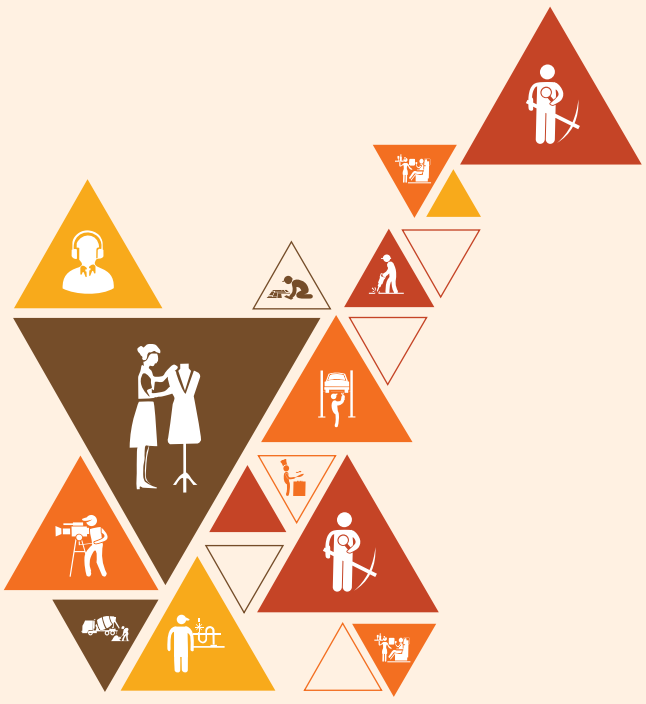
4. Process of carrying out Block Laying Work

Unit 4.1 Performing Block Work



(CON/N0145)

Key Learning Outcomes

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

- Lay blocks for construction of wall.
- Repair and restore block masonry.

Unit 4.1 Performing Block Work

Unit Objectives

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

- Interpret sketches, method statements, formats, permits, protocols and checklists for block work.
- Explain the use of various tools used in block laying.
- Describe the use of raw material like cement, sand, aggregate, blocks etc., the size and physical attributes.
- Explain the visual checks required for assessing the quality of blocks.
- Explain cement mix proportion and its importance.
- Discuss the water cement ratio.
- Explain the process of laying and fixing blocks in position with uniform joints.
- Explain the use of 3-4-5 method for squaring corners.
- Describe the thin joint masonry.
- Describe the various techniques for repairing and finishing in block work.
- Perform visual checks to ascertain quality of blocks.
- Provide a rough estimate for the quantity of material required for block work.
- Demonstrate the construction of a block wall as per standard tolerance limit, as per relevant drawing.
- Demonstrate fixing of blocks using adhesives.
- Demonstrate checks for maintaining line and level of each course of block wall
- Demonstrate setting out of 90° corners using builders square or 3-4-5 method.
- Demonstrate removal of deteriorated elements from old block masonry works and reinstallation of blocks to match adjacent surfaces.
- Demonstrate filling and raking of repaired block masonry work.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about the use of various tools used in block laying, various techniques for repairing and finishing in block work.

Say

In this session, we will delve into the essential aspects of block work in construction, including interpreting sketches, understanding tools, materials, quality assessment, and various techniques.

Ask:

- What do you already know about block work in construction?
- Can you name some tools used in block laying?

Elaborate:

With the aid of visual materials and handouts, let's explore the following KLOs:

- Interpretation of Plans and Protocols.
- Tools and Materials used of various tools in block laying.
- Quality Assessment for block laying.

- Block Laying Techniques.
- Repair and Finishing in block work.

Say

Let's perform an activity about visual quality check.

Activity 1

- **Purpose:** To practice visual checks for assessing block quality.
- **Resources Required:** Sample blocks, quality checklist.
- **Tentative Duration:** 2 Hours
- **Procedure:**
    1. Provide participants with sample blocks.
    2. Ask them to perform visual checks using the provided quality checklist.
    3. Discuss their observations and findings as a group.
- **Expected Outcome:** Participants will gain practical experience in visual checks for assessing block quality.

Say

Let's perform another activity about block laying demonstration.

Activity 2

- **Purpose:** To demonstrate block laying techniques.
- **Resources Required:** Blocks, mortar, tools.
- **Tentative duration:** 2 Hours
- **Procedure:**
    1. Demonstrate the construction of a block wall as per standard tolerance limits and relevant drawings.
    2. Show how to use the 3-4-5 method to ensure 90° corners.
    3. Explain the process of fixing blocks using adhesives.
    4. Demonstrate checks for maintaining the line and level of each course of the block wall.
- **Expected Outcome:** Participants will gain practical experience in block laying techniques.

Summary

- Summarize the key points related to block work, tools, quality assessment, and techniques.
- Encourage participants to review and take notes for future reference.

Notes for Facilitation:

- Ensure that participants have access to relevant visual materials and handouts.
- Use practical demonstrations and hands-on activities to enhance understanding.
- Foster a collaborative learning environment by encouraging questions and peer discussions.

Exercise

I. Multiple Choice Questions (MCQs)

1. c) Blocks or concrete masonry units (CMUs)
2. b) Mason's Line
3. d) They are preferred for high-rise buildings.
4. c) Form the mortar bed.
5. a) To increase the strength of the materials.

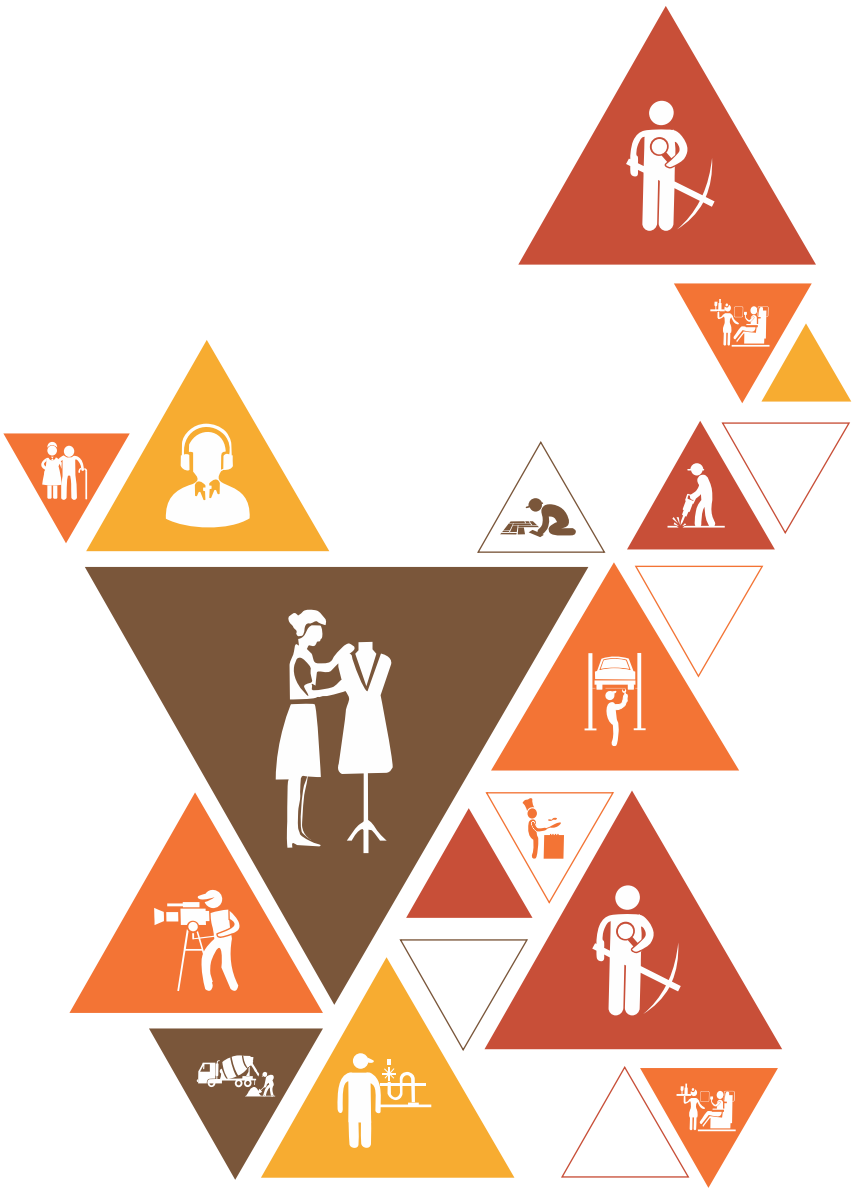
II. Fill in the Blanks

1. spatial
2. tasks
3. Checklists
4. restrictions
5. mortar

III. Very Short Answer

1. The keystone is the topmost stone in an arch, and its wedge shape is crucial because it locks the other stones in place, ensuring the stability and strength of the arch.
2. Line blocks are used to ensure the horizontal alignment of blocks by creating a level reference line or string between them.
3. Protocols in block work construction are sets of established rules or guidelines that dictate how specific tasks or processes should be carried out. They ensure consistency, safety, and quality in construction procedures.
4. The primary difference is that cement concrete blocks are larger and heavier than bricks. They are typically preferred for applications like high-rise buildings due to their size and strength.
5. Spraying water on concrete surfaces during curing is important because it helps maintain a moist environment, preventing the concrete from drying out too quickly. This gradual curing process improves the concrete's strength and reduces the likelihood of cracking.

Notes



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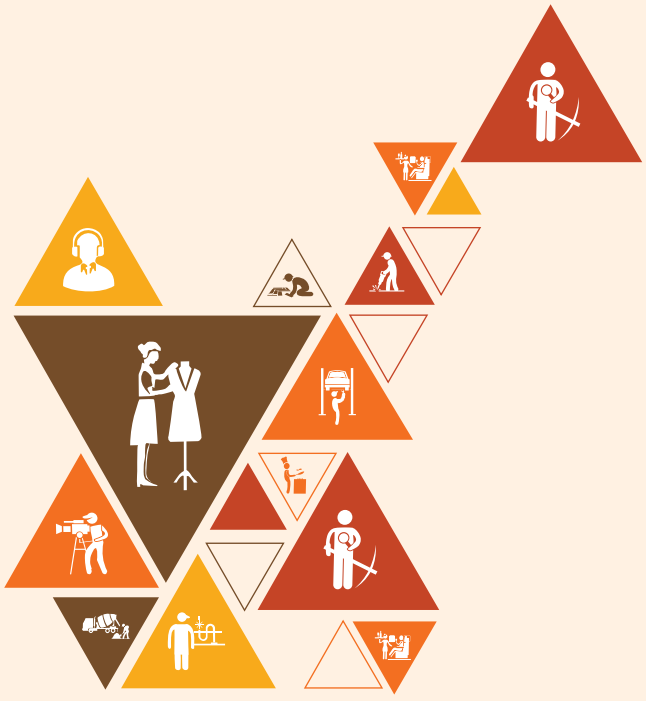
5. Work according to Personal Health, Safety and Environment Protocols at Construction Site

Unit 5.1 Hazards and Emergency Situations

Unit 5.2 Safety Drills, PPEs and Fire Safety

Unit 5.3 Hygiene and Safe Waste Disposal Practices

Unit 5.4 Infectious Disease and Its Cure



(CON/N8001)

Key Learning Outcomes

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

- Describe the reporting procedures in cases of breaches or hazards for site safety, accidents, and emergencies as per guidelines.
- Explain different types of safety hazards at construction sites.
- Demonstrate how to follow emergency and evacuation procedures in case of accidents, fires, or natural calamities.
- Discuss basic ergonomic principles as per applicability.
- Describe the procedure for responding to accidents and other emergencies at the site.
- Explain the importance of handling tools, equipment, and materials as per applicable norms.
- Explain the effect of construction material on health and environments as per applicability.
- Describe various environmental protection methods as per applicability.
- Explain the storage requirement of waste including non-combustible scrap material and debris, combustible scrap material and debris, general construction waste and trash (non-toxic, non-hazardous), any other hazardous wastes and any other flammable wastes at the appropriate location.
- Show how to collect, segregate and deposit construction waste into appropriate containers based on their toxicity or hazardous nature.
- Explain how to use hazardous material in a safe and appropriate manner as per applicability.
- Explain types of fire.
- Describe the procedure of operating different types of fire extinguishers.
- Show how to operate different types of fire extinguishers corresponding to various types of fires as per EHS guidelines.
- State safety relevant to tools, tackles, and equipment as per applicability.
- Demonstrate the use of appropriate Personal Protective Equipment (PPE) as per work requirements for Head Protection, Ear Protection, Fall Protection, Foot Protection, Face and Eye Protection, Hand and Body Protection, and Respiratory Protection (if required).
- Demonstrate how to check and install all safety equipment as per standard guidelines.
- List housekeeping activities relevant to the task.
- Elucidate ways of transmission of infection Explain the ways to manage infectious risks at the workplace.
- Describe different methods of cleaning, disinfection, sterilization, and sanitization.
- Show how to clean and disinfect all materials, tools and supplies before and after use.
- List the symptoms of infection like fever, cough, redness, swelling, and inflammation.

Unit 5.1 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 situation.
- Know the reporting procedure to the concerned authority in case of emergency situations.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about the types of hazards at the construction sites and identify the hazards specific to the domain related works.

Say

In this session, we will learn about the critical aspects of construction site safety. We will learn about the types of hazards commonly found at construction sites, identify hazards specific to domain-related work, recognize safety control measures, and understand the actions to be taken during emergency situations. Additionally, we will discuss the reporting procedures to the concerned authorities in case of emergencies.

Ask

- What do you know about construction site hazards?
- Can you identify specific hazards related to your domain of work?

Elaborate

With the help of visual aids and participant materials, let's explore:

- Types of Hazards at Construction Sites:
- Domain-Specific Hazards:
- Safety Control Measures
- Emergency Response
- Reporting Procedures

Say

Let's perform an activity about identifying construction site hazards.

Activity 1

- **Purpose:** To practice hazard identification.
- **Resources Required:** Images of construction site hazards, hazard identification checklist.
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Divide participants into groups.
  2. Provide each group with images of construction site hazards and a hazard identification checklist.

3. Ask each group to identify and categorize the hazards in the images.
4. Discuss the findings as a group and address any questions or uncertainties.

- **Expected Outcome:** Participants will enhance their ability to recognize construction site hazards.

Say

Let's perform another activity on emergency response drill.

Activity 2

- **Purpose:** To simulate emergency response actions.
- **Resources Required:** Simulated emergency scenario, first aid kits, fire extinguisher, emergency contact information.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Create a simulated emergency scenario (e.g., fire, chemical spill, injury).
  2. Instruct participants to respond according to the emergency procedures discussed earlier.
  3. Provide feedback and guidance as participants handle the simulated emergency.
  4. Review the response afterward, highlighting what went well and areas for improvement.
- **Expected Outcome:** Participants will gain practical experience in responding to construction site emergencies.

Summary

- Encourage participants to summarize the key points related to construction site hazards, safety control measures, and emergency response procedures.
- Invite questions and discussion to ensure comprehension.

Notes for Facilitation:

- Ensure visual aids, checklists, and emergency simulation materials are readily available.
- Foster an interactive and participatory learning environment.
- Stress the importance of safety in the construction industry and the well-being of all workers.
- Encourage participants to report any hazards they encounter on construction sites.

Notes

Unit 5.2 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

PowerPoint slides, pictures/posters and videos depicting various information about operating procedure of the fire extinguishers, importance of participation of workers in safety drills, etc.

Say

Today, we will cover crucial aspects of fire safety and emergency response. We'll explore the classes of fire and types of fire extinguishers, learn how to operate fire extinguishers, understand the importance of worker participation in safety drills, and identify basic medical tests required for working at construction sites.

Elaborate

- Classes of Fire and Types of Fire Extinguishers
- Operating Procedure of Fire Extinguishers
- Importance of Worker Participation in Safety Drills
- Basic Medical Tests for Construction Site Workers
- Purpose and Importance of Vertigo Test at Construction Site
- Types and Benefits of Basic Ergonomic Principles
- Demonstrate Use of PPEs as per Work Requirements
- Important Topics for Safety and Health Lectures at Construction Sites

Ask

- Imagine you are working at a construction site, and you come across a fire involving flammable liquids (Class B). What type of fire extinguisher would you use, and what are the key steps in its proper operation?
- Why is it crucial for construction site workers to actively participate in safety drills, and how can their involvement during these drills improve overall site safety and emergency response?

Say

Let's perform an activity about fire classification and fire extinguishers

Activity 1

- **Purpose:** To understand the classes of fire and types of fire extinguishers.
- **Resources Required:** Fire extinguishers, visual aids depicting fire classes, safety posters.
- **Tentative Duration:** 30 minutes
- **Procedure:**
    1. Begin with a brief explanation of the different classes of fire (e.g., Class A, B, C, D, K) and their sources.
    2. Show pictures or posters illustrating each class.
    3. Introduce various types of fire extinguishers (e.g., water, CO2, dry chemical, foam) and explain which types are suitable for each fire class.
    4. Pass around actual fire extinguishers for participants to examine.
    5. Discuss the proper operation of fire extinguishers, including the PASS method (Pull, Aim, Squeeze, and Sweep).
    6. Allow participants to practice using a fire extinguisher (if safe and appropriate).
- **Expected Outcome:** Participants will be able to understand the classes of fire and types of fire extinguishers.

Say

Let's perform safety drills to understand the importance of worker participation in it.

Activity 2

- **Purpose:** To emphasize the importance of worker participation in safety drills.
- **Resources Required:** Safety drill materials, safety equipment.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Discuss the importance of safety drills in emergency preparedness.
    2. Explain various safety drills that can be conducted on a construction site, such as fire drills, evacuation drills, and first aid drills.
    3. Emphasize the role of each worker in participating actively and responsibly during drills.
    4. Conduct a mock safety drill scenario (e.g., fire evacuation) with participants.
    5. Ensure participants follow proper safety procedures and use appropriate equipment during the drill.
    6. Debrief after the drill, discussing what went well and areas for improvement.
- **Expected Outcome:** Participants will be able to understand the importance of safety drills.

Summary

Summarize the key points covered in each activity and encourage participants to ask questions and seek clarification. Distribute relevant handouts and materials for future reference.

Notes for Facilitation

- Arrange the relevant handouts and leaflets for a better understanding of the topic.
- Arrange audio-visual aids to make them understand various information about operating procedure of the fire extinguishers, importance of participation of workers in safety drills, etc.
- Ask the participants if they have any questions.
- Encourage every participant to answer those questions and encourage peer learning in the class.

Unit 5.3 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

PowerPoint slides, pictures/posters and videos depicting various information about maintaining personal hygiene, workplace hygiene and site/ workplace sanitization.

Say

In this session, we will delve into essential practices for maintaining hygiene, housekeeping, and effective waste disposal at construction sites. These practices are crucial for the safety and well-being of workers and the overall efficiency of construction projects.

Elaborate:

1. Personal and Workplace Hygiene
2. Safe Housekeeping
3. Types of Waste and Disposal Methods
4. Safe Waste Disposal Practices

Ask

- What do you already know about maintaining hygiene, housekeeping, and waste disposal at construction sites?
- Why do you think these practices are important in the construction industry?

Say

Let's perform an activity about personal and workplace hygiene.

Activity 1

- **Purpose:** To practice personal hygiene and assess workplace hygiene.
- **Resources Required:** Hygiene supplies (e.g., hand sanitizers, soap), checklist for workplace hygiene.
- **Tentative Duration:** 30 minutes.
- **Procedure:**
    1. Provide hygiene supplies to participants.
    2. Ask participants to perform personal hygiene routines.
    3. Conduct a workplace hygiene assessment using the checklist.

4. Discuss findings and improvements needed.

- **Expected Outcome:** Participants will be able to personal hygiene and assess workplace hygiene.

Say

Let's perform another activity about safe waste disposal practices.

Activity 2

- **Purpose:** To simulate safe waste disposal practices.
- **Resources Required:** Simulated waste materials, waste disposal containers.
- **Tentative Duration:** 45 minutes.
- **Procedure:**
    1. Create a simulated waste disposal scenario.
    2. Assign roles for waste segregation and disposal.
    3. Have participants follow proper disposal procedures.
    4. Evaluate their performance and discuss best practices.
- **Expected Outcome:** Participants will be able to understand about safe waste disposal practices.

Say

By following these practices, we ensure the safety of workers, maintain an efficient work environment, and contribute to environmental responsibility.

Summary

- Summarize key points related to personal hygiene, workplace hygiene, safe housekeeping, waste types, and disposal methods.
- Encourage participants to incorporate these practices into their daily routines at construction sites.

Notes for Facilitation

- Provide relevant handouts and visual aids for better comprehension.
- Use demonstrations and videos to illustrate safe waste disposal.
- Encourage active participation and questions from the participants.
- Foster a culture of cleanliness and safety within the construction workforce.

Notes

Unit 5.4 Infectious Disease and Its Cure

Unit Objectives

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

- Know different types of infectious disease that can spread/ originate at a construction site
- Understand the ways of transmission of the various infectious disease.
- Recognize the methods to check the spread of the infectious disease.
- Understand the symptoms and cure of the various infectious disease.
- Apprehend the procedure to report to the concerned authority regarding the outbreak/ hazard of any infectious disease/ pandemic.

Resources to be Used

Presentation slides, images depicting infectious disease sources and transmission, videos explaining preventive measures, and pamphlets or handouts with information on symptoms and reporting procedures.

Say

In this session, we will explore the crucial topic of infectious disease awareness at construction sites. Understanding the types of diseases that can spread or originate in this environment, their modes of transmission, prevention, and reporting procedures is essential for ensuring the health and safety of all workers.

Elaborate

- Introduction to Infectious Diseases in Construction Sites
- Types of Infectious Diseases
- Modes of Transmission
- Preventive Measures
- Recognizing Symptoms and Seeking Medical Help
- Reporting Infectious Disease Outbreaks

Ask

- How can the presence of infectious diseases affect productivity and safety at a construction site?
- What measures can be taken to prevent the spread of infectious diseases in a construction site?

Say

Now, let's engage in some activities to reinforce our understanding of infectious disease prevention and reporting.

Activity 1 - Disease Transmission Simulation

- **Purpose:** To understand how infectious diseases can spread in a construction site setting.
- **Resources Required:** Visual aids, a simulation scenario.
- **Tentative Duration:** 30 minutes
- **Procedure:**
    1. Present a simulated scenario where an infectious disease outbreak occurs at a construction site.
    2. Discuss how the disease may have spread among workers.

3. Brainstorm preventive measures that could have been taken.
4. Emphasize the importance of reporting any potential outbreak. Expected Outcome: Participants will understand how infectious diseases can spread at construction sites and why reporting is crucial.

- Expected Outcome: Participants will be able to understand about how infectious diseases can spread in a construction site setting.

Activity 2 - Reporting Procedures

- **Purpose:** To familiarize participants with the steps for reporting infectious disease outbreaks.
- **Resources Required:** Reporting guidelines, sample forms.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Provide participants with reporting guidelines and sample forms.
  2. Role-play scenarios where participants must report a potential infectious disease outbreak to the concerned authorities.
  3. Discuss the correct steps and information required for reporting.
  4. Address any questions or concerns. Expected Outcome: Participants will gain practical knowledge of the reporting process for infectious disease outbreaks.
- **Expected Outcome:** Participants will be able to understand about the steps for reporting infectious disease outbreaks.

Notes for Facilitation

- Ensure that all necessary resources and materials are readily available.
- Use real-life examples and case studies to illustrate key points.
- Foster a safe and open learning environment for discussions.
- Encourage active participation and the sharing of experiences related to infectious diseases in construction sites.

Exercises

I. Short Questions

1. Reporting procedures for breaches or hazards at the construction site: Notify the site supervisor or manager, fill out incident reports, and follow communication protocols.
2. Different types of safety hazards commonly found at construction sites: Falls from heights, electrical hazards, machinery accidents, chemical exposure, trench collapses, etc.
3. Demonstrating emergency and evacuation procedures: Know emergency exit locations, use fire extinguishers when appropriate, assist in evacuating workers to assembly points.
4. Basic ergonomic principles in construction work: Maintain proper posture, use ergonomic tools, design ergonomic workspaces.
5. Steps to take in responding to accidents and emergencies: Assess the situation, provide first aid if needed, notify authorities, cooperate with investigations.

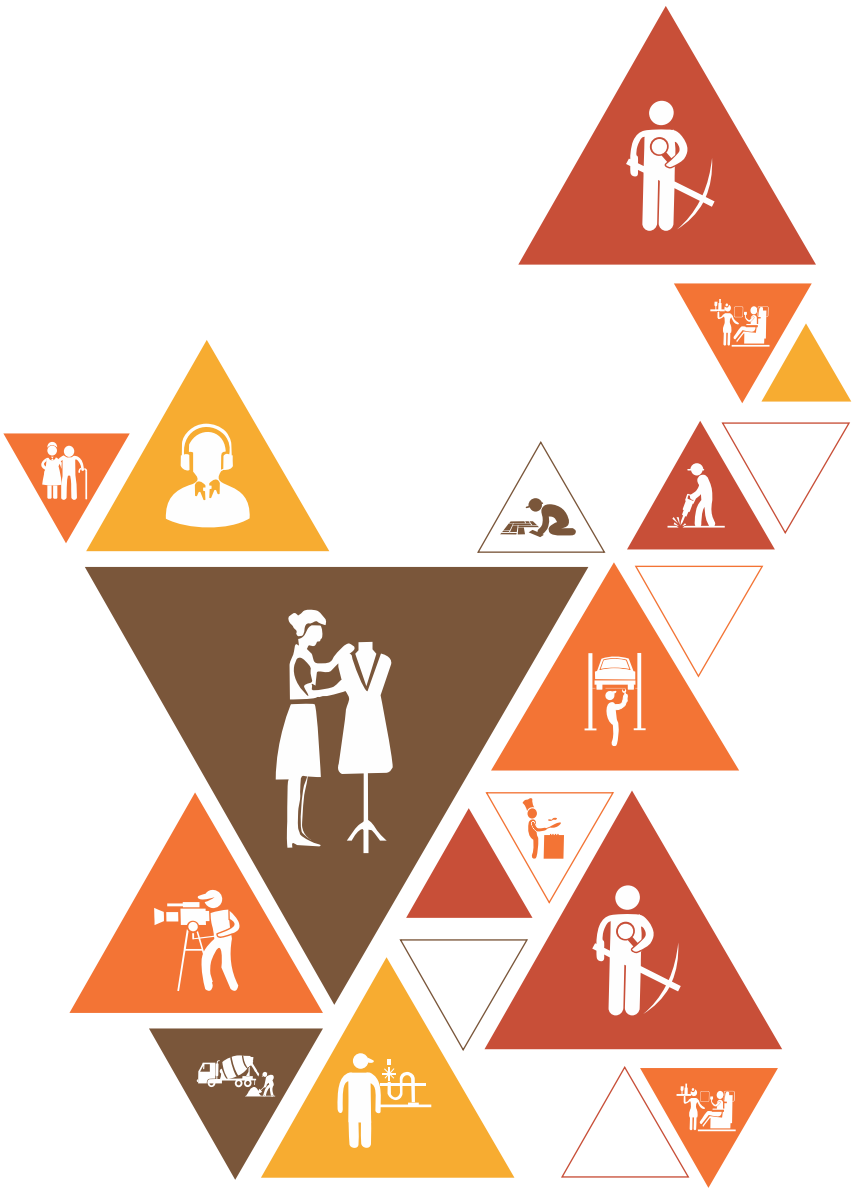
II. Fill-in-the-Blanks Questions

1. applicable norms.
2. fires.
3. standard guidelines.
4. disposal
5. fall protection.

III. True/False Questions

1. False
2. True
3. False
4. False
5. False

Notes



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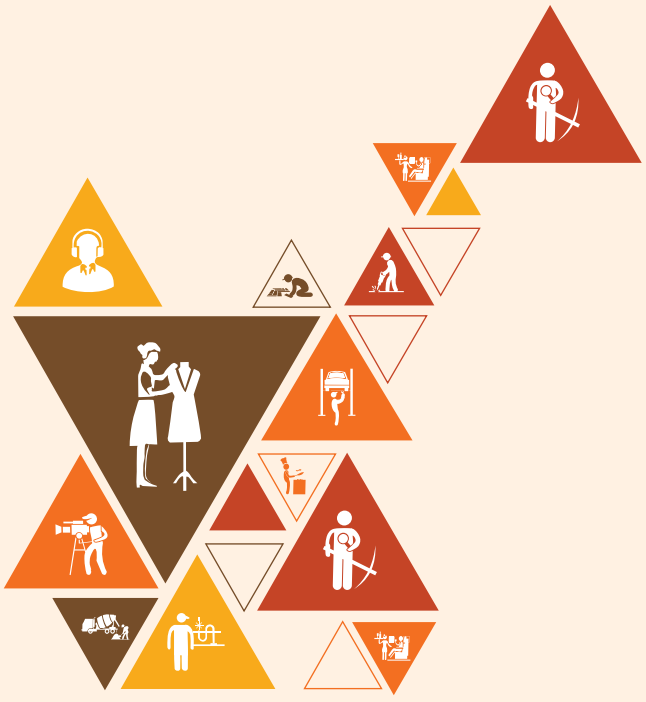
6. Plan and organize work to meet expected outcomes

Unit 6.1 Prioritise Work Activities to achieve Desired Results

Unit 6.2 Organising Resources

Unit 6.3 Sequence of Work for Brick Mason



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Key Learning Outcomes

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

- Demonstrate prioritizing of work activities to achieve the desired productivity.
- Demonstrate organizing of resources as per work plan prior to commencement of work.

Unit 6.1 Prioritise Work Activities to achieve Desired Results

Unit Objectives

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

- Explain methods to upkeep, store and stack tools, materials used for domain specific works.
- Explain the process of planning of the given tasks and activities relevant to the trade/job role within defined scope and duration.
- Explain basic concept of labour productivity and work productivity.
- Identify the work target and plan activities to achieve the desired productivity.
- Demonstrate the planning for various activities relevant to task as per the scope and schedule.
- Demonstrate how to organise the required tool, manpower and material resources for the assigned task.
- Select required quantity of materials, tools or devices for defined work activities.
- Demonstrate how to prioritize all works/ activities to maximise output.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about methods to upkeep, store and stack tools, materials used for domain specific works.

Say

In this session, we will explore the crucial aspects of maintaining tools and materials, ensuring they are stored correctly, and stacked safely. These skills are essential for efficiency and safety in any trade or job role.

Elaborate

- Importance of Tool and Material Upkeep
- Proper Storage Practices
- Safe Stacking Techniques
- Tool Maintenance
- Material Preservation
- Planning Tasks and Activities
- Understanding Labor and Work Productivity
- Setting Work Targets
- Efficient Resource Organization
- Prioritizing Work

Ask

- How can neglecting the upkeep, storage, or stacking of tools and materials affect the quality and safety of work?
- What strategies can be employed to ensure tools and materials are well-maintained and safely stored in your specific trade or job role?

Say

Now, let’s engage in some activities to practice inspecting and maintaining tools.

Activity 1

- **Purpose:** To practice inspecting and maintaining tools.
- **Resources Required:** Variety of tools, maintenance equipment (e.g., lubricants, cleaning supplies).
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Provide participants with various tools.
  2. Ask them to inspect and identify any maintenance needs (e.g., cleaning, oiling, and sharpening).
  3. Have them perform basic maintenance on the tools.
  4. Discuss the importance of tool maintenance as a group.
- **Expected Outcome:** Participants will gain practical experience in inspecting and maintaining tools relevant to their trade.

Say

Let's perform an activity about material storage and stacking challenge.

Activity 2

- **Purpose:** To practice proper material storage and stacking.
- **Resources Required:** Different types of materials, storage racks or shelves.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Provide participants with various materials.
  2. Assign them the task of organizing and stacking the materials efficiently and safely.
  3. Emphasize proper labeling and categorization.
  4. Have participants present their storage solutions to the group.
  5. Discuss the importance of organized material storage.
- **Expected Outcome:** Participants will learn effective material storage and stacking techniques.

Summary

- Teach participants proper material storage and stacking techniques.
- Participants organize and stack materials efficiently, emphasizing labeling and safety. They present solutions and discuss importance.

Notes for Facilitation:

- Explain the significance of organized material storage.
- Provide various materials relevant to participants' trades.
- Encourage creative and efficient organizing.
- Lead a discussion to share insights and lessons.

Notes

Unit 6.2 Organising Resources

Unit Objectives

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

- Explain requisition of resources, reporting for requirement of resources orally and in written to concerned authority.
- Demonstrate optimum use of resources while performing domain specific work activities.
- Demonstrate waste collection and disposal as per organisational norms.
- Explain how to minimise wastage of resources.
- Explain the plan for waste collection and disposal after task.
- Demonstrate requisition of resource citing an example.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information about optimum use of resources while performing domain specific work activities, waste collection and disposal as per organisational norms, minimise wastage of resources, etc.

Say

In this session, we will explore the essential aspects of resource requisition, effective resource utilization, and responsible waste collection and disposal. These skills are crucial for ensuring efficiency and sustainability in various work activities.

Elaborate

- Understanding Resource Requisition
- Optimal Resource Utilization
- Waste Collection and Disposal

Ask

- How can inefficient resource management affect the quality and outcome of work activities?
- What strategies can be employed to minimize resource wastage in your domain of work?

Say

Let's perform an activity about process of requisitioning resources.

Activity 1

- **Purpose:** To practice the process of requisitioning resources.
- **Resources Required:** Sample requisition forms, pens, notepads.
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Participants are given sample requisition forms.

2. Each participant writes down a resource requisition (e.g., materials, equipment) for a specific work scenario.
3. They can choose to present their requisition orally or in writing.
4. Discuss the requisitions as a group, emphasizing effective communication and clarity.

- **Expected Outcome:** Participants will learn the process of requisitioning resources.

Say

Let's perform an activity about waste collection and disposal.

Activity 2

- **Purpose:** To demonstrate responsible waste collection and disposal.
- **Resources Required:** Waste collection bins, sample waste items, disposal guidelines.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Participants are provided with waste collection bins and sample waste items.
  2. They follow organizational norms for sorting and disposing of waste.
  3. Discuss the challenges faced and the importance of proper waste disposal.
  4. Emphasize sustainability and environmental considerations.
- **Expected Outcome:** Participants will learn about waste collection and disposal.

Notes for Facilitation

- Ensure that all necessary tools and materials are readily available.
- Use real-life examples and case studies to enhance understanding.
- Foster a collaborative learning environment.
- Encourage active participation and hands-on practice.
- Emphasize the importance of responsible resource management and waste disposal in maintaining sustainability and meeting organizational goals.

Notes

Unit 6.3 Sequence of Work for Brick Mason

Unit Objectives

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

- Explain the procedure adopted for prioritizing an activity and sequencing of activities.
- Explain the work plan and flow of activities in sequence for the assigned work.
- Demonstrate completion of work within stipulated time and plan.

Resources to be Used

Presentation slides, flowcharts or diagrams depicting activity prioritization and sequencing, work planning tools, and project scheduling software.

Say

In this session, we will explore the crucial aspects of activity prioritization, sequencing, and executing work within defined timelines. These skills are paramount for successful project management and achieving project objectives efficiently.

Elaborate:

- Introduction to Activity Prioritization and Sequencing
- Understanding the Importance of a Logical Sequence
- Work Planning and Scheduling Tools
- Identifying Critical Path and Dependencies
- Factors Affecting Timely Completion
- Monitoring Progress and Adjusting Plans

Ask

1. How does effective activity prioritization and sequencing contribute to the overall success of a project?
2. Can you name some common tools or techniques used in project management for activity prioritization and sequencing?

Say

Let's engage in an activity to apply the principles of activity prioritization and sequencing.

Activity 1

- **Purpose:** To practice creating a work plan for a hypothetical project.
- **Resources Required:** Project scenario, work breakdown structure template, project management software (optional).
- **Tentative Duration:** 30 minutes
- **Procedure:**
    1. Divide participants into small groups.
    2. Provide each group with a project scenario and a work breakdown structure template.
    3. Ask them to prioritize activities, sequence them logically, and create a work plan.
    4. Encourage the use of project management software if available.

5. Each group presents its work plan to the others.
6. Discuss the rationale behind their prioritization and sequencing decisions.

- **Expected Outcome:** Participants will gain hands-on experience in creating a work plan, prioritizing activities, and understanding their sequence.

Say

Now, let's move on to another activity focused on executing work within stipulated timeframes.

Activity 2

- **Purpose:** To simulate work execution within set timeframes.
- **Resources Required:** Stopwatch or timer, a list of tasks, and a project scenario.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Provide participants with a list of tasks related to a project scenario.
  2. Set specific timeframes for completing each task.
  3. Ask participants to execute the tasks within the given timeframes.
  4. Use a stopwatch or timer to monitor and record the time taken for each task.
  5. Discuss the challenges faced and strategies employed to stay within the time limits.
  6. Share insights on time management in project execution.
- **Expected Outcome:** Participants will gain practical experience in executing work within stipulated timeframes and learn effective time management techniques.

Notes for Facilitation

- Ensure that all necessary materials and tools are readily available.
- Use visual aids and examples to enhance understanding.
- Foster a collaborative learning environment with group discussions.
- Encourage active participation and hands-on practice to reinforce concepts.

Exercise

I. Multiple Choice Questions (MCQs)

1. b. Specific, Measurable, Achievable, Relevant, Time-bound
2. c. Ensure work meets set rules and timelines
3. d. Work attire color
4. c. Clearing the work area
5. b. Identifying appropriate tools and equipment

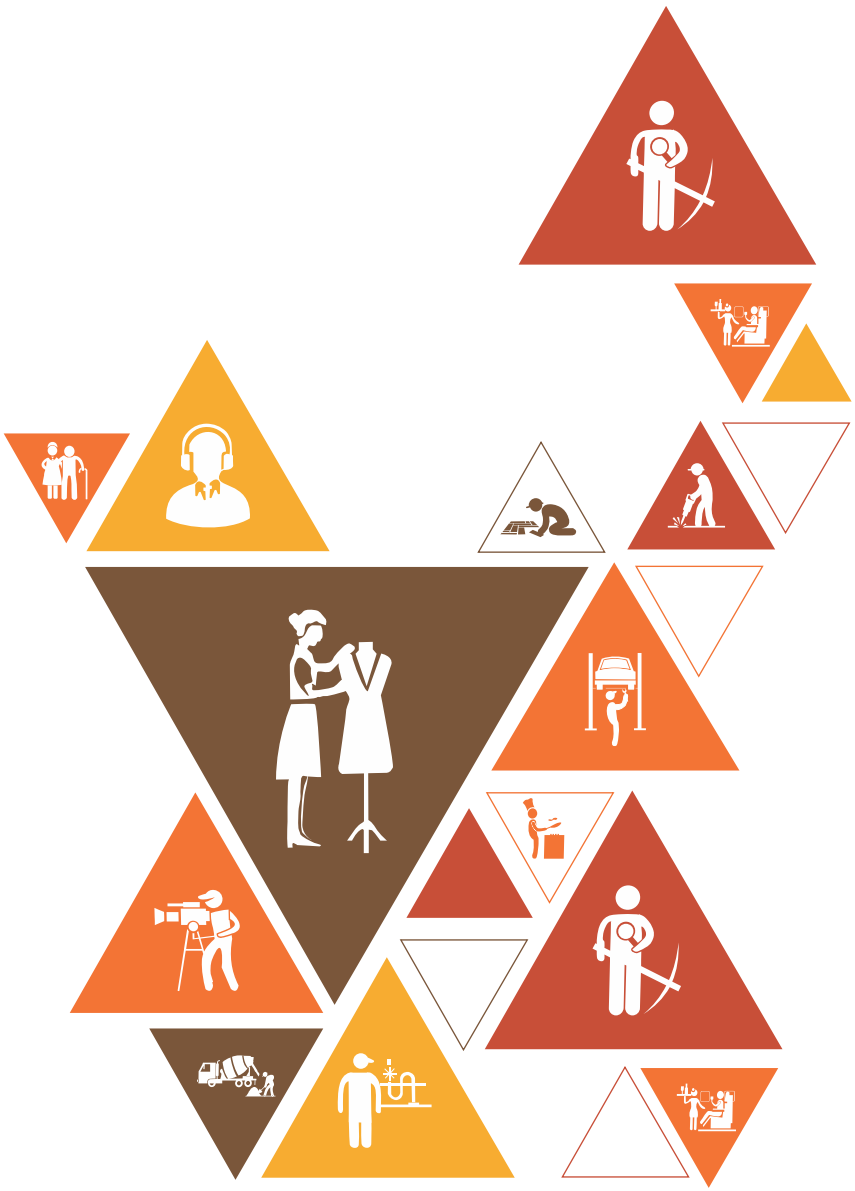
II. Fill in the Blanks

1. tools
2. monitoring
3. Efficiency
4. sequence
5. labor

III. Very Short Answers

1. SMART goals are used for setting specific, measurable, achievable, relevant, and time-bound objectives to guide and measure progress toward a desired outcome.
2. Monitoring is important in work activities to ensure that the work meets set rules and timelines, allowing for adjustments and corrections as needed to stay on track.
3. The purpose of joint thickness consistency in bricklaying is to ensure uniformity and structural integrity in the brickwork. Consistent joint thickness helps maintain the strength and appearance of the construction.
4. One factor that influences work productivity for brick masons is “time management.” Efficiently managing time during the construction process can significantly impact productivity.
5. The final step in the sequence of work for a brick mason can vary depending on the specific project, but typically, it involves “inspecting the final work” to ensure it meets quality standards and specifications.

Notes



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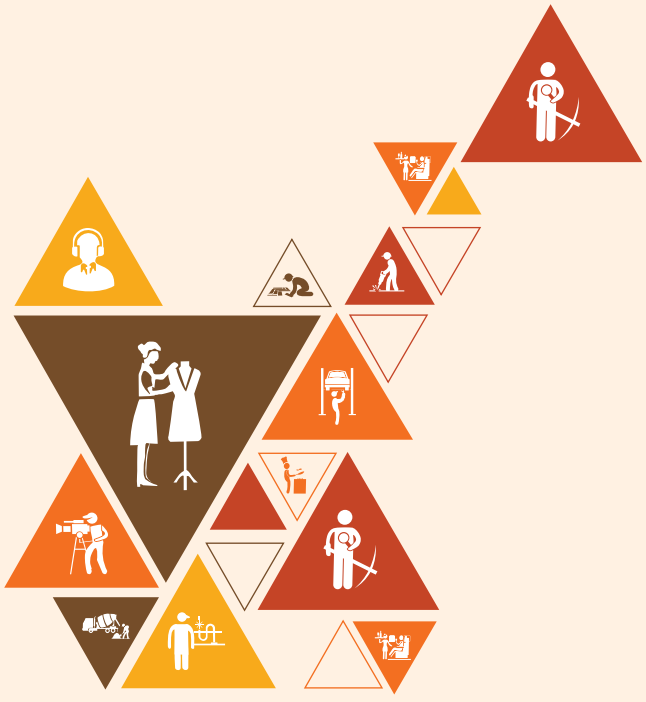
7. Work effectively in a Team to deliver Desired Results at the Workplace

Unit 7.1 Effective Communication and Teamwork

Unit 7.2 Working Effectively and Maintaining Discipline at Work

Unit 7.3 Working Effectively and Maintaining Discipline at Work



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Key Learning Outcomes

By the end of this module, participants 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 7.1 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

PowerPoint slides, pictures/posters and videos depicting various information about importance of effective communication, different modes of communication, consequence of poor teamwork, etc.

Say

In this session, we will explore the critical aspects of roles and responsibilities, effective communication, and teamwork in the context of a construction site. These skills are pivotal for the success, safety, and efficiency of construction projects.

Elaboration

- Roles and Responsibilities in Construction
- Effective Communication
- Teamwork in Construction

Ask

- What are the consequences of poor teamwork on construction project outcomes and safety?
- How can you improve teamwork and communication within your construction team?

Say

Let's perform an activity about effective communication skills.

Activity 1

- **Purpose:** To practice effective communication skills within a construction team.
- **Resources Required:** Mock construction project scenario, communication tools (e.g., walkie-talkies, whiteboard), construction safety equipment.
- **Tentative Duration:** 45 minutes
- **Procedure:**

1. Divide participants into teams.
2. Assign each team a specific construction scenario with tasks and objectives.
3. Teams must communicate effectively to achieve their goals while adhering to safety protocols.
4. Encourage participants to switch communication modes (verbal, written, visual) to find the most effective approach.
5. Discuss the outcomes and challenges as a group.

- **Expected Outcome:** Participants will understand the importance of clear communication and teamwork in achieving project goals and safety.

Say

Let's perform an activity about how to report issues or problems effectively.

Activity 2

- **Purpose:** To demonstrate how to report issues or problems effectively.
- **Resources Required:** Mock construction project scenario with potential problems, reporting forms or templates.
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Present participants with a mock construction scenario containing issues or problems.
  2. Instruct participants to use reporting forms to communicate these problems to supervisors.
  3. Emphasize the importance of clear, concise, and immediate reporting.
  4. Review the reported problems and discuss potential solutions.
- **Expected Outcome:** Participants will learn how to report issues promptly and clearly, facilitating quicker problem resolution.

Summary

- Participants clarify their roles and responsibilities, fostering accountability and teamwork.
- The importance of effective communication is stressed to prevent errors, enhance safety, and improve project efficiency.
- Participants learn various workplace communication modes, understand the consequences of poor teamwork, and gain skills in clear information sharing and prompt problem reporting.

Notes for Facilitation:

- Ensure that all necessary tools and materials are readily available.
- Use real-life construction scenarios whenever possible.
- Encourage active participation and hands-on practice.
- Promote open discussion to address questions and challenges effectively.

Notes

Unit 7.2 Working Effectively and Maintaining Discipline at Work

Unit Objectives

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

- Explain the importance of creating healthy and cooperative work environment among the gangs of workers.
- Elucidate applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement.
- 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 hand over the required material, tools, tackles, equipment and work fronts timely to interfacing teams.
- Demonstrate ways to work together with co-workers in a synchronized manner.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information depicting teamwork and cooperation, effective communication and collaboration, etc.

Say

In this session, we will explore the importance of fostering a healthy and cooperative work environment among construction workers. A harmonious workplace not only enhances productivity but also contributes to the overall success of construction projects.

Elaborate

- Importance of a Cooperative Work Environment
- Techniques for Promoting Cooperation
- Safety Standards and Practices
- Supporting Co-Workers
- Timely Material and Equipment Handover
- Working Synchronizedly

Ask

- What are some real-life examples of how a lack of cooperation can impact a construction project negatively?
- How can effective communication help prevent misunderstandings and improve work coordination on a construction site?

Say

Let’s perform an activity about how to emphasize the importance of a cooperative work environment.

Activity 1

- **Purpose:** To emphasize the importance of a cooperative work environment and develop techniques for promoting cooperation among team members.
- **Resources Required:** Workshop space, whiteboard, markers, flip charts, group discussion materials.
- **Tentative Duration:** 1 hour
- **Procedure:**
    1. Begin with a brief discussion on the significance of a cooperative work environment.
    2. Conduct a group brainstorming session to identify common challenges to cooperation.
    3. Facilitate a discussion on techniques and strategies for promoting cooperation, encouraging active participation.
    4. Divide participants into small groups to create action plans for implementing these techniques.
    5. Each group presents their action plan, and the workshop concludes with a collective commitment to fostering cooperation.
- **Expected Outcome:** Participants will understand the value of cooperation, identify challenges, and leave with practical strategies for promoting a cooperative work environment.

Say

Let's perform an activity about safety and synchronization with team members.

Activity 2

- **Purpose:** To reinforce safety standards and practices while emphasizing the importance of working in sync with team members.
- **Resources Required:** Construction site or suitable workspace, safety gear, equipment, supervisor/instructor.
- **Tentative Duration:** 2 hours
- **Procedure:**
    1. Conduct a safety briefing, emphasizing key safety standards and practices specific to the workplace.
    2. Divide participants into pairs or teams.
    3. Assign each team a task that requires close coordination and synchronization.
    4. Participants must perform the task while adhering to safety protocols and working in sync.
    5. After completion, conduct a debriefing session where participants share their experiences and lessons learned.
    6. Emphasize the importance of timely material and equipment handover and supporting co-workers in maintaining safety and synchronization.
- **Expected Outcome:** Participants will have a hands-on understanding of safety practices and the benefits of working in sync, ensuring they prioritize these aspects in their daily work.

Summary

A cooperative work environment is the cornerstone of successful construction projects. It ensures the well-being of workers, project efficiency, and quality results. By applying effective communication, teamwork, and safety practices, we can create a workplace where everyone thrives.

Notes for Facilitation:

- Encourage open discussions and sharing of experiences.
- Use real-world examples and case studies.
- Promote a culture of respect and support among participants.
- Provide constructive feedback and guidance during activities.

Notes

Unit 7.3 Working Effectively and Maintaining Discipline at Work

Unit Objectives

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

- 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 the workplace.
- Demonstrate ways to address discriminatory and offensive behaviour in a professional manner as per organizational policy.

Resources to be Used

PowerPoint slides, pictures/posters, and videos depicting information related to gender equality, disability culture, and cultural diversity in the workplace. Additionally, reference materials such as legislation, policies, and procedures.

Say

In this session, we will delve into the crucial topics of gender equality, disability culture, and cultural diversity in the workplace. Understanding and embracing these concepts are vital for creating inclusive and harmonious work environments that foster respect, collaboration, and productivity.

Elaboration

- Fundamental Concept of Gender Equality
- Recognizing and Being Sensitive to Issues of Disability Culture and Gender
- Legislation, Policies, and Procedures
- Effective Implementation of Gender-Neutral Practices
- Addressing Discriminatory and Offensive Behavior

Ask

- What are some tangible examples of how gender inequality can affect the workplace and its dynamics?
- How can promoting cultural diversity enhance creativity and innovation within a team or organization?

Say

Let's perform an activity about gender sensitivity workshop.

Activity 1

- **Purpose:** To promote understanding of gender equality and sensitivity.

- **Resources Required:** Presentation materials, case studies, group discussion materials.
- **Tentative Duration:** 1.5 hours
- **Procedure:**
    1. Begin with an interactive presentation on the concept of gender equality.
    2. Engage participants in group discussions using case studies highlighting gender-related issues.
    3. Encourage participants to share strategies for promoting gender sensitivity in their roles.
    4. Conclude with a commitment to fostering gender equality in the workplace.
- **Expected Outcome:** Participants will gain a deeper understanding of gender sensitivity and be motivated to apply these principles in their work.

Say

Let's perform an activity about cultural diversity simulation.

Activity 2

- **Purpose:** To provide first-hand experience in recognizing and respecting cultural diversity.
- **Resources Required:** Simulation materials, diverse group of participants.
- **Tentative Duration:** 2 hours
- **Procedure:**
    1. Conduct a simulation activity that places participants in diverse cultural contexts.
    2. Encourage participants to navigate the scenarios while being sensitive to cultural differences.
    3. Facilitate a debriefing session where participants share their experiences and lessons learned.
    4. Discuss how cultural diversity can be harnessed for innovation and problem-solving.
- **Expected Outcome:** Participants will develop cultural awareness and sensitivity, fostering a more inclusive workplace.

Summary

Embracing gender equality, disability culture, and cultural diversity is not just about compliance; it's about creating a workplace where every individual feels valued and respected. By understanding the fundamentals, recognizing issues, following legislation, and implementing inclusive practices, we can build workplaces that celebrate diversity and ensure everyone's contributions are appreciated.

Notes for Facilitation:

- Encourage open discussions and the sharing of personal experiences.
- Use real-life examples and case studies to illustrate key points.
- Provide a safe space for participants to ask questions and seek clarification.
- Highlight the benefits of diversity and inclusion, both for individuals and organizations.

Exercise

I. Short Questions:

1. Effective communication ensures that project goals, instructions, and safety guidelines are understood and followed by all team members, reducing errors and accidents.
2. Poor teamwork can lead to project delays, compromised quality, increased safety risks, and decreased overall project efficiency.
3. You can pass on work-related information clearly by using clear and concise language, providing written instructions when necessary, and ensuring active listening and feedback from team members.
4. Different modes of communication used in the workplace include verbal (spoken), written (e.g., emails, reports), visual (e.g., charts, diagrams), and digital (e.g., video conferencing, messaging apps) forms.
5. Creating a healthy and cooperative work environment fosters unity and collaboration among workers, leading to better productivity, improved morale, and a safer workplace.

II. Fill-in-the-Blanks Questions:

1. Effective
2. quality
3. concise
4. digital
5. unity

III. True/False Questions:

1. False
2. False
3. False
4. False
5. True

Notes

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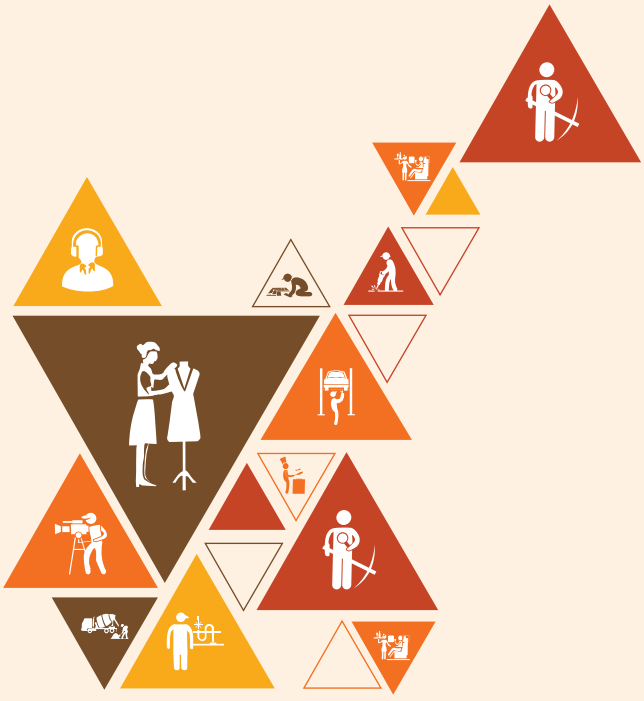
8. Elective 1
Process of carrying out Brick Bat Coba Waterproofing

Unit 8.1 Brick Bat Coba Waterproofing



(CON/N0146)

Key Learning Outcomes

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

- Demonstrate brick bat coba water proofing.

Unit 8.1 Brick Bat Coba Waterproofing

Unit Objectives

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

- Interpret the sketches/basic working drawing for waterproofing works
- Describe the standard practices for waterproofing works.
- Explain the use of various tools and equipment used for waterproofing works and their standard specifications.
- Describe the different surface preparation method prior to waterproofing.
- Describe the procedure for laying out brick bat coba waterproofing course.
- Describe the procedure of checking water leakage in waterproofed surface.
- Describe the procedure for carrying out horizontal and vertical alignment of waterproofed course.
- Describe the procedure for transferring levels on floor for maintaining desired slope.
- Demonstrate preparation of surface (filling of non-structural gaps) prior to waterproofing works.
- Demonstrate marking and transferring of required levels for maintaining slope in waterproofing works.
- Demonstrate application of cement mortar to the prepared surface using appropriate tools.
- Demonstrate laying of brick bat coba course for waterproofing works ensuring line, level and alignment.
- Perform checks for detecting leakage on the waterproofed surface
- Demonstrate filling of gaps in brick bat coba course using appropriate cement mortar of specified thickness.

Resources to be Used

PowerPoint slides, pictures/posters and videos depicting various information depicting standard practices for waterproofing works, laying out brick bat coba waterproofing, preparation of surface, marking and transferring of required levels for maintaining slope in waterproofing works, etc.

Say

In this session, we will learn the importance of waterproofing in construction to prevent water damage and maintain structural integrity.

Elaborate

- Interpretation of Sketches and Basic Working Drawings for Waterproofing Work
- Standard Practices for Waterproofing Works
- Use of Tools and Equipment
- Surface Preparation Methods
- Laying Out Brick Bat Coba Waterproofing Course
- Checking Water Leakage
- Horizontal and Vertical Alignment
- Transferring Levels for Desired Slope
- Surface Preparation and Gap Filling
- Marking and Transferring Levels for Slope
- Application of Cement Mortar
- Laying Brick Bat Coba Course
- Leakage Detection
- Gap Filling in Brick Bat Coba Course

Say

Let's perform an activity about waterproofing material exploration.

Activity 1

- **Purpose:** To familiarize participants with various waterproofing materials.
- **Resources Required:** Samples of waterproofing materials, product specifications, safety equipment.
- **Tentative Duration:** 30 minutes
- **Procedure:**
  1. Present different waterproofing materials to the participants.
  2. Provide product specifications and safety guidelines.
  3. Ask participants to examine and discuss the characteristics and applications of each material.
  4. Encourage questions and facilitate a group discussion.
  5. Summarize the advantages and disadvantages of each material.
- **Expected Outcome:** Participants will gain knowledge about different waterproofing materials and their applications.

Say

Let's perform another activity about procedure for laying out brick bat coba waterproofing course.

Activity 2

- **Purpose:** To simulate the process of laying out a brick bat coba waterproofing course.
- **Resources Required:** Mockup of a surface, bricks, cement mortar, measuring tools.
- **Tentative Duration:** 45 minutes
- **Procedure:**
  1. Divide participants into small groups.
  2. Provide each group with a mockup surface and the necessary materials.
  3. Instruct them to follow the procedure for laying out a brick bat coba course.
  4. Emphasize the importance of maintaining line, level, and alignment.
  5. Facilitate discussions and address any challenges or questions.
  6. Have each group present their work and evaluate its quality.
- **Expected Outcome:** Participants will gain practical experience in brick bat coba waterproofing and understand the importance of precision in the process.

Summary

- Summarize key points discussed during the session.
- Encourage participants to apply their knowledge of waterproofing principles and brick bat coba waterproofing in real-world construction projects.
- Open the floor for questions and discussions.

Notes for Facilitation

- Ensure that all required materials and tools are readily available.
- Use visual aids and diagrams to enhance understanding.
- Create a supportive and collaborative learning environment.
- Encourage active participation and hands-on practice.

Exercise

I. Multiple Choice Questions (MCQs):

1. d. Preventing leakages
2. d. Brick bat coba
3. c. Discoloration caused by deposits after construction
4. d. Chisel
5. b. To increase the surface's roughness

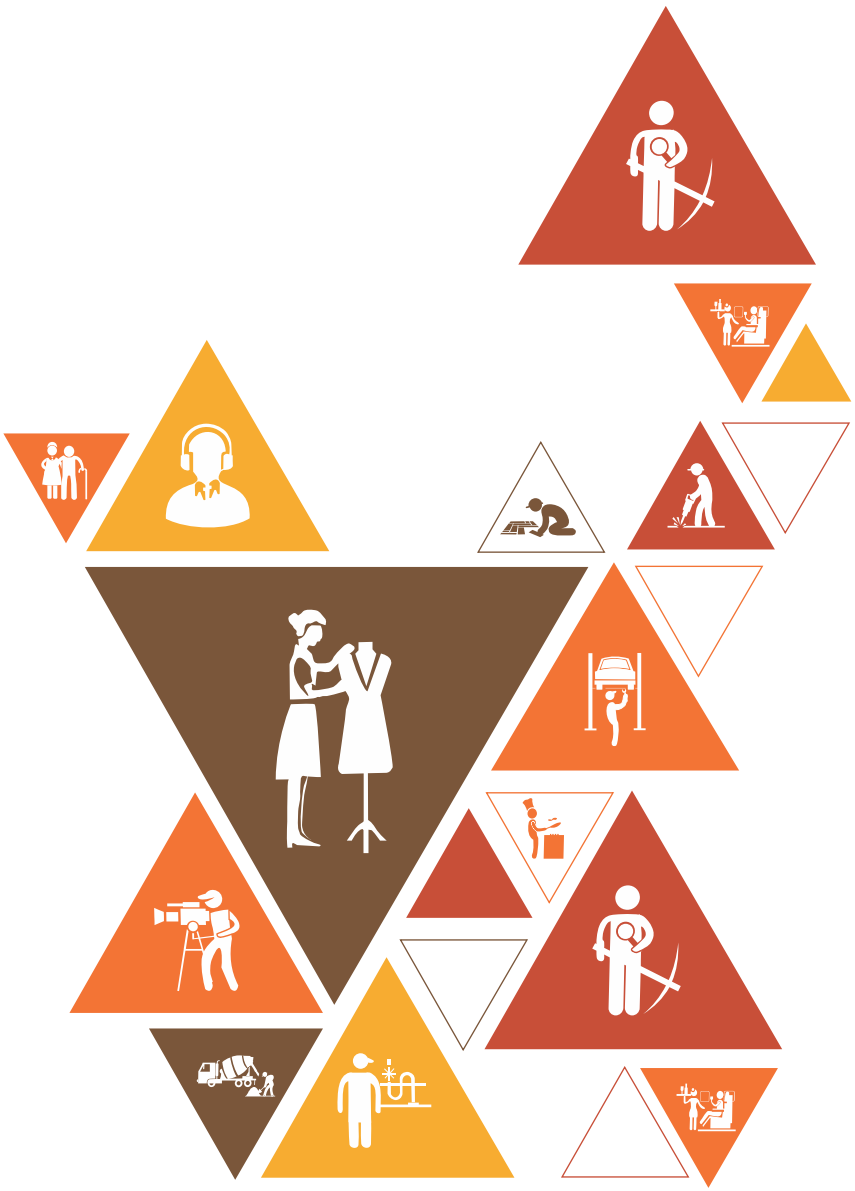
II. Fill in the Blanks:

1. Brick bat coba
2. surfaces
3. cement
4. drainage
5. 7 days

III. Very Short Answer Questions:

1. Waterproofing prevents water infiltration, which can cause structural damage and reduce the lifespan of a building.
2. Concrete surfaces can develop defects such as cracks, spalling, and efflorescence.
3. The slope in the brick bat coba method is achieved by placing and leveling broken bricks and aggregates at a sloping angle on the terrace surface.
4. Silicon-based impregnators are used to penetrate and seal the pores of surfaces, making them water-resistant.
5. Trowel is used to spread and smooth waterproofing compounds evenly over surfaces to create a waterproof barrier.

Notes



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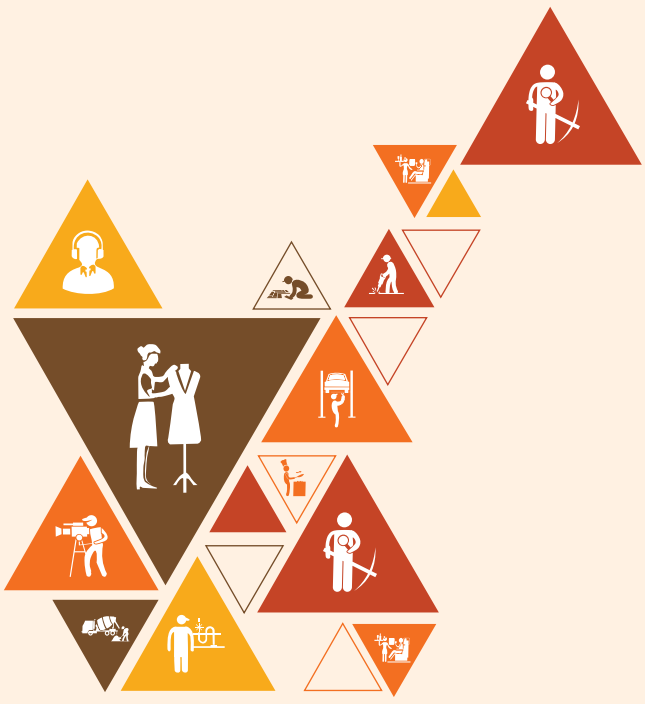
9. Process of carrying out IPS (Indian Patent Stone) Flooring

Unit 9.1 IPS (Indian Patent Stone) Flooring



(CON/N90147)

Key Learning Outcomes

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

- Perform preparatory works for IPS flooring.
- Demonstrate laying of IPS flooring.

Unit 9.1 IPS (Indian Patent Stone) Flooring

Unit Objectives

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

- Describe the standard practices for IPS flooring.
- Explain the use of tools used in IPS flooring.
- Explain the procedure for marking reference level and transferring of levels.
- Explain the process of preparation of sub-base.
- Explain the various grades of cement used in IPS flooring.
- Describe the different mix proportions/grades of concrete.
- Describe the procedure for manual mixing of concrete and nominal mix proportion.
- List the various admixtures used in concreting.
- Describe the sequence and procedure of concrete pouring and placing in alternate panels.
- Explain the provision of cover for reinforcement w.r.t size of reinforcement
- Describe the different type of vibrators used for concrete curing and their influence area.
- Describe the different construction and expansion joints.
- List the different tools used for grooving/providing expansion joints.
- Describe the procedure for final trowelling of concrete for desired finish.
- Demonstrate the checks to be carried out for inspection of area prior to concreting
- Demonstrate checks for formwork and deviation in slope and alignment in PCC.
- Demonstrate marking and transfer of levels on floor for required thickness using appropriate tools.
- Demonstrate checks for assessing the quality of materials used in manual and machine mixing of mortar, for IPS flooring works.
- Demonstrate fixing of glass, aluminium or brass strip in cement mortar with their tops at appropriate level and according to slope.
- Demonstrate pouring, compaction and finishing of concrete in alternate panels.
- Demonstrate cutting of groves for providing construction joints and expansion joints as per requirement.
- Demonstrate levelling and curing of the finished floor surface.

Resources to be Used

PowerPoint slides, pictures/posters, videos demonstrating IPS flooring techniques, tools, and equipment used in construction.

Say

In this session, we will delve into the essential aspects of IPS (In-situ Polished Concrete) flooring, a crucial component in construction. We'll cover the standard practices, tools, techniques, and materials involved in achieving a successful IPS flooring installation.

Elaborate

- Standard Practices for IPS Flooring
- Tools Used in IPS Flooring
- Marking Reference Level and Transferring Levels
- Preparation of Sub-bas
- Grades of Cement
- Concrete Mix Proportions
- Manual Mixing of Concrete

- Admixtures
- Concrete Pouring and Placing
- Reinforcement Cover
- Vibrators for Concrete Curing
- Construction and Expansion Joints
- Tools for Grooving/Expansion Joints
- Final Trowelling of Concrete

Ask

- What are the potential challenges in achieving a consistent finish in IPS flooring, and how can they be overcome?
- How do the choice of concrete mix proportions and the use of admixtures impact the quality of IPS flooring?
- Why is it important to maintain proper reinforcement cover in IPS flooring, and what are the consequences of inadequate cover?

Say

Let's perform an activity about concrete mixing and pouring demonstration.

Activity 1

- **Purpose:** To demonstrate the process of concrete mixing and pouring for IPS flooring.
- **Resources Required:** Concrete mixer, various grades of cement, aggregate, water, and tools for mixing, designated flooring area.
- **Tentative Duration:** 1.5 hours
- **Procedure:**
    1. Explain the importance of concrete mix proportions and demonstrate how to prepare a nominal mix.
    2. Conduct a hands-on demonstration of concrete mixing, ensuring participants understand the process.
    3. Show the correct technique for pouring and placing concrete on the designated flooring area.
    4. Discuss the significance of proper concrete curing.
- **Expected Outcome:** Participants will gain practical experience in concrete mixing and pouring techniques for IPS flooring.

Say

Let's perform an activity about expansion joint creation and final trowelling.

Activity 2

- **Purpose:** To demonstrate the creation of expansion joints and the final trowelling process for IPS flooring.
- **Resources Required:** Concrete flooring sample, tools for grooving/expansion joints, finishing tools, designated workspace.
- **Tentative Duration:** 1.5 hours

- **Procedure:**
    1. Explain the importance of expansion joints and their role in preventing cracks.
    2. Demonstrate the use of tools for creating expansion joints.
    3. Show the proper technique for final trowelling to achieve the desired finish.
    4. Allow participants to practice creating expansion joints and trowelling on a sample floor.
- **Expected Outcome:** Participants will learn the importance of expansion joints, how to create them, and the art of achieving the desired finish through trowelling.

Summary

- IPS flooring plays a vital role in construction, necessitating meticulous attention to detail, utilization of appropriate materials, and mastery of specific techniques.
- A comprehensive understanding of the established industry practices, tools, and procedural guidelines is essential for participants to actively contribute to the successful execution of IPS flooring projects.
- Achieving high-quality results in IPS flooring hinges on effective communication and collaboration among construction team members, emphasizing the importance of seamless teamwork.

Notes for Facilitation

- Encourage active participation and hands-on learning during activities.
- Use visual aids and real-life examples to enhance understanding.
- Emphasize safety precautions during demonstrations.
- Promote open discussions to address questions and challenges effectively.

Exercise

I. Multiple Choice Questions (MCQs):

1. b. Portland Pozzolana Cement (PPC)
2. a. Prevent cracking due to shrinkage
3. a. 5-10mm
4. c. Saw cutter
5. d. To promote proper strength development

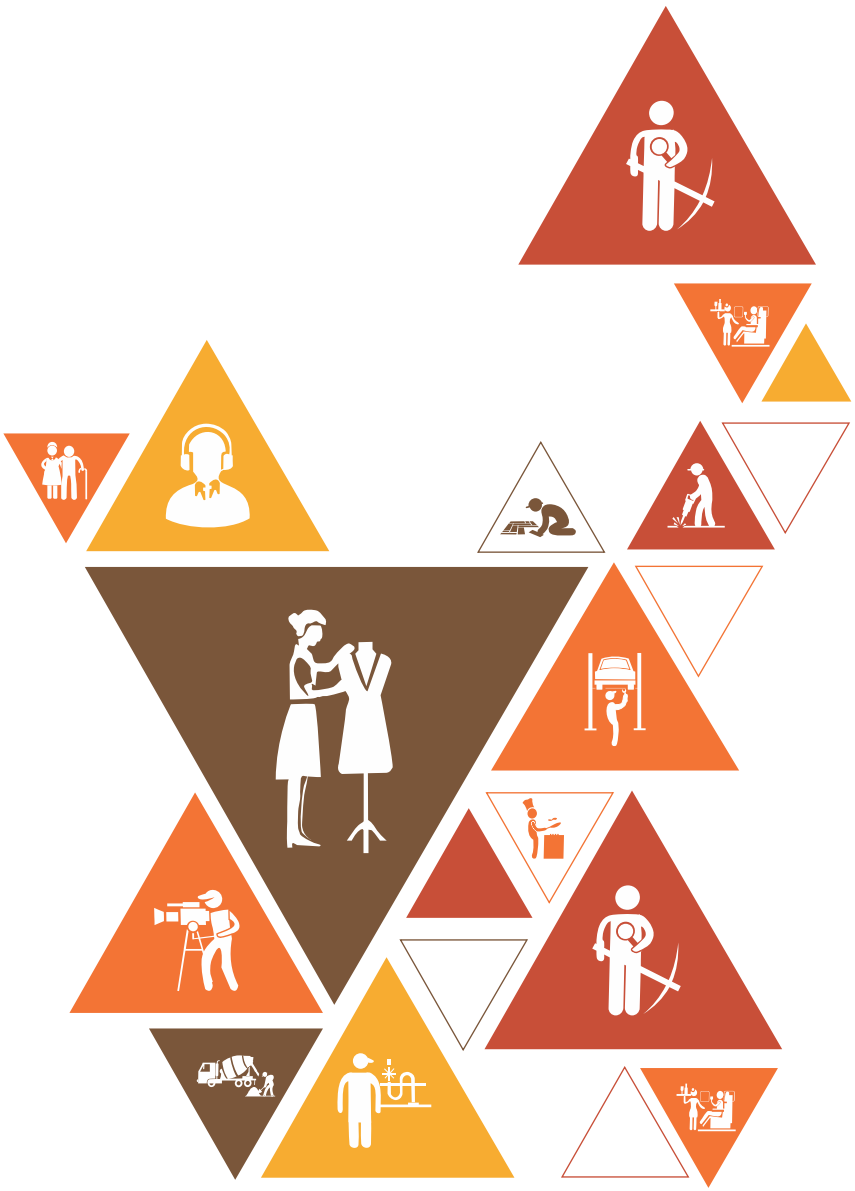
II. Fill in the Blanks:

1. Indian Patent Stone
2. Plain cement concrete (PCC)
3. Cement
4. 15-20 mm
5. Temperature

III. Very Short Answer Questions:

1. IPS stands for “Indian Patent Stone” in IPS flooring.
2. Construction joints are introduced to separate concrete placements made at different times or to accommodate changes in construction methods.
3. A saw cutter or concrete joint cutter is commonly used for this purpose.
4. Isolation joints are used to separate different parts of a concrete structure to allow for independent movement, such as between a building and a sidewalk.
5. Internal vibrators are used to consolidate freshly poured concrete by vibrating it, which helps remove air voids and ensures that the concrete is properly compacted and free of bubbles, leading to increased strength and durability.

Notes



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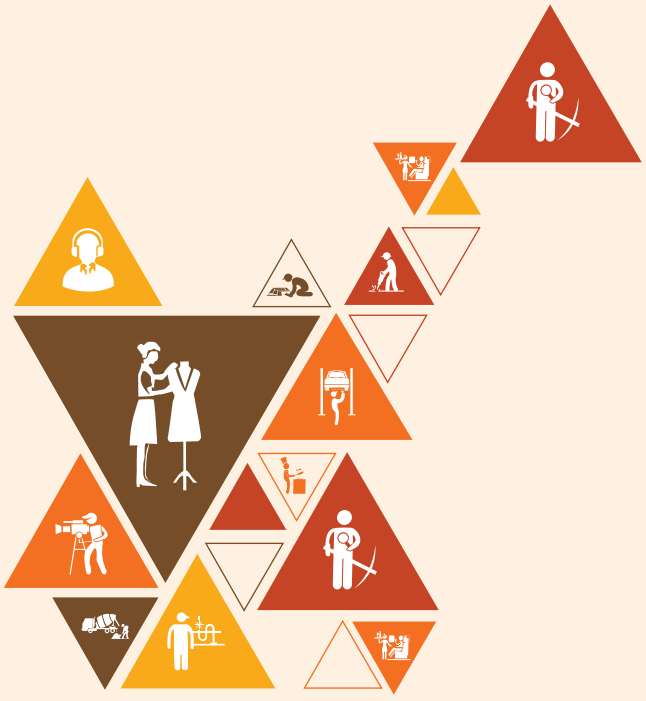
10. Elective 2
Process of applying Plaster on Internal & External Surfaces of Masonry & RCC Structure

Unit 10.1 Plastering Internal and External Surfaces



(CON/N0111)

Key Learning Outcomes

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

- Demonstrate plastering of internal and external masonry and RCC structures.
- Perform checks for line, level and alignment.

Unit 10.1 Plastering Internal and External Surfaces

Unit Objectives

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

- Interpret the sketches/basic working drawing for plastering.
- Discuss the standard practices for plastering works.
- Describe the use of tools and equipment used for plastering works and their standard specifications.
- Describe the process of carrying out layout marking and levelling for plastering works
- Describe the different materials used for plastering and various ratios of mix proportion used for plastering on internal and external surfaces.
- Describe the various visual checks performed on materials and surface for plastering.
- Discuss the gradation of sand for internal plastering works.
- Explain the different types of plasters such as sand faced plaster, rough cast plaster, pebbled cast plaster, smooth cast plaster etc.
- Explain the procedures and techniques for plastering internal and external masonry and RCC structures.
- Explain the procedure for determining the horizontal and vertical alignment using plumb bob.
- Demonstrate setting out of the layout as per drawing/instruction and transferring of levels as per layout
- Perform visual checks for sand, cement and surface to be plastered
- Provide a rough estimate for the quantity of material required for plastering.
- Demonstrate the checks to ensure the compliance of cement mortar mix to specified proportion.
- Demonstrate placing of dummy dots, application of cement slurry and cement mix for obtaining desired thickness of plaster using appropriate tools.
- Demonstrate checks for vertical and horizontal alignment using appropriate tools of plastered surface.
- Demonstrate setting out of 90° at corners is required.

Resources to be Used

PowerPoint slides, sketches/basic working drawings depicting plastering, pictures/posters of plastering tools and equipment, videos illustrating plastering techniques.

Say

In this session, we will delve into the world of plastering, a fundamental aspect of construction. We'll explore how to interpret sketches and working drawings for plastering, standard practices, tools and equipment specifications, material ratios, and various plastering techniques. This knowledge is crucial for achieving smooth and durable finishes in construction.

Elaborate:

- Interpretation of Sketches/Working Drawings
- Standard Practices
- Tools and Equipment used for plastering and their specifications.
- Layout Marking and Leveling

- Materials for Plastering
- Visual inspections of materials and surfaces.
- Sand gradation for internal plastering.
- Types of Plasters
- Procedures and techniques for plastering masonry and RCC structures.
- Alignment with Plumb Bob

Ask

- How can interpreting sketches and drawings accurately impact the quality of plastering work?
- What are the key factors that determine the choice of plaster type for a specific construction project?
- How does the use of the right tools and equipment affect the efficiency and quality of plastering work?

Say

Let's perform an activity about sketch interpretation and tool identification.

Activity 1

- **Purpose:** To practice interpreting sketches for plastering and identifying the tools and equipment required.
- **Resources Required:** Sketches or working drawings, plastering tools, and equipment samples.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Provide participants with sketches or drawings of plastering requirements.
    2. Ask them to identify the tools and equipment needed for the job.
    3. Discuss and compare their findings as a group.
    4. Emphasize the importance of accurate interpretation and tool selection.
- **Expected Outcome:** Participants will improve their ability to understand and visualize plastering requirements and identify the necessary tools.

Say

Let's perform an activity about plastering techniques.

Activity 2

- **Purpose:** To demonstrate plastering techniques on a sample surface.
- **Resources Required:** Sample surface (e.g., wall or board), plastering materials, tools, instructor.
- **Tentative Duration:** 1.5 hours
- **Procedure:**
    1. Provide a sample surface with the necessary materials and tools.
    2. Demonstrate plastering techniques, emphasizing key steps and best practices.
    3. Allow participants to practice plastering under supervision.
    4. Discuss common challenges and provide guidance.
    5. Conduct a debriefing session to highlight important takeaways.

- **Expected Outcome:** Participants will gain practical experience in plastering techniques, boosting their confidence and skills for real-world applications.

Summary

- Plastering knowledge is essential for achieving construction quality. We covered sketch interpretation, industry standards, tools, materials, and techniques.
- Hands-on activities empowered participants to apply this knowledge, boosting their readiness for actual plastering tasks.

Notes for Facilitation

- Encourage active participation and hands-on learning.
- Provide constructive feedback during activities.
- Share real-life examples of successful plastering projects.
- Emphasize the importance of precision and attention to detail in plastering work.

Exercise

I. Multiple Choice Questions (MCQs):

1. a. Rough and textured surfaces
2. c. To level the surface and improve adhesion
3. d. Scratch coat
4. d. Lime plastering uses a mixture of lime and sand, while cement plastering uses cement and sand.
5. b. Finishing trowel

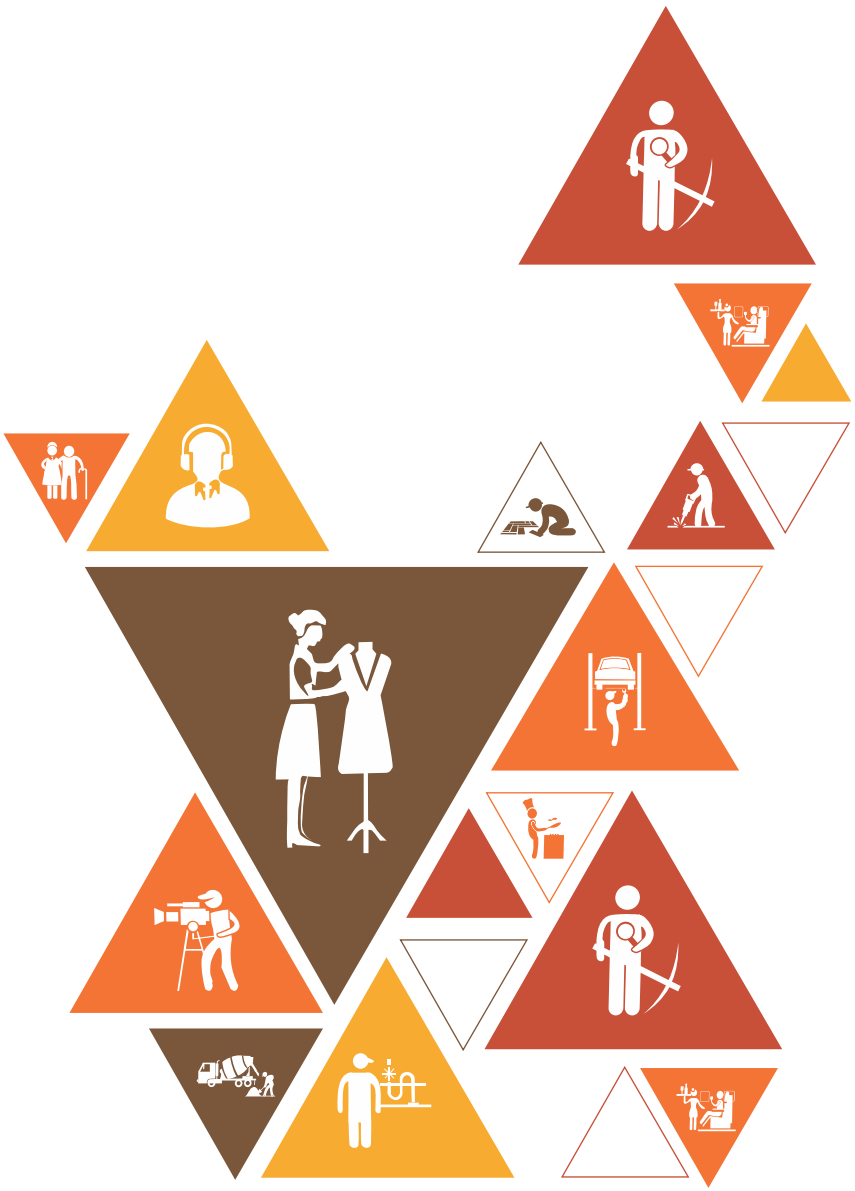
II. Fill in the Blanks:

1. finishing
2. two
3. plasterer's hawk
4. multiple
5. scratch

III. Very Short Answer Questions:

1. Plastering in construction serves the purpose of providing a smooth, even, and aesthetically pleasing surface finish to walls and ceilings. It also helps in protecting the underlying structure and can enhance insulation and fire resistance.
2. The scratch coat is the initial, rough layer of plaster applied to a surface. Its purpose is to create a textured surface for better adhesion of subsequent coats. The brown coat, on the other hand, is the second layer applied after the scratch coat. It is smoother and helps level the surface further.
3. A plumb bob and nylon thread are used in plastering to ensure that the plastered surface is vertical (plumb) and not skewed. They help maintain straight and true vertical lines on the wall or surface being plastered.
4. Sgraffito is created in plastering by applying a colored layer of plaster on top of a base coat and then selectively scratching or carving through the colored layer to reveal the base coat beneath. This technique is used to create intricate decorative patterns and designs.
5. Wetting the surface before applying plaster is essential because it prevents the surface from absorbing water from the plaster too quickly. This slows down the drying process, allowing for better adhesion and reducing the risk of cracks in the plaster. Wetting also helps the plaster cure more evenly.

Notes



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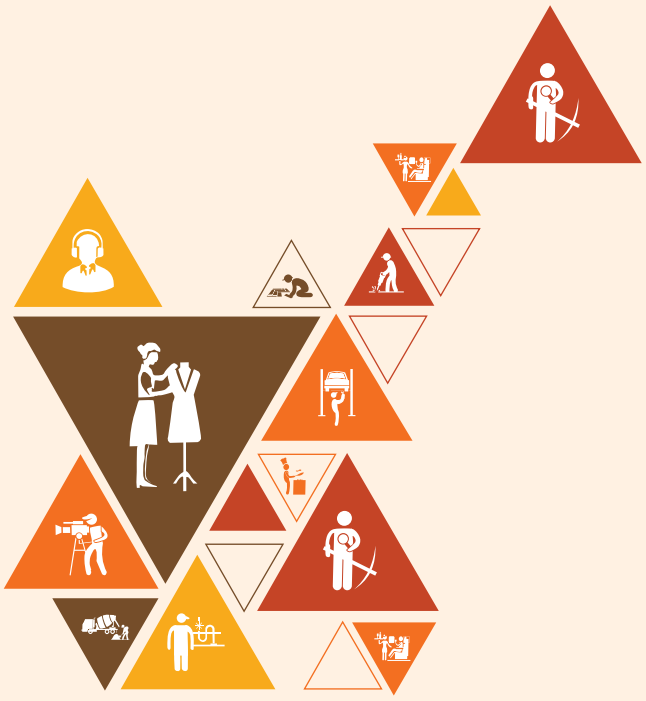
11. Option 1 Process of carrying out VDF (Vaccum Dewatered Floor) Flooring

Unit 11.1 Vacuum Dewatered Flooring (VDF)



(CON/N0148)

Key Learning Outcomes

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

- Perform preparatory works for VDF flooring.
- Demonstrate VDF flooring.

Unit 11.1 Vacuum Dewatered Flooring (VDF)

Unit Objectives

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

- Describe the standard practices for VDF flooring.
- Explain the use of tools used in VDF flooring.
- Explain the procedure for marking reference level and transferring of levels.
- Explain the process of preparation of sub-base for VDF flooring.
- Explain the various grades of cement used in VDF flooring.
- Describe the different mix proportions/grades of concrete for VDF flooring.
- Describe the procedure for manual mixing of concrete and nominal mix proportion.
- List the various admixtures used in concreting.
- Describe the sequence and procedure of concrete pouring and placing in specified panels for VDF flooring.
- Explain the provision of cover for reinforcement w.r.t size of reinforcement.
- Describe the different type pf vibrators used for concrete curing and their influence area.
- Describe the different construction and expansion joints.
- List the different tools used for grooving/providing expansion joints.
- Describe the process of excess water removal using vacuum dewatering machine.
- Demonstrate the checks to be carried out for inspection of area prior to concreting
- Demonstrate checks for formwork and deviation in slope and alignment in PCC.
- Demonstrate marking and transfer of levels on floor for required thickness using appropriate tools.
- Demonstrate checks for assessing the quality of materials used in manual and machine mixing of mortar, for VDF flooring works.
- Demonstrate the laying of stone soling/ boulder soling layer.
- Demonstrate the laying of floor above the stone soling maintain appropriate slope.
- Demonstrate pouring, compaction and finishing of concrete in specified panels for tremix flooring using tools such as floaters and vacuum dewatering machines.
- Demonstrate cutting of groves for providing construction joints and expansion joints as per requirement.
- Demonstrate levelling and curing of the finished floor surface.

Resources to be Used

PowerPoint slides, pictures/posters, and videos illustrating various aspects of VDF (Vacuum Dewatered Flooring) installation, tools used, concrete mixing, reinforcement, expansion joints, and vacuum dewatering.

Say

In this session, we will delve into the essential aspects of VDF flooring installation, a critical component of construction. Understanding the standard practices, tools, materials, and procedures involved is crucial for achieving high-quality flooring results.

Elaborate

- Standard Practices for VDF Flooring
- Use of Tools in VDF Flooring
- Marking Reference Levels and Level Transfer
- Preparation of Sub-base
- Grades of Cement
- Concrete Mix Proportions
- Manual Mixing of Concrete
- Admixtures
- Concrete Pouring and Placing
- Reinforcement Cover
- Vibrators for Concrete Compaction
- Construction and Expansion Joints
- Tools for Grooving/Expansion Joints
- Vacuum Dewatering Process

Ask

- What are the key challenges encountered during VDF flooring installation?
- How does the choice of concrete mix proportions impact the quality of VDF flooring?
- What safety measures are essential during the vacuum dewatering process?

Say

Let's perform an activity about concrete mixing.

Activity 1

- **Purpose:** To demonstrate the procedure for manually mixing concrete for VDF flooring.
- **Resources Required:** Concrete ingredients, mixing equipment, safety gear.
- **Tentative Duration:** 45 minutes
- **Procedure:**
    1. Show participants the materials required for concrete mixing.
    2. Demonstrate the step-by-step process of manual concrete mixing, emphasizing proper proportions.
    3. Allow participants to practice mixing concrete in small batches under supervision.
    4. Discuss the importance of accurate mixing for VDF flooring.
- **Expected Outcome:** Participants will learn the concrete mixing process, ensuring they can prepare the right mix for VDF flooring.

Say

Let's perform another activity on vacuum dewatering machine operation.

Activity 2

- **Purpose:** To familiarize participants with the operation of a vacuum dewatering machine for excess water removal.

- **Resources Required:** Vacuum dewatering machine, concrete panel, safety gear.
- **Tentative Duration:** 1 hour
- **Procedure:**
    1. Explain the components and safety precautions related to the vacuum dewatering machine.
    2. Demonstrate how to set up and operate the machine.
    3. Participants take turns operating the machine on a concrete panel.
    4. Emphasize the importance of proper dewatering for high-quality VDF flooring.
- **Expected Outcome:** Participants will gain hands-on experience in using a vacuum dewatering machine, ensuring they can apply this knowledge on construction sites.

Summary

- Mastering VDF flooring installation involves understanding standard practices, tools, concrete mixing, reinforcement, expansion joints, and vacuum dewatering.
- This knowledge ensures the creation of durable and aesthetically pleasing flooring surfaces in construction projects.

Notes for Facilitation:

- Ensure safety measures are rigorously followed during practical activities.
- Encourage questions and discussion to clarify doubts.
- Provide real-world examples and case studies relevant to VDF flooring installation.
- Promote a culture of precision and quality in the execution of VDF flooring tasks.

Exercise

I. Multiple Choice Questions (MCQs)

1. c. Tremix Flooring
2. b. Removing excess water from freshly laid concrete
3. b. Jointing Edger
4. c. 14 days
5. a. Immediately after vacuum dewatering

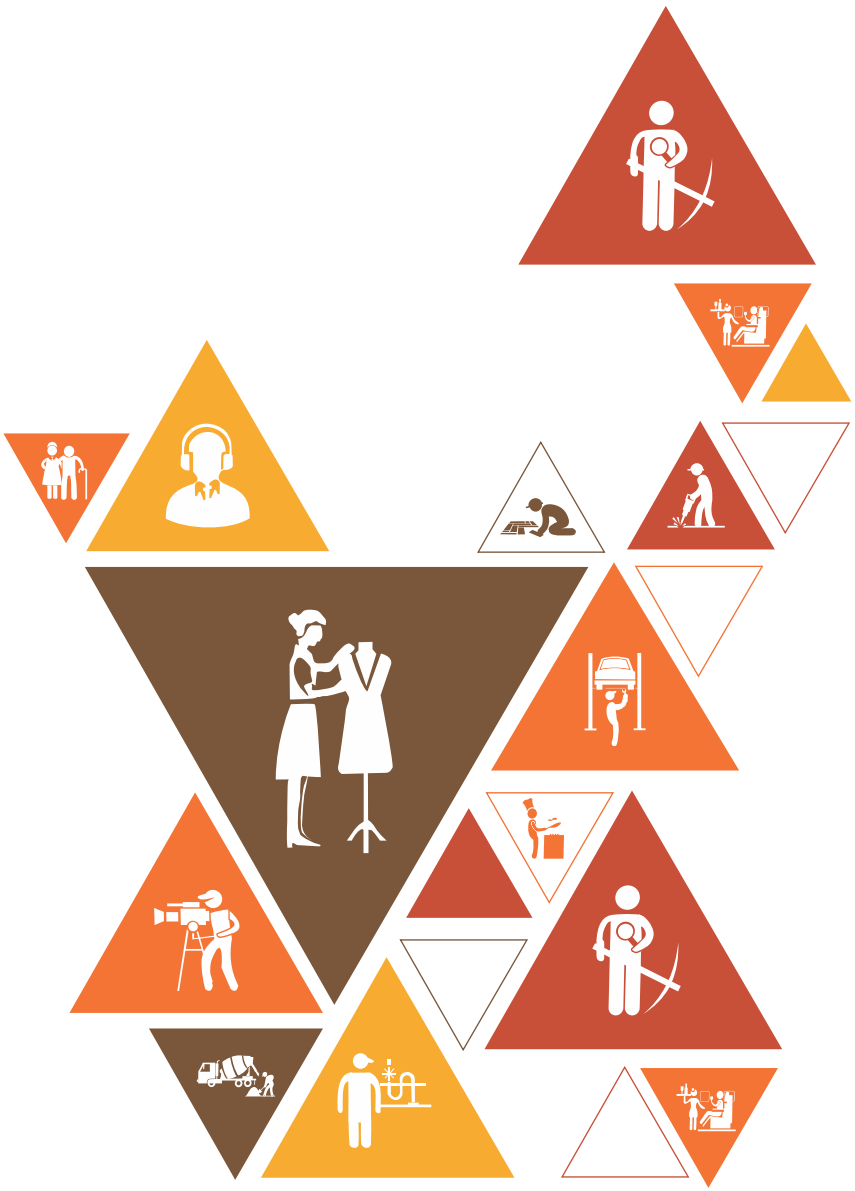
II. Fill in the Blanks

1. Tremix
2. Dewatering
3. Saw Cutter
4. Control
5. straight and level

III. Very Short Answer Questions

1. Vacuum Dewatering enhances concrete strength, durability, and surface finish. It reduces water-cement ratio, minimizes cracking, and speeds up the curing process.
2. Isolation joints are used to separate different sections of concrete to allow for expansion and contraction without causing cracks. They isolate slabs from each other or from other structures.
3. A power trowel cum floater is used for the finishing process in Tremix flooring. It helps achieve a smooth and level surface by compacting and finishing the concrete.
4. Compaction in Vacuum Dewatering is achieved through the use of a vibrating screed or roller. This helps in settling the concrete and removing excess air voids.
5. Grooving is important in concrete surfaces to create control joints that help control cracking by allowing for controlled expansion and contraction of the concrete. It also provides traction in areas prone to slipping, such as highways or sidewalks.

Notes



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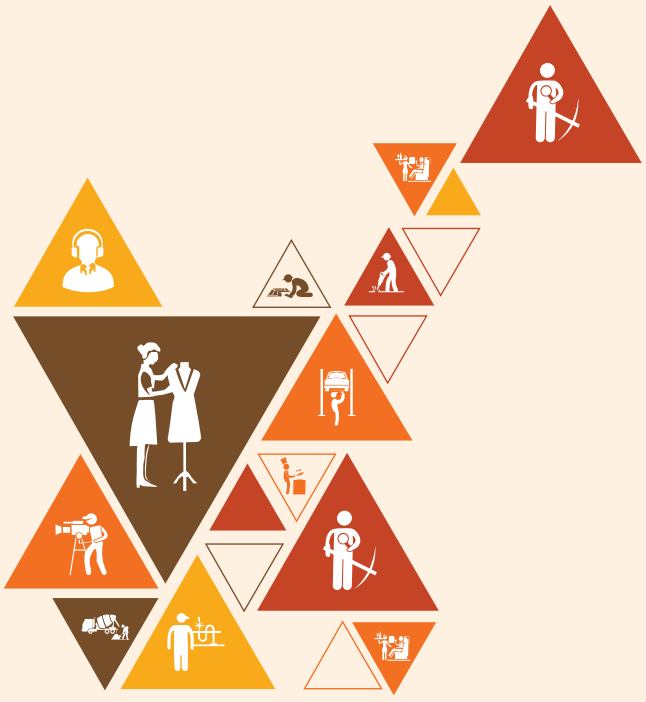
12. Option 2
Process of Building Structures using Random Rubble Masonry

Unit 12.1 Introduction to Rubble Masonry



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Key Learning Outcomes

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

- Demonstrate laying of coursed and un-coursed random rubble masonry
- Demonstrate pointing in rubble masonry.
- Demonstrate laying of dry rubble masonry
- Perform checks for line, level and alignment of rubble masonry works.

Unit 12.1 Introduction to Rubble Masonry

Unit Objectives

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

- Interpret sketches, method statements, formats, permits, protocols and checklists for rubble masonry works.
- Describe the standard practices for rubble masonry works.
- Explain the use of tools and equipment required for rubble masonry.
- Explain the different type of coursed and un-coursed rubble masonry works.
- Describe the different types of plasters and mortar requirements for the rubble masonry works.
- Describe the various types of cement paste / adhesives used on the base.
- Describe the various types of stones used in rubble masonry.
- Explain the basic method of stone work and finishing in rubble masonry.
- Explain the procedure for preparation of sub base for random rubble masonry works.
- Explain the visual checks performed on the materials used in random rubble masonry works.
- Explain the procedure for cutting stones to prepare for sides, edges and bed for random rubble masonry works.
- Explain the procedure for preparation of mortar for random rubble masonry works.
- Explain the various techniques / procedures to work with undressed and hammer dressed stones used for un-course and course random rubble masonry.
- Describe the procedure for building of wall in coursed and un-coursed random rubble masonry.
- Explain the importance of bond stones (through stones) and jambs at corners of random rubble masonry wall.
- Describe the procedure for laying course of dry rubble masonry works.
- List the various pointing and raking tools.
- Describe the different mortar mixes used for pointing in random rubble masonry.
- Describe the procedure for preparation of lime/cement mortar and for performing various pointing works on random rubble masonry, namely:
    - ❖ flush pointing
    - ❖ weathered pointing
    - ❖ ribbon pointing
- Provide a rough estimate for the quantity of material required for rubble masonry work.
- Perform checks to ensure preparation of sub- base for rubble masonry work.
- Demonstrate preparation of the sides, edges, bed of stones for rubble masonry.
- Demonstrate laying and fixing of stones for both coursed and un-coursed random rubble masonry.
- Demonstrate the checking of line and level of random rubble masonry work at regular intervals.
- Demonstrate raking and cleaning of joints for pointing works.
- Demonstrate preparation of mortar and filling of joints for pointing works.
- Demonstrate laying of stone for dry random rubble masonry works in desired line, level and alignment.

Resources to be Used

PowerPoint slides, pictures/posters, videos illustrating rubble masonry techniques and materials, sketches of rubble masonry, method statements, equipment images, sample formats, permits, and checklists.

Say

In this session, we will delve into the intricacies of rubble masonry works, understanding the importance of cooperation, communication, and safety in the construction process.

Elaborate

- Interpretation of Documentation
- Standard practices for rubble masonry, emphasizing best practices and industry standards
- Tools and equipment necessary for rubble masonry
- Types of Rubble Masonry
- Mortar and Plasters
- Types of stones used in rubble masonry
- Stone Work Techniques
- Sub Base Preparation
- Stone Preparation
- Procedure for preparing mortar.
- Stone Work Techniques
- Procedure for building walls in coursed and un-coursed rubble masonry.
- Process of laying courses in dry rubble masonry.
- Pointing and Raking Tools

Ask:

- What are the potential challenges faced in rubble masonry works due to poor cooperation among team members?
- How can effective communication enhance the safety and quality of rubble masonry projects?

Say

Let's perform an activity about cooperative rubble masonry.

Activity 1

- **Purpose:** To emphasize the importance of cooperation and communication in rubble masonry.
- **Resources Required:** Workshop materials, illustrations of rubble masonry scenarios.
- Tentative Duration: 1.5 hours
- **Procedure:**
    1. Discuss the importance of cooperation in rubble masonry.
    2. Present participants with a simulated rubble masonry scenario.
    3. Participants work in teams to plan and execute the scenario, emphasizing cooperation.
    4. Discuss the results and the role of communication in achieving success.
- **Expected Outcome:** Participants will appreciate the importance of cooperation and communication in rubble masonry projects.

Say

Let's perform an activity about rubble masonry safety and technique.

Activity 2

- **Purpose:** To demonstrate safety standards, stone preparation, and mortar techniques.
- **Resources Required:** Construction site or workspace, safety gear, rubble stones, equipment.
- **Tentative Duration:** 2 hours
- **Procedure:**
    1. Conduct a safety briefing and demonstration of safety practices.
    2. Show participants how to prepare stones and mortar for rubble masonry.
    3. Participants practice stone cutting and mortar preparation.
    4. Demonstrate basic rubble masonry techniques.
    5. Participants engage in hands-on stone placement.
    6. Debrief on the importance of safety and proper techniques.
- **Expected Outcome:** Participants will gain practical knowledge of safety, stone work, and mortar preparation in rubble masonry.

Summary

- A cooperative work environment, effective communication, and adherence to safety standards are paramount in rubble masonry works.
- By understanding these principles and practicing proper techniques, we ensure the success and quality of construction projects.

Notes for Facilitation

- Encourage active participation through open discussions and practical demonstrations.
- Use real-world examples and scenarios to illustrate the importance of cooperation, safety, and proper techniques in rubble masonry.
- Provide constructive feedback during activities to enhance participants' understanding and skills.

Exercise

I. Multiple Choice Questions (MCQs)

1. b. Irregularly shaped stones
2. b. To provide structural stability
3. d. Lime mortar
4. c. To frame door and window openings
5. c. Keep it damp and shield it from rain and extreme temperatures

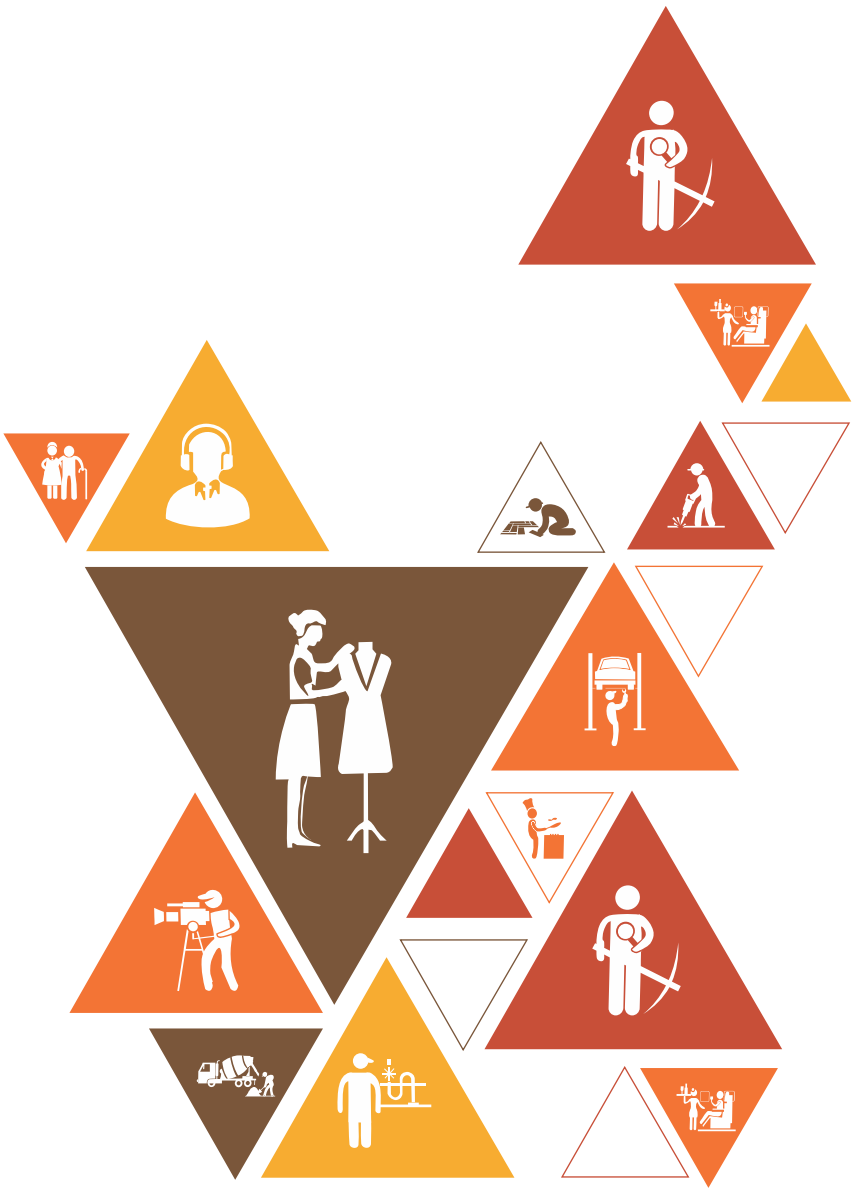
II. Fill in the Blanks

1. structural stability
2. mortar
3. flexible
4. frames
5. moisture

III. Very Short Answer Questions

1. Bond stones are important in random rubble masonry because they provide structural stability by connecting and bonding different layers of stones within the wall.
2. Polymer-modified mortar is used in masonry construction to enhance adhesion, flexibility, and durability of the mortar, making it suitable for various applications and improving the overall performance of the masonry.
3. Jambs contribute to the stability of a masonry opening by providing a structural frame around doors and windows, helping to distribute the load and maintain the shape of the opening.
4. Limestone is commonly used in construction because it is readily available, easy to work with, and has good durability. It can also be carved or shaped for intricate designs.
5. Weep holes play a crucial role in preventing masonry-related issues by allowing moisture to escape from behind the masonry wall. They help prevent water buildup, which can lead to mold, mildew, and structural damage.

Notes



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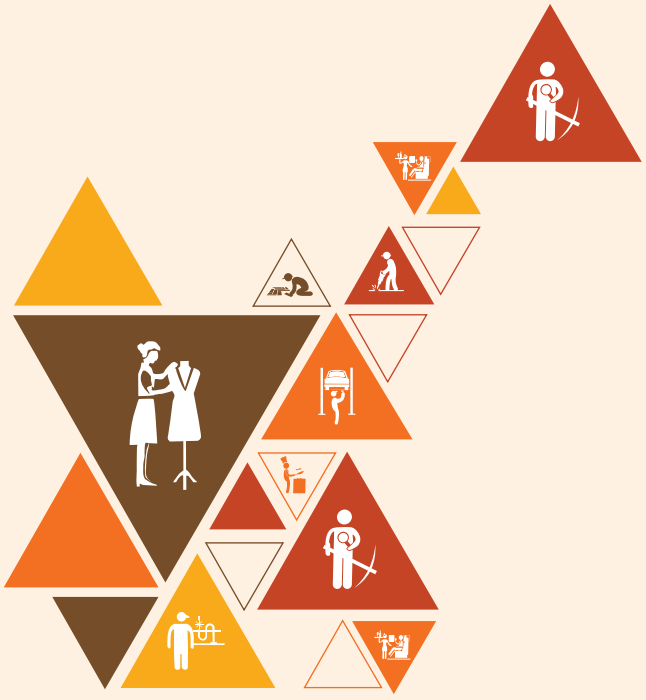
13. Employability Skills (60 Hours)

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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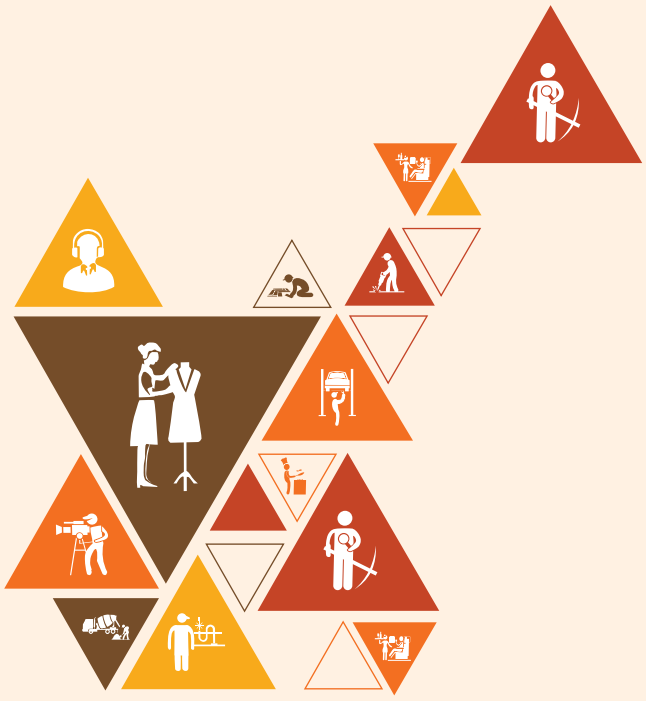
Notes

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:	Brick Mason		
Qualification Pack Name & Ref. ID	Brick Mason, CON/Q0113		
Version No.	3	**Version Update Date**	31/03/2022
Pre-requisites to Training (if any)	11th Grade pass OR Completed 1st year of 3-year diploma after 10th OR 10th-grade pass and pursuing continuous schooling OR 8th Grade pass with 3 years of relevant experience OR Previous relevant Qualification of NSQF Level 2.5 with 3 years of relevant experience OR Previous relevant Qualification of NSQF Level 3 with 1.5 years of relevant experience		
Training Outcomes	**By the end of this program, the participants will be able to:** • Explain how to mark layout for brick/block works. • Discuss how to carry out brick laying work. • Explain how to construct various masonry structures using block. • Elucidate ways to plan and organize work to meet expected outcomes. • Elucidate ways to work according to personal health, safety and environment protocols at the construction site. • Discuss the applicable employability skills. • Discuss how to carry out work for the brick bat coba waterproofing. • Explain how to work on IPS flooring. • Elucidate the process of plastering on internal and external surfaces of Masonry & RCC structures. • Discuss the process of VDF flooring. • Explain how to build structures using random rubble masonry.		

S. No.	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools / Aids	Duration
1.	Mark the lay-out for brick/ block works T- 15:00 P- 15:00 (HH:MM)	1. Introduction to the Role of a Brick Mason	• Describe the size and scope of the Construction industry and its sub-sectors. • Discuss the role and respon-sibilities of a Brick Mason. • Identify various employment opportunities for a Brick Mason.	CON/ N0143 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10 KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Pre-sentations, Whiteboard, Marker, Pro-jector, Laptop Tools and Equipment Required: Steel Trowel, Float Wood-en/Metal), Straight Edge (Aluminium), Line and Pins, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wood-en Scale, Tapered Rule, Red Oxide, Lime Powder, Helmet, Face Shield, Safety Goggles, Safety Shoes, Safety Belt, Ear Defend-ers, Particle Masks, Overalls Knee Pad, Reflec-tive Jackets, Pencil	T- 03:00 P- 05:00

		2. Measurement	• Describe the basic principles of measurement, simple arithmetic and conversion of units of measurement • Explain the process of the 3-4-5 method. • Demonstrate marking of the centre lines of a room by the 3-4-5 method.				T- 03:00 P- 04:00
		3. Levelling instruments	• Explain the use of levelling instruments like spirit level and water levelling and their setting. • Explain the process of transferring levels. • Demonstrate transfer of levels as per drawings/instructions.				T- 04:00 P- 03:00
		4. Tools for marking of layout	• Explain the use of tools for marking of layout and checks for their serviceability. • Demonstrate marking of acute angle, obtuse angle, splayed wall etc. • Demonstrate the checking of diagonals of a marked square/rectangle.				T- 05:00 P- 03:00

2.	Carry out brick laying work T- 30:00 P- 30:00 (HH:MM)	1. Sketches and drawings for brick laying	• Interpret sketches, method statements, formats, permits, protocols and checklists for brick work. • Explain the use of various tools used in brick laying. • Explain the visual checks required for assessing the quality of bricks. • Demonstrate the visual checks for brick/block, cement, aggregate.	CON/ N0144 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, PC12, PC13, PC14, PC15, PC16, PC17, PC18, PC19, PC20, PC21, PC22, PC23, PC24, PC25, PC26, PC27, PC28, PC29, PC30 KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10, KU11, KU12, KU13, KU14, KU15, KU16, KU17, KU18, KU19, KU20, KU21, KU22, KU23, KU24, KU25, KU26	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop Tools and Equipment Required: Hammer, Brick Chisel, Stone Chisel, Comb Chisel, Bolster, Masonry Hand Saw, Steel Trowel, Float Wooden/ Metal), Straight Edge (Aluminium), Wood/Rubber Mallet, Spade (Phawda), Mortar Pan (Ghamela), Corner Trowel, Pointer Trowel, Tuck Pointing Trowel, Line And Pins, Screed Board, Jointers, Steel Lever, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wooden Scale, Tapered Rule, Gauge Box, Lifting, Appliances (Wheel And Rope,	T- 04:00 P- 04:00

		2. Raw material	• Describe the use of raw material like cement, sand, aggregate, bricks/blocks etc., the size and physical attributes. • Explain how to estimate for the quantity of material required for brick work.				T- 04:00 P- 04:00
		3. Cutting, sizing and mixing	• Describe the techniques for cutting, chiselling of bricks as per closure using appropriate tools. • Demonstrate the breaking of breaks to required size and shape. • Explain cement mix proportion and its importance. • Discuss the water cement ratio.				T- 04:00 P- 04:00
		4. Types of bonds	• Describe the English, Flemish, stretcher and header bond. • Explain the process of laying and fixing bricks in position with uniform joints. • Explain the use of 3-4-5 method for squaring corners.				T- 02:00 P- 02:00

		5. Staircase	• Describe the technique of marking and layout of tread and risers for staircase. • Explain the process of laying and fixing of bricks in staircase.				T- 02:00 P- 02:00
		6. Arches and repairing work	• Describe the different components of arch and their terminology. • Explain the process of laying and fixing bricks in arches providing key stones, levelling and aligning appropriately. • Explain the importance of providing proper joint spacing and gauging in arches. • Describe the various techniques for repairing and finishing in brick work.				T- 04:00 P- 04:00
		7. Pointing	• Explain the various pointing in brick work including Flush pointing, Keyed/grooved pointing, Recessed pointing, Struck pointing etc. • • List the various tools used for pointing and raking				T- 04:00 P- 04:00

		8. Mortar mixes	• Discuss the different mortar mixes used for pointing works. • Explain the various method of curing of masonry structure				T- 04:00 P- 04:00
3.	Carry out block laying work T- 30:00 P- 30:00 (HH:MM)	1. Sketches and drawings for block laying	• Interpret sketches, method statements, formats, permits, protocols and checklists for block work. • Demonstrate the construction of a block wall as per standard tolerance limit, as per relevant drawing.	CON/ N0145 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, PC12, PC13, PC14, KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10, KU11, KU12, KU13, KU14, KU15, KU16, KU17, KU18, KU19	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop Tools and Equipment Required: Hammer, Brick Chisel, Stone Chisel, Comb Chisel, Bolster, Masonry Hand Saw, Steel Trowel, Float Wooden/ Metal), Straight Edge (Aluminium), Wood/Rubber Mallet, Spade (Phawda), Mortar Pan (Ghamela), Corner Trowel, Pointer Trowel, Tuck Pointing Trowel, Line And Pins, Screed Board, Jointers, Steel Lever, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wooden Scale, Tapered Rule, Gauge Box, Lifting, Appliances (Wheel And Rope, Shackles,	T- 04:00 P- 04:00

		2. Tools used in block laying	• Explain the use of various tools used in block laying.				T- 04:00 P- 04:00
		3. Raw materials	• Describe the use of raw material like cement, sand, aggregate, blocks etc., the size and physical attributes. • Explain how to estimate for the quantity of material required for block work.				T- 04:00 P- 04:00
		4. Visual checks	• Explain the visual checks required for assessing the quality of blocks. • Discuss how to perform visual checks to ascertain quality of blocks.				T- 02:00 P- 02:00
		4. Mixing proportion	• Explain cement mix proportion and its importance. • Discuss the water cement ratio.				T- 02:00 P- 02:00
		5. Laying and fixing	• Explain the process of laying and fixing blocks in position with uniform joints. • Demonstrate fixing of blocks using adhesives. • Demonstrate checks for maintaining line and level of each course of block wall				T- 04:00 P- 04:00

		6. The 3-4-5 method for squaring corners	• Explain the use of 3-4-5 method for squaring corners. • Demonstrate setting out of 90° corners using builders square or 3-4-5 method.				T- 04:00 P- 04:00
		7. Techniques for repairing and finishing	• Describe the various techniques for repairing and finishing in block work. • Demonstrate removal of deteriorated elements from old block masonry works and reinstallation of blocks to match adjacent surfaces.				T- 04:00 P- 04:00
		8. Filling and raking of repaired block masonry work	• Demonstrate filling and raking of repaired block masonry work.				T- 02:00 P- 02:00
4.	Work effectively in a team to deliver desired results at the workplace T- 05:00 P- 25:00 (HH:MM)	1. Effective communication skills	• Explain the importance of effective communication. • Explain the importance of effective communication. • Describe the effects of poor 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- 02:00 P- 06:00
		2. Teamwork	• Explain the importance of good teamwork • Elucidate the 5Cs of teamwork • Elucidate the consequence of poor teamwork				T- 01:00 P- 07:00

		3. Working Effectively and Maintaining Discipline at Work	• Explain the importance of creating healthy and cooperative work environment among the gangs of workers. • Elucidate applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement. • 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 hand over the required				T- 01:00 P- 07:00

		4. Inclusivity at work	• 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 the workplace. • Demonstrate ways to address discriminatory and offensive behaviour in a professional manner as per organizational policy.				T- 01:00 P- 05:00

5.	Plan and organize work to meet expected outcomes T- 05:00 P- 25:00 (HH:MM)	1. Work target and plan activities	• Explain methods to upkeep, store and stack tools, materials used for domain specific works. • Explain the process of planning of the given tasks and activities relevant to the trade/job role within defined scope and duration. • Identify the work target and plan activities to achieve the desired productivity.	CON/N8002 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC10, PC11, PC12 KU1, KU2, KU3, KU4, KU5	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	T- 02:00 P- 06:00
		2. Sequencing of activities	• Explain the procedure adopted for prioritizing an activity and sequencing of activities. • Explain the work plan and flow of activities in sequence for the assigned work. • Explain basic concept of labour productivity and work productivity.				T- 01:00 P- 07:00

		3. Resource allocation	• Explain requisition of resources, reporting for requirement of resources orally and in written to concerned authority. • Demonstrate optimum use of resources while performing domain specific work activities.				T- 01:00 P- 07:00
		4. Wastage of resources	• Explain how to minimize wastage of resources. • Explain the plan for waste collection and disposal after task. • Demonstrate waste collection and disposal as per organizational norms.				T- 01:00 P- 05:00

6.	Work according to personal health, safety and environment protocols at the construction site T- 05:00 P- 25:00 (HH:MM)	1. Workplace 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- 01:00 P- 05:00
		2. Fire Extinguisher	• Explain the classes of fire and types of fire extinguishers • Demonstrate the operation of fire extinguisher.				T- 01:00 P- 04:00

		3. First Aid and Workplace Safety	• Explain the classes of fire and types of fire extinguishers • Demonstrate the operation of fire extinguisher. • Demonstrate the use of all Personal Protective Equipment (PPE) like helmet, safety shoe, safety belt, safe jackets and other safety equipment				T- 01:00 P- 04:00
		4. Housekeeping and Tool and Material Handling	• Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories • Explain the types of ergonomic principles adopted while carrying out specific task at the construction • Explain the benefits of basic ergonomic principles used at construction sites. • Explain the importance of housekeeping Demonstrate housekeeping practice followed after painting and decoration works.				T- 01:00 P- 04:00

		5. Waste Management	• Explain different types of wastes produced at a construction site including their disposal method • Explain the purpose and importance of vertigo test at construction site • Demonstrate vertigo test • List out basic medical tests required for working at construction Site				T- 0:30 P- 04:00
		6. Medical Tests	• Explain the purpose and importance of vertigo test at construction site • Demonstrate vertigo test • List out basic medical tests required for working at construction Site				T- 00:30 P- 04:00

7.	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	Team Activity: Interactive discussion	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		Classroom lecture, discussion, demonstration, practical		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		Classroom lecture, discussion, demonstration, practical		01:00
		4. Basic English Skills	• Read English text with appropriate articulation. • Practice English words, sentences and punctuation.		Team Activity: Roleplay, video session		02:00

		5. Communication Skills	• Explain the importance of communication at workplace. • Demonstrate effective communication strategies • Demonstrate how to communicate effectively using verbal and nonverbal communication		Classroom lecture, discussion, demonstration, practical		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		Classroom session, Team Activity: Round of Inter-active discussion		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		Classroom lecture, discussion, demonstration, practical		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 work-place		Classroom lecture, discussion, demonstra-tion, practical		03:00
		9. Entrepre-neurship	• Describe the types of entre-preneurship and enterprises • Describe the 4Ps of Market-ing- Product, Price, Place and Promotion and apply them as per require-ment		Classroom lecture, discussion, demonstra-tion, practical		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		Classroom lecture, discussion, Demonstration, practical, Team Activity: Role play, video session		04:00
		11. Apprenticeships and Jobs	• Practice personal grooming strategies • Illustrate the use of online platforms for job hunting • Detail the concept of Apprenticeship • Demonstrate how to enroll for Apprenticeship programs. • Draft a professional Curriculum Vitae (CV) • Role play a mock interview		Classroom lecture, discussion, Demonstration, practical, Team Activity: Role play, video session		02:00
Elective 1							

8.	Carry out brick bat coba waterproofing T- 15:00 P- 45:00 (HH:MM)	1. Sketches or Basic Drawings	• Show how to interpret the sketches/ basic working drawing for waterproofing works.	CON/ N0146 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, 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 Tools and Equipment: Hammer, Brick Chisel, Stone Chisel, Comb Chisel, Bolster, Masonry Hand Saw, Steel Trowel, Float Wooden/ Metal), Straight Edge (Aluminium), Wood/Rubber Mallet, Spade (Phawda), Mortar Pan (Ghamela), Corner Trowel, Pointer Trowel, Tuck Pointing Trowel, Line And Pins, Screed Board, Jointers, Steel Lever, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wooden Scale, Tapered Rule, Gauge Box, Lifting, Appliances (Wheel And Rope, Shackles,	T- 02:00 P- 05:00

		2. Surface preparation methods	• Describe the different surface preparation methods before waterproofing. • Demonstrate preparation of surface (filling of non-structural gaps) prior to waterproofing works.				T- 02:00 P- 06:00
		3. Various tools and equipment used and standard practices for waterproofing works	• Explain the use of various tools and equipment used for waterproofing works and their standard specifications. • Describe the standard practices for waterproofing works.				T- 02:00 P- 06:00
		4. Laying out the brick bat coba waterproofing	• Describe the procedure for laying out the brick bat coba waterproofing course. • Demonstrate laying of brick bat coba course for waterproofing works ensuring line, level and alignment.				T- 02:00 P- 06:00
		5. Alignment	• Describe the procedure for carrying out the horizontal and vertical alignment of the waterproofed course. • Demonstrate laying of brick bat coba course for waterproofing works ensuring line, level and alignment.				T- 02:00 P- 06:00

		6. Procedure for transferring levels	• Describe the procedure for transferring levels on the floor for maintaining the desired slope.				T- 02:00 P- 06:00
		7. Detecting leakage	• Show how to perform checks for detecting leakage on the waterproofed surface.				T- 01:00 P- 06:00
		8. Filling of gaps	• Demonstrate filling of gaps in brick bat coba course using appropriate cement mortar of specified thickness.				T- 02:00 P- 04:00
9.	Carry out IPS flooring T- 15:00 P- 45:00 (HH:MM)	1. Standard practices for IPS flooring	• Describe the standard practices for IPS flooring.	CON/ N0147 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, 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- 02:00 P- 05:00
		2. Tools used in IPS flooring	• Explain the use of tools used in IPS flooring.				T- 02:00 P- 06:00
		3. Procedure for marking	• Explain the procedure for marking reference levels and transferring levels. • Show how to mark and transfer levels on the floor for required thickness using appropriate tools.				T- 02:00 P- 06:00

		4. Mixing and Proportions	• Explain the process of preparation of the sub-base. • Explain the various grades of cement used in IPS flooring. • Describe the different mix proportions/ grades of concrete. • Show the procedure for manual mixing of concrete and nominal mix proportion. • List the various admixtures used in concreting.				T- 02:00 P- 06:00
		5. Sequence and procedure of concrete pouring and placing	• Describe the sequence and procedure of concrete pouring and placing in alternate panels.				T- 02:00 P- 06:00
		6. Checks for assessing the quality of materials	• Demonstrate checks for assessing the quality of materials used in manual and machine mixing of mortar, for IPS flooring works.				T- 02:00 P- 06:00
		7. Curing	• Describe the different types of vibrators used for concrete curing and their influence area. • Show the process of levelling and curing the finished floor surface.				T- 01:00 P- 06:00

		8. Expansion joints	• Demonstrate cutting of groves for providing construction joints and expansion joints as per requirement. • Describe the different construction and expansion joints. • List the different tools used for grooving/ providing expansion joints. • Describe the procedure for the final trowelling of concrete for desired finish.				T- 02:00 P- 04:00

10.	Execute plaster on internal and external surfaces of masonry and RCC structure T- 30:00 P- 90:00 (HH:MM)	1. Standard practices for plastering works	• Discuss the standard practices for plastering works.	CON/ N0111 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, PC12, PC13, PC14, PC15, PC16, PC17, PC18, PC19, PC20, PC21 KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10, KU11, KU12, KU13, KU14, KU15, KU16, KU17, KU18, KU19, KU20	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop Tools and Equipment: Hammer, Brick Chisel, Stone Chisel, Comb Chisel, Bolster, Masonry Hand Saw, Steel Trowel, Float Wooden/ Metal), Straight Edge (Aluminium), Wood/Rubber Mallet, Spade (Phawda), Mortar Pan (Ghamela), Corner Trowel, Pointer Trowel, Tuck Pointing Trowel, Line And Pins, Screed Board, Jointers, Steel Lever, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wooden Scale, Tapered Rule, Gauge Box, Lifting, Appliances (Wheel And Rope, Shackles,	T- 02:00 P- 06:00
		2. Sketches/ basic working drawing	• Show how to interpret the sketches/ basic working drawing for plastering.				T- 02:00 P- 06:00

		3. Tools and equipment used for plastering works	• Describe the use of tools and equipment used for plastering works and their standard specifications.				T- 02:00 P- 06:00
		4. Layout marking and levelling	• Describe the process of carrying out layout marking and levelling for plastering works.				T- 02:00 P- 06:00
		5. Setting out of the layout	• Demonstrate setting out of the layout as per drawing/ instruction and transferring of levels as per layout.				T- 02:00 P- 06:00
		6. Visual checks performed on materials and surfaces	• Describe the various visual checks performed on materials and surfaces for plastering.				T- 02:00 P- 06:00
		7. Materials used for plastering	• Describe the different materials used for plastering and various ratios of mix proportion used for plastering on internal and external surfaces.				T- 02:00 P- 06:00
		8. Estimating the quantity of material	• Show the calculation for estimating the quantity of material required for plastering.				T- 02:00 P- 06:00
		9. Visual checks performed on materials and surfaces	• Show how to perform visual checks for sand, cement and surface to be plastered.				T- 02:00 P- 06:00

		10. cement mortar mix	• Demonstrate the checks to ensure the compliance of cement mortar mix to specified proportions.				T- 02:00 P- 06:00
		11. Different types of plasters	• Explain the different types of plasters such as sand-faced plaster, rough-cast plaster, pebbled cast plaster, smooth cast plaster etc.				T- 02:00 P- 06:00
		12. Procedures and techniques for plastering	• Explain the procedures and techniques for plastering internal and external masonry and RCC structures.				T- 02:00 P- 06:00
		13. Gradation of sand	• Discuss the gradation of sand for internal plastering works.				T- 02:00 P- 06:00
		14. Horizontal and vertical alignment	• Explain the procedure for determining the horizontal and vertical alignment using the plumb bob. • Demonstrate checks for vertical and horizontal alignment using appropriate tools of the plastered surface.				T- 02:00 P- 06:00
		15. Setting out of 90° at corners	• Demonstrate setting out of 90° at corners is required.				T- 02:00 P- 06:00
Option 1							

11.	Carry out VDF Flooring T- 15:00 P- 45:00 (HH:MM)	1. Standard practices for VDF flooring	• Describe the standard practices for VDF flooring.	CON/ N0148 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, PC12, PC13, PC14, PC15, PC16, PC17, PC18 KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10, KU11, KU12, KU13, KU14, KU15, KU16	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop Tools and Equipment: Hammer, Brick Chisel, Stone Chisel, Comb Chisel, Bolster, Masonry Hand Saw, Steel Trowel, Float Wooden/ Metal), Straight Edge (Aluminium), Wood/Rubber Mallet, Spade (Phawda), Mortar Pan (Ghamela), Corner Trowel, Pointer Trowel, Tuck Pointing Trowel, Line And Pins, Screed Board, Jointers, Steel Lever, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wooden Scale, Tapered Rule, Gauge Box, Lifting, Appliances (Wheel And Rope, Shackles,	T- 02:00 P- 05:00
		2. Tools used in VDF flooring	• Explain the use of tools used in VDF flooring.				T- 02:00 P- 06:00

		3. Inspection	• Demonstrate the checks to be carried out for inspection of the area before concreting • Demonstrate checks for formwork and deviation in slope and alignment in PCC.				T- 02:00 P- 06:00
		4. Process of preparation of the sub-base	• Explain the process of preparation of the sub-base for VDF flooring.				T- 02:00 P- 06:00
		5. Material and mixing	• Explain the various grades of cement used in VDF flooring. • Describe the different mix proportions/ grades of concrete for VDF flooring. • Describe the procedure for manual mixing of concrete and nominal mix proportion. • List the various admixtures used in concreting.				T- 02:00 P- 06:00

		6. Sequence and procedure of concrete pouring and placing	• Describe the sequence and procedure of concrete pouring and placing in specified panels for VDF flooring. • Explain the provision of cover for reinforcement w.r.t size of re-inforcement. • Describe the differ-ent types of vibrators used for concrete curing and their influence area.				T- 02:00 P- 06:00
		7. Expansion joints	• Describe the different construction and expansion joints. • List the differ-ent tools used for grooving/ providing expansion joints.				T- 01:00 P- 06:00
		8. Vacuum dewatering	• Describe the process of excess water removal using a vacuum dewatering machine.				T- 02:00 P- 04:00
Option 2							

12.	Build structures using random rubble masonry T- 15:00 P- 45:00 (HH:MM)	1. Standard practices and tools	• Describe the standard practices for rubble masonry works. • Explain the use of tools and equipment required for rubble masonry.	CON/ N0113 PC1, PC2, PC3, PC4, PC5, PC6, PC7, PC8, PC9, PC9, PC10, PC11, PC12, PC13, PC14, PC15, PC16, PC17, PC18, PC19, PC20, PC21 KU1, KU2, KU3, KU4, KU5, KU6, KU7, KU8, KU9, KU10, KU11, KU12, KU13, KU14, KU15, KU16, KU17, KU18, KU19, KU19, KU20, KU21, KU22, KU23	Classroom lecture, games, group participation, group activity	Training Kit- Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop Tools and Equipment: Hammer, Brick Chisel, Stone Chisel, Comb Chisel, Bolster, Masonry Hand Saw, Steel Trowel, Float Wooden/ Metal), Straight Edge (Aluminium), Wood/Rubber Mallet, Spade (Phawda), Mortar Pan (Ghamela), Corner Trowel, Pointer Trowel, Tuck Pointing Trowel, Line And Pins, Screed Board, Jointers, Steel Lever, Plumb Bob, Line String (Line Dori), Try Square, Spirit Level, Measuring Tape, Steel Or Wooden Scale, Tapered Rule, Gauge Box, Lifting, Appliances (Wheel And Rope, Shackles,	T- 02:00 P- 05:00

		2. Sketches and drawings	• Show how to interpret sketches, method statements, formats, permits, protocols and checklists for rubble masonry works.				T- 02:00 P- 06:00
		3. Different types of rubble masonry works	• Explain the different types of coursed and uncoursed rubble masonry works.				T- 02:00 P- 06:00
		4. Materials	• Describe the different types of plasters and mortar requirements for the rubble masonry works. • Describe the various types of cement paste/adhesives used on the base. • Describe the various types of stones used in rubble masonry.				T- 02:00 P- 06:00
		5. Basic method of stonework and finishing	• Explain the basic method of stonework and finishing in rubble masonry. • Explain the procedure for preparation of sub-base for random rubble masonry works.				T- 02:00 P- 06:00

		6. Procedures and preparations	• Explain the procedure for cutting stones to prepare for sides, edges and bed for random rubble masonry works. • Explain the procedure for the preparation of mortar for random rubble masonry works. • Explain the various techniques/ procedures to work with undressed and hammer-dressed stones used for uncourse and course random rubble masonry. • Describe the procedure for the building of the wall in coursed and uncoursed random rubble masonry.				T- 02:00 P- 06:00
		7. Dry rubble masonry works	• Describe the procedure for laying the course of dry rubble masonry works.				T- 01:00 P- 06:00

		8. Pointing	• List the various pointing and raking tools. • Describe the different mortar mixes used for pointing in random rubble masonry. • Describe the procedure for the preparation of lime/ cement mortar and for performing various pointing works on random rubble masonry, namely: ❖ flush pointing ❖ weathered pointing ❖ ribbon pointing				T- 02:00 P- 04:00

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- Brick Mason	
Job Role	Brick Mason
Qualification Pack	CON/Q0113
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 Occuptioal Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0143.Mark the layout forbrick/block works	30	70	-	-	100	10
CON/N0144.Carry out bricklaying work	30	70	-	-	100	20
CON/N0145.Carry out blocklaying work	30	70	-	-	100	15

CON/N8001.Work effectively ina team to deliver desired results at the workplace	30	70	-	-	100	5
CON/N8002.Plan and orga-nizework to meet expected outcomes	30	70	-	-	100	5
CON/N9001.Work according topersonal health, safety and environment protocols at con-struction site	30	70	-	-	100	10
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	5
Total	**200**	**450**	**-**	**-**	**650**	**70**

Elective: 1 General

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0146.Carry outbrick bat coba waterproofing	30	70	-	-	100	15
CON/N0147.Carry out IPS(Indian Patent Stone) flooring	30	70	-	-	100	15
Total	**60**	**140**	**-**	**-**	**200**	**30**

Elective: 2 Plastering

National Occpational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0111.Apply plasteron internal & external surfaces of masonry & RCC structure	30	70	-	-	100	30
Total	**30**	**70**	**-**	**-**	**100**	**30**

Optional: 1 VDF flooring

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0148.Carry out VDF (Vacuum dewateredfloor) flooring	30	70	-	-	100	15
Total	**30**	**70**	**-**	**-**	**100**	**15**

Optional: 2 Random rubble works

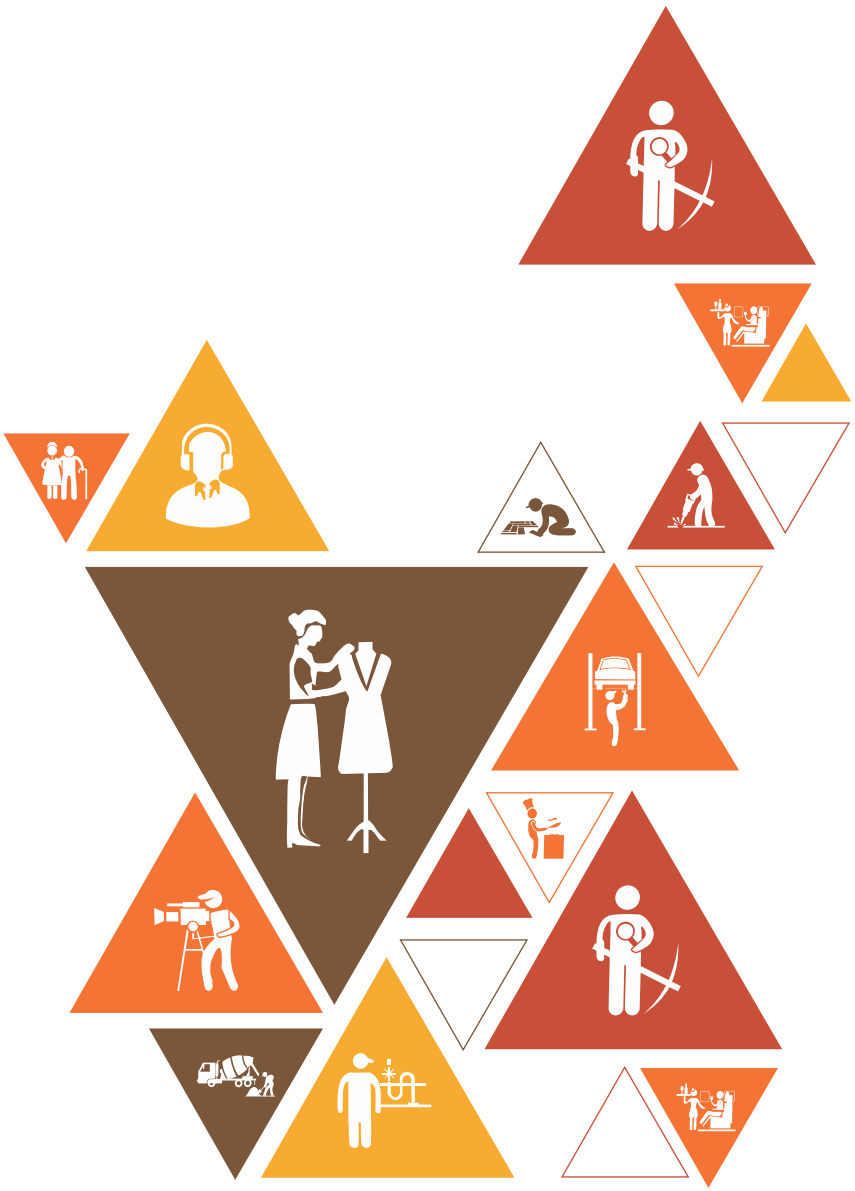
National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0113.Build structures using random rubble masonry	30	70	-	-	100	15
Total	**30**	**70**	**-**	**-**	**100**	**15**

Annexure III- QR Codes –Video Links

Annexure of QR Codes for Brick Mason

Chapter Name	Unit Name	Topic	URL	QR Code
1. Introduction to the Job Role of a Brick Mason	Unit 1.1 Introduction to Construction Industry	Construction Industry in India- Overview and Business Opportunities	https://www.youtube.com/watch?v=yhj-Dhav4Pfw	Construction Industry in India- Overview and Business Opportunities
	Unit 1.2 Role and Responsibilities of a Brick Mason	Brickwork by mason	https://www.youtube.com/watch?v=_IIVM-NITjRE	Brickwork by mason
2. Process of Marking the Layout for Brick/Block Works	Unit 2.1 Interpretation of Construction Drawings	Basic Details of Drawing Reading at Construction Site	https://www.youtube.com/watch?v=lSyYG-gk1RV0	Basic Details of Drawing Reading at Construction Site
	Unit 2.2 Marking the Layout for Brick/Block Works	Marking of the centre lines by 3-4-5 method india	https://www.youtube.com/watch?v=T3HF4FWJ10E	Marking of the centre lines by 3-4-5 method india
3. Process of carrying out Brick Laying Work	Unit 3.1 Performing Brick Laying	Bricklaying techniques	https://www.youtube.com/watch?v=ZzV3F-7p7Q30	Bricklaying techniques

4. Process of carrying out Block Laying Work	Unit 4.1 Performing Block Work	Process of carrying out Block Laying Work	https://www.youtube.com/watch?v=j0lEzyj07oo	Process of carrying out Block Laying Work
8. Process of carrying out Brick Bat Coba Waterproofing	Unit 8.1 Brick Bat Coba Waterproofing	Brick Bat Coba Waterproofing	https://www.youtube.com/watch?v=Zl7jCXHobUk	Brick Bat Coba Waterproofing
9. Process of carrying out IPS (Indian Patent Stone) Flooring	Unit 9.1 IPS (Indian Patent Stone) Flooring	IPS (Indian Patent Stone) Flooring	https://www.youtube.com/watch?v=R2YAcUE_mCg	IPS (Indian Patent Stone) Flooring
10. Process of applying Plaster on Internal & External Surfaces of Masonry & RCC Structure	Unit 10.1 Plastering Internal and External Surfaces	External Surfaces	https://www.youtube.com/watch?v=VFuw5Q5Innk	External Surfaces
11. Process of carrying out VDF (Vaccum Dewatered Floor) Flooring	Unit 11.1 Vacuum Dewatered Flooring (VDF)	What is VDF Flooring?	https://www.youtube.com/watch?v=vLNmpK9YjL8	What is VDF Flooring?
12. Process of Building Structures using Random Rubble Masonry	Unit 12.1 Introduction to Rubble Masonry	RRM (Random Rubble Masonry) - Detailed information as per Indian Standards.	https://www.youtube.com/watch?v=BD3RMAWZH0I	RRM (Random Rubble Masonry) - Detailed information as per Indian Standards.



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