



BUGESERA DISTRICT

**TSS 2nd TERM DISTRICT COMPREHENSIVE ASSESSMENT
SCHOOL YEAR: 2024-2025**

...../100 MARKS

MARKIG GUIDES

SECTOR: CONSTRUCTION AND BUILDING SERVICE

TRADE: BUILDING CONSTRUCTION

RQF LEVEL: 3

**MODULE CODE AND TITLE: BDCCF301: PERFORM CEMENT FLOORING
CONSTRUCTION**

DURATION: 3HOURS

DATE:/...../2025

INSTRUCTIONS TO CANDIDATE:

- ✓ This exam has three sections.
- ✓ Maximum marks...../100 Marks
- ✓ Attempt all Questions in A
- ✓ Choose only two questions in section B.
- ✓ Choose only one question in section C.

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1.define the following terms used in cement flooring/8marks

- a) :Floor screed is a thin layer of material, typically made from cement, sand and water, that is applied to a concrete subfloor to provide a smooth and level surface.
- b) concrete

2. Which of the following is the most important PPE for protecting the eyes from cement dust during floor installation? /4marks

- a) Safety glasses
b) Face shield
c) Goggles
d) Respirator

answer:c

3.Which of the following types of cement is most commonly used for general construction work? /4marks

- a) Sulphate Resisting Cement
b) Ordinary Portland Cement
c) Rapid Hardening Cement
d) High Alumina Cement

answer:b

4.What is the main reason for wearing a helmet or hard hat while working with cement flooring? /4marks

- a) To keep hair clean
- b) To protect from falling debris and equipment
- c) To shield against cement splashes
- d) To protect the head from heat

answer;b

5. Give at least any five (5) types of concrete /5marks

1. **Answer:** Plain concrete
2. Reinforced cement concrete (r.c.c.)
3. Reinforced brick concrete (rbc)
4. Prestressed concrete (psc)
5. Fibre-reinforced concrete (frc)
6. Cellular concrete

6. What is the primary function of a Damp Proof Membrane (DPM) in pavement construction? /4marks

- a) To provide structural support to the pavement
- b) To prevent moisture from rising into the pavement structure from the subgrade
- c) To improve the aesthetic appearance of the pavement surface
- d) To increase the load-bearing capacity of the pavement

answer:b

7. list out any five (5) Factors affecting workability of concrete./5marks

Answer:

1. Water cement ratio
2. Mix proportion
3. Surface texture of aggregates/shape
4. Size of aggregates
5. Use of admixture
6. Temperature

7. Time

8. What is the main difference between rigid and flexible pavements?/4marks

- a) Rigid pavements are made of asphalt, while flexible pavements are made of concrete
- b) Flexible pavements distribute loads to the subgrade through a layer system, while rigid pavements rely on the concrete slab's strength
- c) Flexible pavements are thicker than rigid pavements
- d) Rigid pavements allow water infiltration, whereas flexible pavements do not

answer(a)

9. Give the use or function of the following tools. /5marks

- 1. Steel float:
- 2. Mortar hawk:
- 3. Straight edge:
- 4. Brush:
- 5. Pincers

10. Differentiate the following terms used in cement flooring (in construction works) "harness and lanyard". /4marks

- answer:** a) **a harness** is a protective **belt** worn around the body to prevent falls .and
- b) **lanyard** is a **flexible line** that connects the harness to an anchor point.

11. What are the factors affecting the durability of concrete? /4marks

Answer:

- Exposure condition (direction in which something faces)
- Concrete quality
- Cover to the reinforcement
- Width of cracks

12. Efflorescence" on concrete surfaces is caused by: /4marks

- a) The presence of excess air in the mix
- b) The migration of soluble salts to the surface, leaving white deposits
- c) Cracks forming due to insufficient curing
- d) Excess water used during mixing

answer:(b)

SECTION B: CHOOSE TWO QUESTIONS / 30marks

13. After define the term” CEMENT”. Illustrate the five (5) steps of cement manufacturing.

Answer: cement is a binder , chemical substance used for construction that sets , harden and adheres to other materials to bind them together.

Or is binding agent that is used to bind various construction materials.

B) five (5) steps of cement manufacturing

Step 1: Extracting Raw Materials. The first step in making cement is extracting the raw materials. ...

Step 2: Creating Raw Meal. ...

Step 3: Producing Clinker. ...

Step 4: Grinding and Preparing the Cement. ...

Step 5: Packaging, Storing and Transporting.

14. Fill the Table below which shows the Proportion of cement, sand and coarse aggregates in concrete

S. No.	Proportion	Nature of Work
1	1:1:2	
2	1:1($\frac{1}{2}$):3	
3	1:2:4	
4	1:3:6	
5	1:4:8	

Answer:

S. No.	Proportion	Nature of Work
1	1:1:2	For machine foundation, footings for steel columns and concreting under water.
2	1:1($\frac{1}{2}$):3	Water tanks, shells and folded plates, for other water retaining structures.
3	1:2:4	Commonly used for reinforced concrete works like beams, slabs, tunnel lining, bridges
4	1:3:6	Piers, abutments, concrete walls, sill of windows, floors.
5	1:4:8	Mass concretes like dam, foundation course for walls, for making concrete blocks.

15 . In building construction, the pavement plays important role as it support the user's loads and provide a hard-wearing material. for that give and explain two

essential components of floor

answer: * Sub floor or floor base: is a structural component which is designed to support the load of flooring materials

***floor covering or simply flooring:** is the top layer of floor which provide the designed Finish.

16. referring to the table below, classify the properties of concrete based in their corresponding state.

plastic state	hardened state
a)..... b)..... c).....	a)..... b)..... c).....

Answer:

Properties of fresh concrete	Properties of hardened concrete
➤ Workability ➤ Segregation ➤ Bleeding	➤ Strength ➤ Durability ➤ Impermeability ➤ Creep ➤ shrinkage

SECTION C : CHOOSE ONE QUESTION /20marks

17.a) Why do we need pavement?

Answer:

- To provide a strong, hard and durable surface capable to support all intended loads
- To provide a smooth and level surface.
- To provide comfortable working and walking area for the users.
- To provide hygiene and increase the aesthetic into the building
- To increase the health condition of users
- To provide a surface which is easy to be cleaned
- To provide a surface which resists

b) why is it important to provide a small slope while setting the level of concrete screed?

Answer ; it is important to provide a small slope when setting the level of concrete because it facilitate the flow of water when cleaning the area .

18. Least out all the steps followed while preparing to install the screed.

Answer:

- Check the specification is fit for purpose
- Make sure the substrate is ready to receive the screed.
- Check the access and egress is suitable for screed installation, plant and materials.
- Check the building is watertight.
- Check the datum levels, record the measurement down to finished screed level to ensure minimum and maximum depths are achievable and compliant with tendered nominal allowance.
- Check that running potable water is available at an adjacent point of the material location.
- Check that a waste facility is adjacent to the working areas.

- Check the mixing plant is safe and suitable to use.
- Mix the screed in the correct proportion.
- Apply the screed in a sequential manner, avoiding dry joints.
- Apply trowel cuts where necessary for crack control. ☐ Keep the working area tidy.

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