higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

MATERIALS
NQF LEVEL 2

7 NOVEMBER 2022

This marking guideline consists of 5 pages.

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QUESTION 1

1.1 C
1.2 B
1.3 C
1.4 A
1.5 C
1.6 A
1.7 B
1.8 B
1.9 A
1.10 C

(10 × 1) **[10]**

QUESTION 2

2.1 True
2.2 True
2.3 True
2.4 True
2.5 True
2.6 True
2.7 False
2.8 False
2.9 True
2.10 True

(10 × 1) **[10]**

QUESTION 3

3.1 E
3.2 H
3.3 G
3.4 C
3.5 J
3.6 I
3.7 B
3.8 F
3.9 D
3.10 A

(10 × 1) **[10]**

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QUESTION 4

4.1 Efflorescence is identified by a white powdery crust that forms on the surface of a brick. (2)

4.2
- Laying bricks unevenly
- Neglecting to lay them perfectly horizontal
- Laying bricks that are not perfectly square
- Placing bricks in irregular order (4)

4.3 Bonding in bricks helps to create a structure of suitable strength that will be able to stand for a long time, and also gives walls a pleasant appearance.✓ If a proper bond is not correctly maintained, vertical planes of weakness will be created.✓ Bricks laid in a specific bond are purely aesthetic.✓ (3)

4.4
- Use a mortar mix that contains materials that can accommodate expansion.
- Build walls that are not too long.
- Build control joints where long walls are required.
- Moisten the bricks before laying them. (4)

4.5 Vanadium stains are not harmful but give an unpleasant look to the brickwork. (2)
[15]

QUESTION 5

5.1
- Different types of admixture should never be mixed together.
- All bags should be clearly marked to avoid confusing admixtures.
- When mixing different mixtures in the same container, first clean the container thoroughly.
- Liquid admixtures should not be mixed together.
- Admixtures should not be exposed to contamination from other chemicals. (5)

5.2
- Roughness and dryness of hands
- Eyes being irritated by cement dust
- Alkaline levels in the concrete mix causing skin inflammation
- Hazardous ingredients that can damage the lungs

(Any 3 × 1) (3)

5.3
- Sand with a high fines or clay content
- Sugar
- Fertilisers
- Seawater
- Urine (Any 2 × 1) (2)

5.4
- Placing concrete during the cooler hours of the day to reduce evaporation
- Covering up the concrete after pouring so as to reduce the effects of direct sunlight
- Adding a small amount of admixture to the concrete mixture
- Dampening the concrete as soon as it has been placed and at regular intervals thereafter, so as to maintain the concrete's moisture

(4)

5.5 Curing of concrete is defined as providing adequate moisture, temperature and time to allow the concrete to achieve the desired properties for its intended use. (2)

5.6
- Using ready-mixed concrete reduces construction costs.
- Concrete can be mixed away from construction sites.
- Concrete can be pre-ordered and delivered when it is needed on site.
- Ready-mixed concrete saves time on the construction site. (Any 3 × 1) (3)

5.7
- Slump cone mould
- Scoop
- Steel tamping rod
- Solid waterproof base (Any 3 × 1) (3)

5.8 Clean✓ and drinkable✓
pH scale must be 6–8✓ (3)
[25]

QUESTION 6

6.1
- Round sand sieve
- Rotary sand sieve
- Brass sieve
- Testing sieve
- Fine sand sieve (Any 3 × 1) (3)

6.2 The main difference between mortar cube strength and brick strength is that mortar takes at least 28 days✓ to reach its desired strength after it has been used,✓ while a brick already has its required strength✓ when it is used for building.✓ (4)

6.3
- Grading
- Fineness modulus
- Particle shape
- Particle texture (Any 3 × 1) (3)
[10]

QUESTION 7

7.1
- So that it can be used up within two hours
- To avoid waste
- To avoid using a compromised mix
- To save money (Any 2 × 1) (2)

7.2
- Clean the substrate to remove dust and dirt.
- Have its strength, texture and water absorption assessed.
- The substrate must be flat and even. (3)

7.3
- The plaster must not be allowed to dry out before and immediately after it has set.
- Protect the plaster from sun and wind.
- Cover the plaster with plastic. (3)

7.4 There will be a weak bond between the coats,✓ which may result in the plaster debonding.✓ (2)
[10]

QUESTION 8

8.1
- A curing compound can be added to the screed after it has been laid.
- Cover the screed or topping with a thick, clean watertight material, such as tarpaulin.
- Pour water on the concrete to create a shallow pool of water on top of it.
- Cover the surface with permissible plastic. (4)

8.2 Consider the use of the screed or topping in terms of strength. (2)

8.4 24 hours (2)

8.3 Scarifier (1)

8.5 9,5 mm (1)
[10]

TOTAL: 100

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