



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

**MASONRY
NQF LEVEL 4**

28 November 2023

This marking guideline consists of 6 pages.

INSTRUCTIONS TO MARKERS

1. Mark all the questions.
 2. Follow the answers according to the numbering system used in this question paper.
 3. Use only a red pen.
 4. Put your ticks and crosses neatly and legibly.
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QUESTION 1: GENERAL

- 1.1 False,✓ To prepare the work area for plastering, *remove* all dust, dirt, and oily substances.✓
- 1.2 True,✓ You can also simply use an old wooden floating trowel through which you have hammered some nails; or even just the tip of a trowel or a large nail.✓
- 1.3 False,✓ We use a spirit level to make sure the surface is *level*.✓
- 1.4 False,✓ A slush coat is also known as an *inter-coat*.✓
- 1.5 False,✓ The minimum space allowed between tiles is *2 mm*.✓

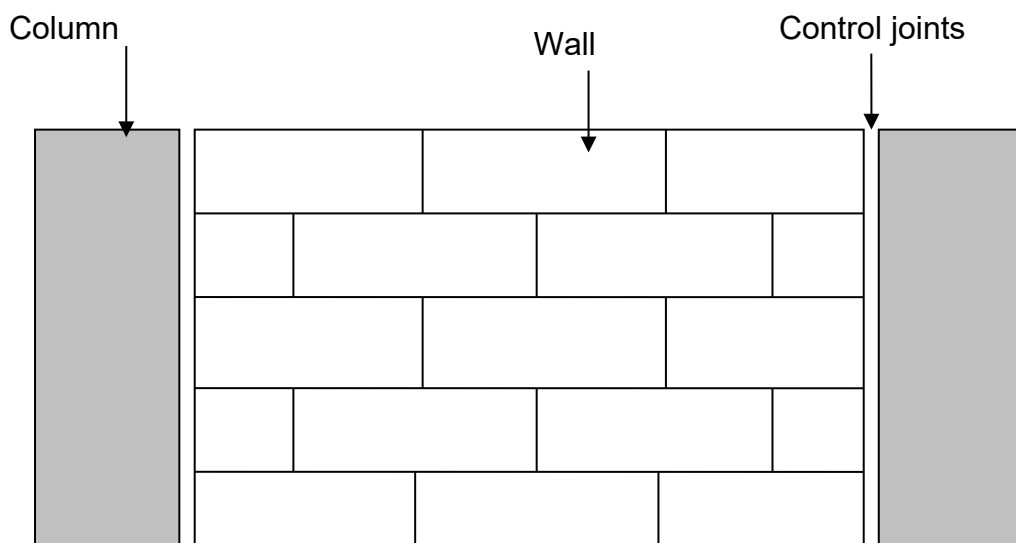
(5 × 2) [10]

QUESTION 2: PLASTERING

- 2.1 The cement used in plaster requires time to fully hydrate before it acquires strength and hardness.✓ Plaster must be cured once it has been placed.✓ Curing is the process of keeping concrete under a specific environmental condition until hydration is relatively complete.✓ Curing is referred to as 'the hardening' in which the masonry wall of brick and mortar becomes hard or solid by cooling, drying and crystallisation.✓ Good curing is typically considered to use a moist environment that promotes hydration, since increased hydration lowers permeability and increases strength, resulting in a higher quality material.✓ Allowing the concrete surface to dry out excessively can result in tensile stresses, which the still-hydrating interior cannot withstand.✓ Cracking will result.✓

(Any 5 × 1) (5)

2.2



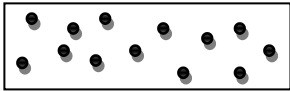
Correctness5	
Labelling3	

(8)

- 2.3
- At the edge of a damp course (DPC).
 - Next to columns.
 - Where the substrate has been laid in sections. (Any 2 × 1) (2)
- 2.4 A wall chase is a planned cutting into a substrate wall. (2)
- 2.5 The metal lathing strips we use should be: 30 mm long, ✓ 10 mm wide ✓ and 0,5 mm thick. ✓ (3)
- 2.6
- To improve the fire resistance of a building.
 - To improve the sound insulation of an internal wall.
 - To resist normal wear and damage.
 - To cover up unevenness in the background.
 - To provide a smooth finish.
 - Decorations. (Any 5 × 1) (5)
- 2.7 Choose a hard clean mixing surface that is free of any organic material ✓ Sieve the sand to remove lumps or stones. ✓ Measure the required amount of sand onto the mixing surface. ✓ Spread the sand into a layer about 100 mm thick. ✓ Measure the cement out on top of the sand. ✓
Mix the dry sand and cement together until the colour is even grey. ✓
Make sure that the water will not be able to run off the mixing surface, as it will take cement with it and change the mix ratio of your materials. ✓ Add clean water, mixing it all the time, until it is a thick paste. ✓ If necessary, cover the plaster mix with a tarpaulin to prevent it from drying out too quickly. ✓
(Any 5 × 1) (5)
- [30]**

QUESTION 3: SCREEDS AND TOPPING

- 3.1 Cement, ✓ sand, ✓ water, ✓ stone. ✓ (4)
- 3.2 The concrete mix must be workable, ✓ and for this reason, we test its consistency ✓ by using the slump test. ✓ The consistency of a freshly made concrete mix tells us how easily it flows, ✓ and this will depend on how much *water is in the mix.* ✓ (5)
- 3.3 Place the screed on the substrate and spread it a little thicker than the level of the top of the battens. ✓ Compact the screed with a timber screed board, using vertical chopping movements with a workman holding each end of the board. ✓ Use a hand tamper to level difficult spots. ✓ There must be full joints to the depth of 20 mm alongside perimeter walls and around columns. ✓ Monolithic toppings and bonded screeds are cast in panels to match the joints in the underlying panels. ✓ The recommended panel size is 9 m² and should be square. ✓ When you are satisfied the screed is level and firm, remove the battens and fill in the gaps. ✓
(Any 5 × 1) (5)

- 3.4 The added water will weaken the screed or topping surface✓ by adding excess moisture.✓ Adding extra water will cause crazing, debonding, dusting and scaling.✓ It is evaporation that facilitates the curing✓ and strengthening of the cement paste.✓ (4)
- 3.5
- Repair gaps or cracks in the substrate.
 - Clean the substrate.
 - Create a mechanical key to make sure that a strong bond is formed between the substrate and the screed or topping.
- (3)
- 3.6 Work a small area at a time.✓ Slush the grout mix over the area where it is needed.✓ Brush the grout in manually, using a stiff nylon scrubbing brush.✓ Use a brush with bristles of 30–50 mm long, so that they are flexible enough to reach into any depressions.✓ Brush the grout out again, leaving only a very thin coating on the surface with no pools of grouting in the depressions.✓ Lay the screed within 10 to 20 minutes.✓ (Any 5 × 1) (5)
- 3.7 3.7.1 Screed
- 
- 3.7.2 Concrete
- 
- (2 × 2) (4)
- [30]**

QUESTION 4: TILING

- 4.1 4.1.1 Used to ensure that walls are built straight and plumb.
- 4.1.2 Normally used with a spirit level to check or transfer levels.
- 4.1.3 Can be set to a particular dimension and it is then a very simple operation to hold the edge against the stock and to mark along the blade.
- 4.1.4 It is useful if the angle needs to be marked on ceramic tiles.
- 4.1.5 Most useful for cutting holes in tiles.
- (5 × 2) (10)
- 4.2 Wood floating gives a rougher finish which is better for bonding with the tile adhesive. (2)

- 4.3 Leave the spacers in place until the adhesive has set enough to prevent the tiles from slipping out of alignment. (2)
- 4.4 If the tile spacers are left in place, they prevent the grout from filling the joints completely and can result in a weak installation. (2)
- 4.5 Glass is by its nature smooth, so the tile adhesive you use for glass mosaics will need a key for bonding. (2)
- 4.6 Grout is a construction material,✓✓ and we use tile grout to fill the spaces between tiles and to provide support in tile joints.✓✓ (4)
- 4.7 When tiling a floor surface, set the tiles out 'dry' over the area to be tiled.✓ This is particularly important when using larger tiles.✓ Doing this will show you where tiles have to be cut to fit the area.✓ (3)
- 4.8 The strong alkaline mixture in the grout reacts with the natural oils in the skin,✓ causing an alkaline burn on your hands✓ where they are exposed to the grout/cement.✓ (3)
- 4.9 We choose sealers depending on the type of tile,✓ the environment,✓ and what we want the tile surface to look like.✓ (Any 2 × 1) (2)
- [30]**

TOTAL: 100