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.

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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*.✓

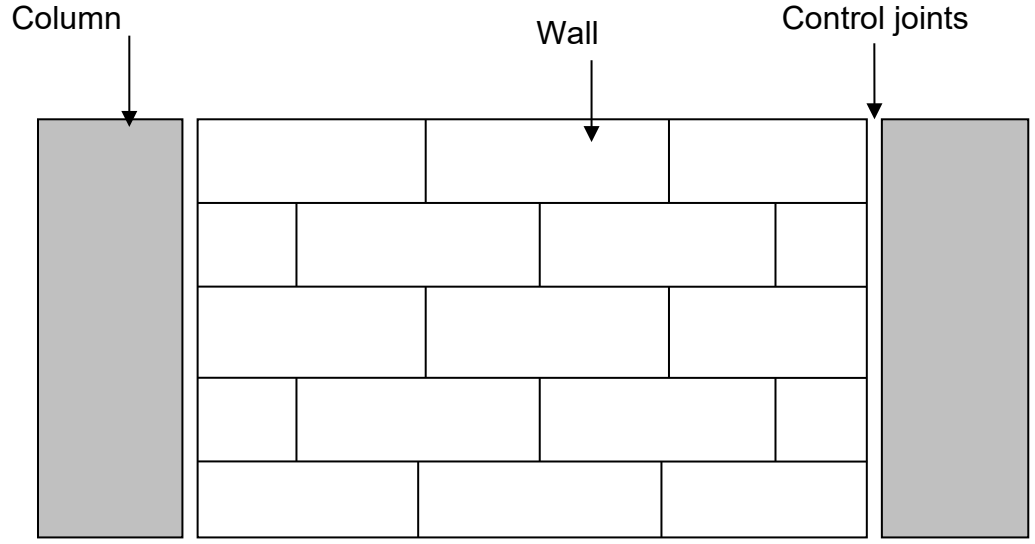
1.5 False,✓ The minimum space allowed between tiles is *2 mm*.✓

(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



Correctness	5
Labelling	3

(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 TOPPINGS

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 m^2 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)

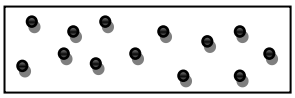
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3.4 The added water will weaken the screed or topping surface✓ by adding excess moisture.✓ Adding extra water will cause crazing, debonding, dusting and scaling.✓ It is evaporation that facilitates the curing✓ and strengthening of the cement paste.✓ (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

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