

BUILDING STUDIES

6186
Paper 1

GENERAL COMMENTS

Building Studies is one of the technical subjects that was implemented in 2019 and 2021 was the second examination.

This subject was implemented to compliment and ease the economy of the country and also to develop the learners in critical thinking and problem solving. This envisages the platform for entrepreneurship, self-sustainability and job creation, which will be a landmark for expertise, technicians and artisans.

This curriculum was developed to teach, enhance the knowledge and skills of the learners to achieve the highest level of education in the country.

This was the second examination for this syllabus; therefore, one could only be thankful for what was received from the candidates. This statement is in light taking the prevailing situation of Covid 19 into account. However, despite the difficulties experienced regarding Covid 19, the number of entries increased from 20 the previous year to 50 this current year.

This was a very difficult year for teachers as well as the learners. The teachers as well as the parents should be congratulated to prepare the candidates for this examination. A great 'thank you' to all of you also to the candidates for their courage and determination, well done.

The question paper was clear and well understood by the candidates. However, quite a few interpretation skills lacked. One expected a better performance, but at this stage we can only be appreciative that the candidates could produce quality work under very difficult circumstances.

Thanks to the DNEA and NIED who helped the teachers through workshops and training sessions to prepare them for this examination.

COMMENTS ON SPECIFIC QUESTIONS

Section A

- | | | | |
|---|------------------|-------------------------------------------------|-----|
| 1 | (a) Hawk: | holding small amounts of mortar when plastering | [1] |
| | (b) Float: | smoothing off plaster | [1] |
| | (c) Fish tape: | drawing wires through conduit | [1] |
| | (d) Dumpy level: | establishing levels | [1] |

Candidates answered this question fairly well, but most of them could not state the use of the fish tape.

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|---|-----------------------------------------------------------------|---------|-----|
| 2 | Wear goggles, wear gloves, safety boots, overall, masks/shields | (Any 3) | [3] |
|---|-----------------------------------------------------------------|---------|-----|

Candidates know general safety rules, but most of them could not give the specific safety rules as per question. Only a few could score maximum marks.

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|---|-----------------------------------------------------------------------------|---------|-----|
| 3 | Clean tools, inspect for damage, lubricate or oil as required, store safely | (Any 3) | [3] |
|---|-----------------------------------------------------------------------------|---------|-----|

Quite a few candidates scored maximum marks, because cleaning of tools are one of the most important activities in building studies

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|---|-----------------------------------------------------------------------------------------|--|------------|
| 4 | A necessary discord/interruption within a bond
in order to make up for a discrepancy | | [1]
[1] |
|---|-----------------------------------------------------------------------------------------|--|------------|

Only one or two candidates got this answer correct. The rest did not know what the term mean.

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|---|------------------------------------------|---------|-----|
| 5 | 3:4:5 method, building square, diagonals | (Any 2) | [2] |
|---|------------------------------------------|---------|-----|

Only a few candidates scored low marks here, the rest answered very well.

6 Brown: live, blue: neutral, yellow/green: earth [3]

Most of the candidates scored maximum marks, because this is basic knowledge.

7 (a) NGL: Natural Ground Level [1]

(b) PVA: Poly Vinyl Acetate [1]

(c) DPM: Damp Proof Membrane [1]

(d) PPE: Personal Protective Equipment [1]

(e) DPC: Damp Proof Course [1]

Most of the candidates scored good marks. However, some did not know the answer to PVA.

8 Stones [1]

recycled material (bricks or concrete) [1]

Only a few candidates could score maximum marks, most of the did not know the term “hardcore” that’s why they could not give a correct answer.

9 Hand compaction [1]
by vibrator [1]

Well answered by most of the candidates, only a few could not mention “vibrator”.

10 Uniform colour [1]
uniform density [1]
regular shape/dimension [1]
without cracks or defects [1]

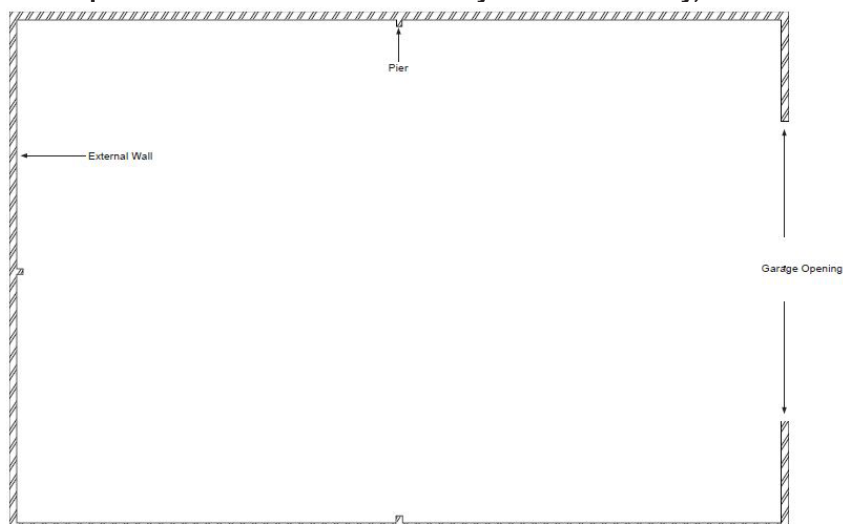
Good attempts were made by candidates and some scored good marks while some could only give one or two characteristics.

Section B

11 Marks given for drawing [1]
Correct scale of overall size of garage [1]
Correct scale of dimension of door opening [1]
Correct scale of thickness of walls [1]
Correct hatching used [1]
Quality of drawing (line work, no smudging, neat presentation) [2]

Marks given for central position of door [1]
Piers correctly positioned [1]

Only one or two candidates could score good marks. The rest did not know what a plan was, they could not apply the required scale, they did not understand what a pier is, they could not apply good drawing techniques and skills and therefore very low marks if any, could be awarded.



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|----|-----------------|------------------------------------------------------------------------|-----|
| 12 | Bridging Joist: | Timber support to a floor spanning from wall to wall across a building | [1] |
| | Wall plate: | Timber placed on top of a wall to support joists | [1] |
| | Floorboards: | Laid on top of the joists to form a floor | [1] |

This quest was poorly answered by most of the candidates. They simply did not know these terms/ components.

- | | | | | |
|----|-----|----------|-----------------------------------------------------------|-----|
| 13 | (a) | Trusses: | Stating a material choice (wood or metal) for the trusses | [1] |
| | | Reason: | cost, durability (Any1) | [1] |

Most of the candidates could not differentiate between a roof structure and roof covering. Here they gave roof covering.

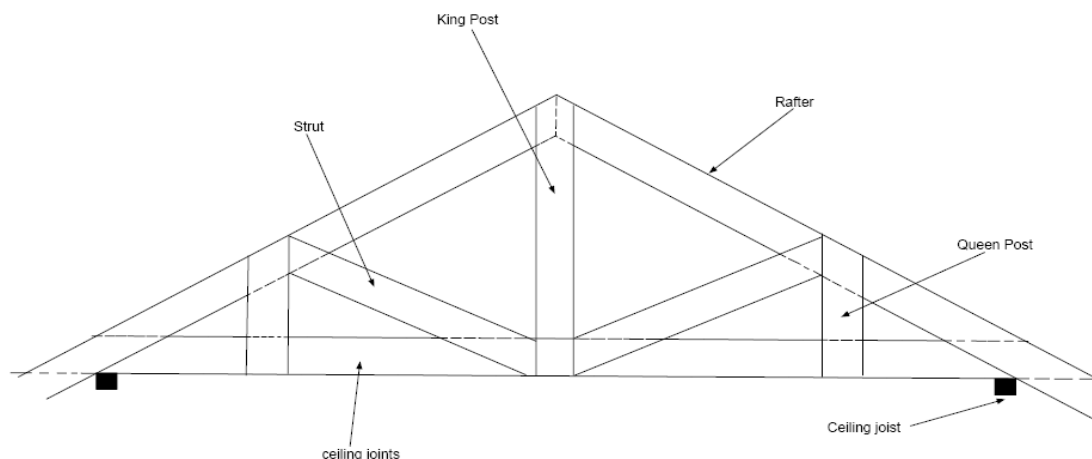
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|-----|-------------------------|--------------------------------------------------------|-----|
| (b) | Roof covering: | slates, steel, clay tile | [3] |
| | Justifying each choice: | cost, durability, water resistance, appearance (Any 3) | [3] |

Candidates scored good marks at this part of the question.

- | | | | | |
|----|-----|-----------------|-----------------------------------------------------------------------------------------------------------------|-------------------|
| 14 | (a) | Safety officer: | gives advice on safety
checks that safety laws are observed/implemented correctly | [1]
[1] |
| | (b) | Plumber: | installs sewerage systems and water supplies into the building carries out repair work to these systems (Any 2) | [2] |
| | (c) | Glazier: | cuts glass
installs glass | [1]
[1] |
| | (d) | Electrician: | installs wires and sockets/switches
fault-finding and rectification of those faults | [1]
[1] |
| | (e) | Bricklayer: | lays bricks
plaster the bricks
lays concrete (Any 2) | [1]
[1]
[2] |

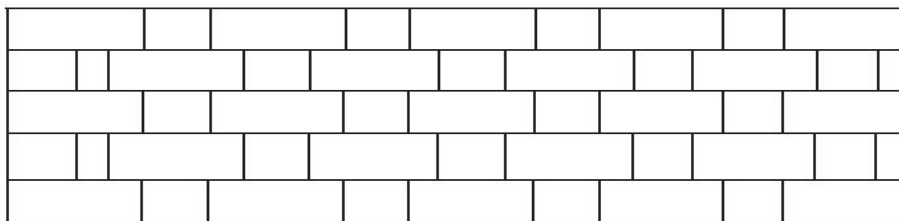
Only a few candidates could not score good marks and quite a few did not know what a glazier is

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|----------------------------------|-----------------------------------------------------|-----|
| Correctly positioned components: | rafters, king post, struts,
wall plate, tie beam | [4] |
| Correctly labelled components: | rafters, king post, struts,
wall plate, tie beam | [4] |

Candidates did not show good drawing skills except for a few who scored good marks by labelling the components correctly.



- correct Flemish bond pattern shown [2]
- first course correctly shown [1]
- two queen closers shown [2]
- brick proportions correct [1]

Most of the candidates scored good marks, although their drawing skills was not on standard. A few candidates did not know what “Flemish bond” is, therefore scored very low marks or none at all.

- 17 Make sure the wall is flat, removing any projections [1]
 In order to provide a good key for the plaster [1]
 Dampen the wall (1 mark) to remove dust and improve adhesion [1]
 To prevent the dry bricks sucking water from the plaster on application [1]
 Establish plumb screeds [1]
 To give a guide to the thickness of the plaster [1]
 Apply mortar between the screeds [1]
 Level to the screeds [1]
 Allow the mortar with straight edge [1]
 Cut excess mortar with straight edge [1]
 Fill in the hollow areas [1]
 Sprinkle water on the wall with a block brush [1]
 To make the mortar workable [1]
 Float the plaster to the desired finish (Maximum of 10 marks) [1]
- correct sequence of process [2]
 - tools mentioned to use for the process [2]

Most of the candidates scored good marks. Quite a few gave the correct procedure in the correct sequence, while the rest gave the correct procedure, but not in the correct sequence.

- 18 Area of wall = area of gable + area of square wall
- Area of gable = $\frac{1}{2}$ width x height [1]
 $\frac{6}{2} = 3 \times 1.4$ [1]
 = 4.2 m² [1]
- Area of square wall = length x width [1]
 Area of gable = $6\text{m} \times 2.6\text{m}$ [1]
 = 15.6m² [1]
- Total area of brick wall = area of gable + area of square wall
 = $4.2\text{m}^2 + 15.6\text{m}^2$ [1]
 = 19.8m² [1]

This question was answered very poorly by most of the candidates. They could not do any of the calculations correctly. Some did not even attempt to answer. Only a few could score maximum marks.