

3.4 BUILDING CONSTRUCTION (446)

The Building Construction for the year 2019 consisted of two papers namely Paper 1 (Theory) and Paper 2 (Practical Project). The theory paper constituted 60% while the Practical Project constituted 40% of the final mark. The format and weighting of the papers was the same as in the previous years.

Candidates General Performance

Table 11: Candidates overall performance for the period 2014 to 2019

Year	Paper	Candidature	Maximum scores	Mean Score	Standard deviation
2014	1	191	60	32.31	9.25
	2		40	21.68	3.92
	Overall		100	53.99	12.20
2015	1	211	60	33.34	9.52
	2		40	22.29	4.94
	Overall		100	55.63	13.53
2016	1	232	60	34.34	9.88
	2		40	22.88	4.55
	Overall		100	57.22	13.46
2017	1	281	60	44.25	8.55
	2		40	29.51	4.28
	Overall		100	73.65	12.21
2018	1	291	60	41.49	8.37
	2		40	27.7	4.55
	Overall		100	69.19	12.27
2019	1	430	60	39.99	9.50
	2		40	26.61	4.10
	Overall		100	66.51	12.80

From the table above, the following observations can be made;

- The candidature increased from 291 in the year 2018 to 430 in the year 2019.
- The mean score decreased from 69.19 in 2018 to 66.51 in 2019
- However, the standard deviation increased slightly from 12.27 in 2018 to 12.80 in 2019

3.4.1 Building Construction Paper 1 (446/1)

The questions which were reported to have been responded to poorly have been analyzed with a view to pointing out candidates weaknesses and propose suggestions on some remedial measures that should be taken in order to improve. The questions for discussions include: 1 (a), 9 and 12.

Question 1

- (b) Give four components of a business plan

Weakness

Some candidates gave the factors needed to start a business instead of the components asked for in the question.

Advice to teachers

Teachers are advised to explain to the students clearly the difference between factors and components of a business plan.

Expected responses

Components of a business plan

- Executive summary.
- Business description.
- Financial information.
- Product and services.
- Sales and marketing.

Question 9

Define the following terms as used in arches:

- a) Abutment
- b) Springer
- c) Voussoir
- d) Crown

Weakness

Most candidates could not define the terms given in the question.

Advice to teachers

Teachers are advised to cover the syllabus adequately and explain the terminologies used in arches.

Expected responses

Terms used in arches

- (a) Abutment is the part of the wall on which the arch is supported.
- (b) Springer is first unit adjacent to the screw-back of the arch.
- (c) Voussoir is the wedge-shaped units that are bounded to form the arch.
- (d) Crown is the voussoir unit at the highest point of the arch.

Question 12

With the aid of sketches, explain how to mark the outline of a semi-circular bay window on the ground.

Weakness

Some candidates could not demonstrate the use of a trammel when setting out semi-circular structure.

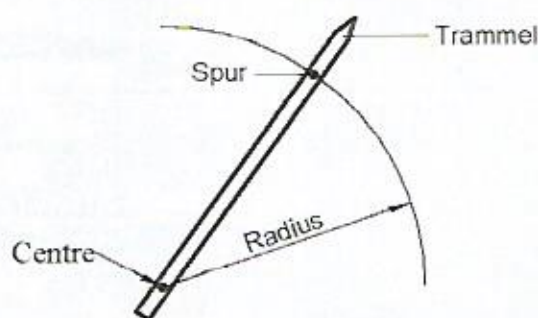
Advice to teachers

Teachers are advised to cover the syllabus adequately and explain the setting out process for different types of buildings.

Expected responses

Marking out a semi-circular bay window

- Begin by establishing the radius of the bay window. Mark the centre of the semi-circle and fix a trammel longer than the radius at the marked centre. On the trammel, fix a metal spur at the distance equal to the radius of the semi-circle. By rotating the trammel with the spur on the ground the outline of the bay window will be marked on the ground.



Sketch = 3

Labels

Any 4 x $\frac{1}{2}$ = 2

Expl. = 5

3.4.2 Building Construction Paper 2 (446/2)

Like in the previous years, the council designed a suitable project for this level together with a comprehensive marking scheme. The subject teacher used the working drawings to supervise the fabrication of the project and the scoring guide to mark the candidate's projects. The marks were then uploaded onto the KNEC within the specified time as per the instructions given.