3.4 BUILDING CONSTRUCTION (446)

The 2013 KCSE examinations for Building Construction consisted of two papers namely Paper 1 (theory) and Paper 2 (Practical Project). The theory was worth 60% while practical was worth 40% of the final mark. The format and weighting of the two papers was the same as in the previous years.

Candidates General Performance

Table 11: Candidates' overall performance for the period 2008 to 2013

Year	Paper	Candidature	Maximum Score	Mean Score	Standard Deviation
2008	1		60	33.83	5.36
	2		40	15.78	2.47
	Overall	**18**	100	49.61	**5.98**
2009	1		60	31.13	6.96
	2		40	18.77	4.57
	Overall	**195**	**100**	**49.74**	**9.38**
2010	1		60	26.26	9.09
	2		40	17.53	3.38
	Overall	**225**	**100**	**43.79**	**13.32**
2011	1		60	23.72	9.09
	2		40	15.76	4.32
	Overall	**301**	**100**	**37.70**	**12.58**
2012	1		60	25.27	9.79
	2		40	16.90	4.86
	Overall	**376**	**100**	**42.13**	**13.64**
2013	1		60	33.75	11.52
	2		40	22.54	5.85
	Overall	**330**	**100**	**56.29**	**16.39**

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

(i) The mean score improved from 42.13 in the year 2012 to 56.29 in the year 2013.

(ii) The candidature decreased from 376 in the year 2012 to 330 in the year 2013.

3.4.1 Building Construction paper 1 (446/1)

The questions which were reported to have been poorly responded to, have been analyzed with a view to pointing out candidates' weaknesses and propose suggestions on some remedial measures that would be taken in order to improve performance in future. The questions for discussions include 6 (b), 9 (b), 11, and 14.

Question 6 (b)

State **four** factors that are considered when choosing a type of a foundation. (2 marks)

Weaknesses

Most of the candidates could not state the factors to consider when choosing a type of foundation.

Advice to Teachers

They should cover the syllabus in totality without assuming some topics.

Expected Responses

- total loads of the building.
- nature and bearing capacity of the sub soils.
- land terrain.
- type of building.
- nature of ground.

Question 9 (b)

Sketch and label a section through a lean-to roof. (2 marks)

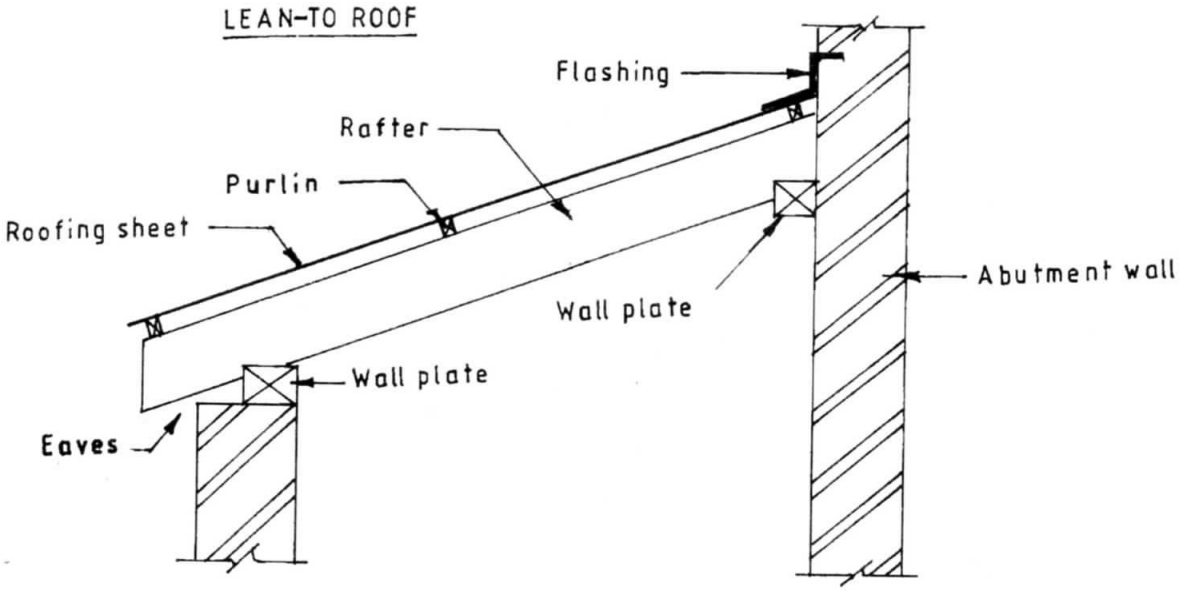
Weaknesses

Most of the candidates could not sketch and label a section through a lean-to roof and the few who sketched labeled wrongly

Advice to Teachers

They need to teach by making use of sketches and also models of different types of roofs.

Expected Responses



Question 11

Figure 3 shows a pictorial view of a shaped block.

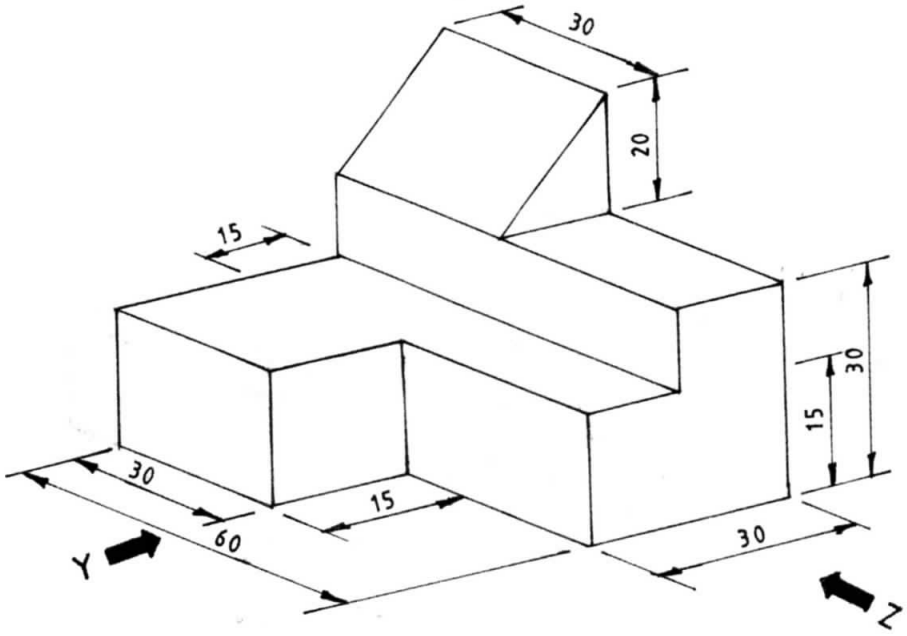


Figure 3

Draw full size, in first angle projection the following views of the block:

(i) front elevation in the direction of arrow Y;
(ii) end elevation in the direction of arrow Z;
(iii) plan. (15 marks)

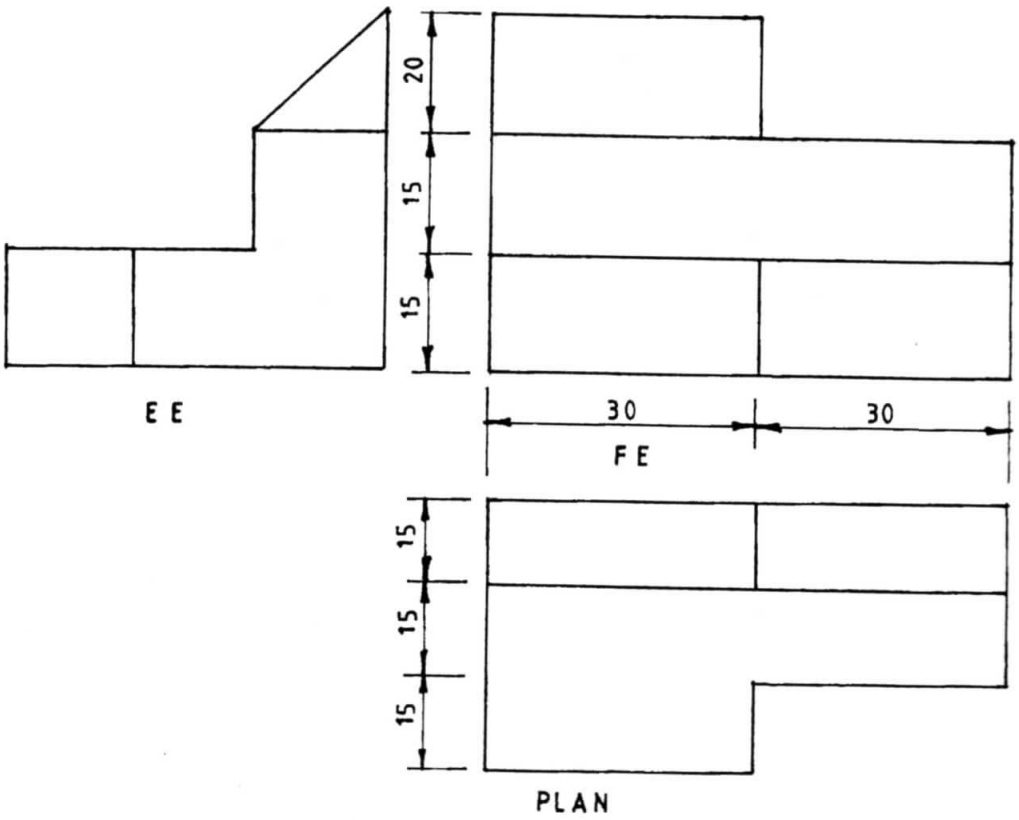
Weaknesses

Most candidates could not draw the views which were stated in the question full size.

Advice to teachers

Teachers are advised to cover the topic on orthographic projection thoroughly and give the students assignments to do in class and also take away for practice.

Expected Responses



ORTHOGRAPHIC VIEWS

Question 14

(a) Using a vertical sectional sketch, show **four** positions where damp proofing is provided in a building. (6 marks)

(b) Sketch and label a vertical section of a dependent scaffold. (9 marks)

Weaknesses

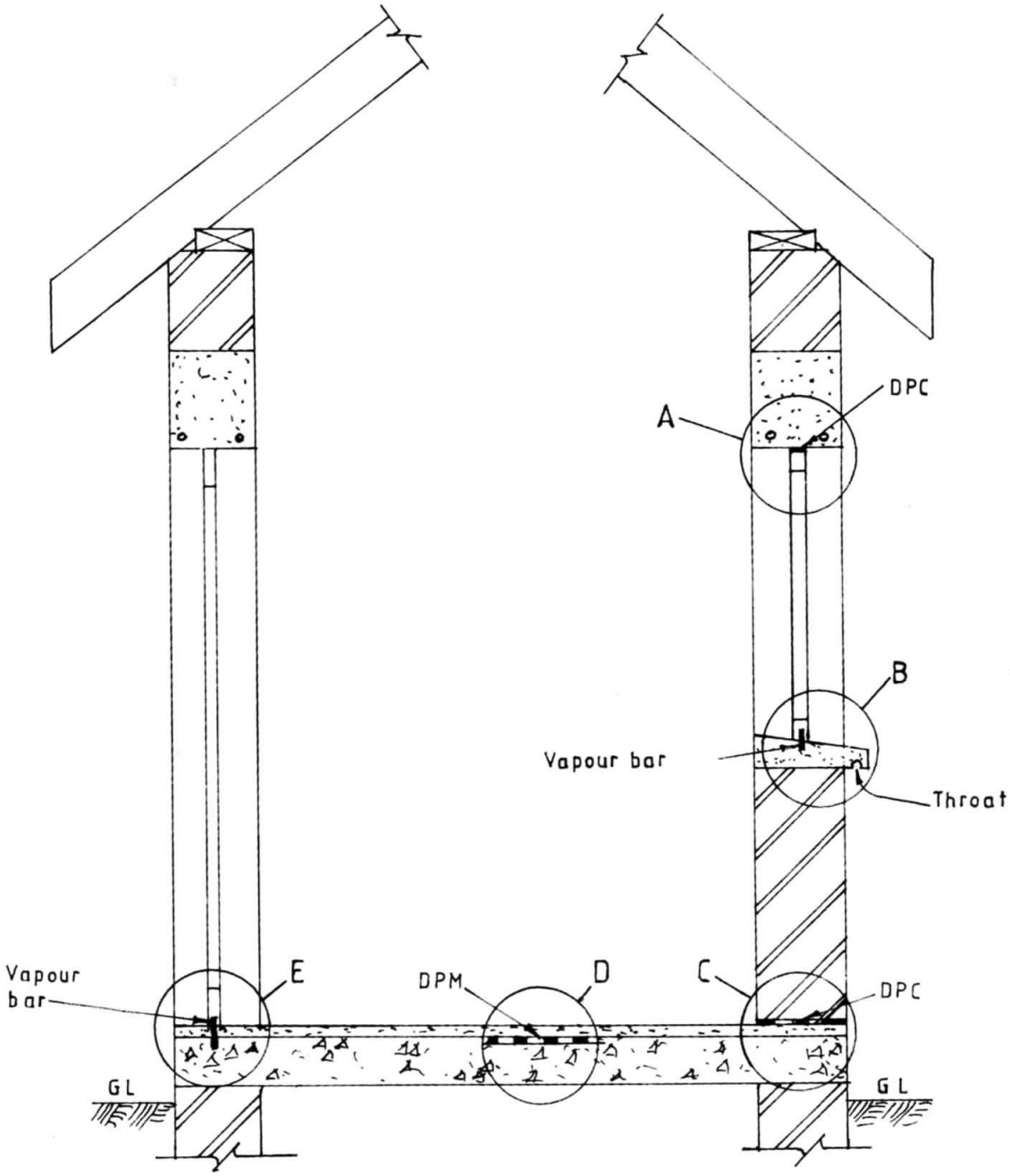
Most candidates could not draw the vertical sketch to show positions that require damp proofing and for a dependent scaffold.

Advice to teachers

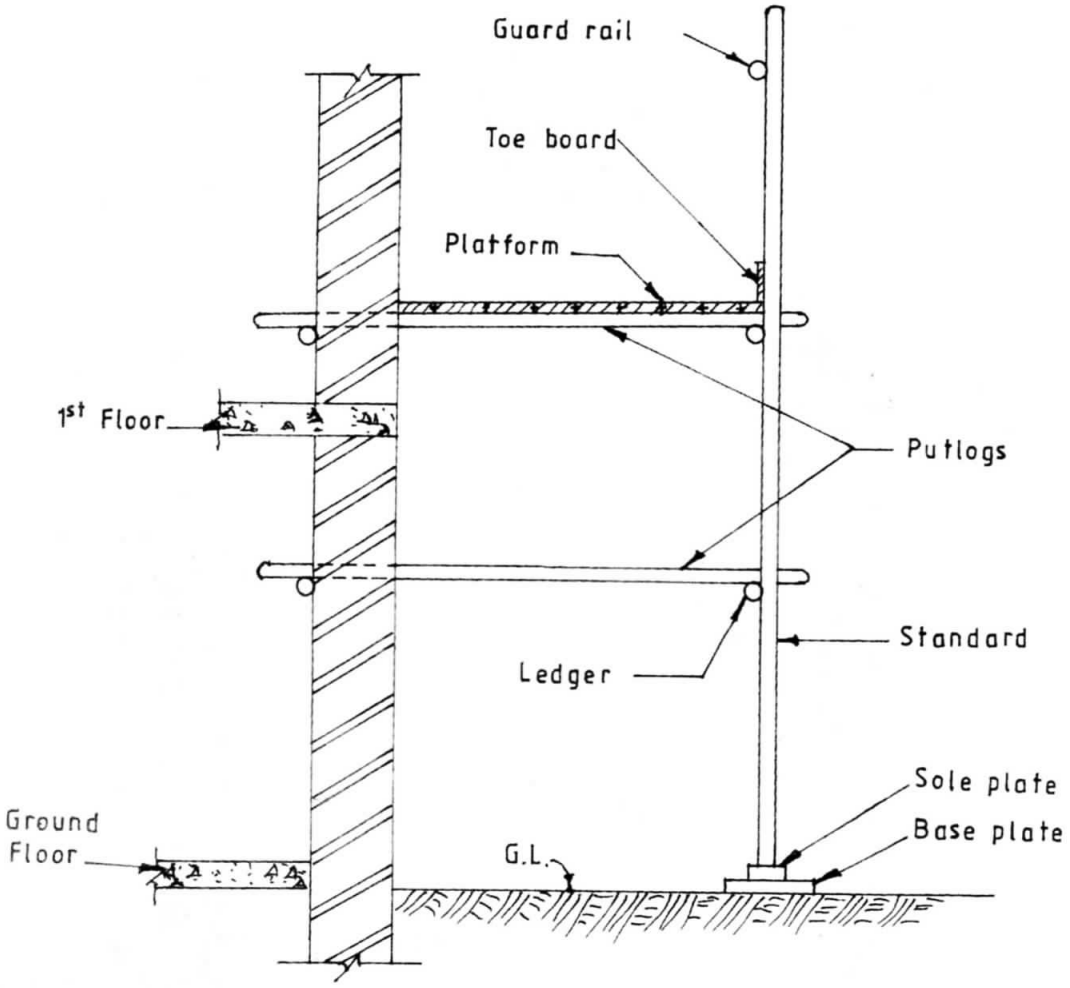
Teachers are advised to cover all the topics in the syllabus and not just selecting a few.

Expected Responses

a)



b)



3.4.2 Building Construction Paper 2 (446/2)

As 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 marking scheme to mark the candidates' projects. The marks were then sent to the Council through the D.E.Os office.