2705/303 2709/303 2710/303 BUILDING CONSTRUCTION III, DRAWING HI AND SERVICES Oct. /Nov. 2022

Time: 3 hours



## THE KENYA NATIONAL EXAMINATIONS COUNCIL

## DIPLOMA IN BUILDING TECHNOLOGY DIPLOMA IN ARCHITECTURE

## MODULE III

BUILDING CONSTRUCTION III, DRAWING III AND SERVICES

3 hours

#### INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

answer booklet;

scientific calculator;

drawing instruments;

drawing paper size A,.

This paper consists of EIGHT questions in THREE sections A, B and C.

Answer TWO questions from section A, TWO questions from section B and ONE question section C. Each question in section A carries 25 marks, section B carries 15 marks and section C carries 20 marks. Maximum marks for each part of a question are as indicated.

Candidates should answer the questions in English.

This paper consists of 5 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

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# SECTION A: BUILDING CONSTRUCTION III

Answer TWO questions from this section.

I.	(a)	Outline four causes of formwork failure.		(6 marks)
	(b)	Descr		
		(i)	separate system;	
		(ii)	combined system;	
		(iii)	partially separate system.	
				(9 marks)
	(c)	(i)	Explain two main functions of paint.	
		(ii)	Describe the following types of paints:	
			(I) oil-based paints.	
			(II) water based paints.	(10 marks)
2.	(a)	(i)	State four advantages of demolition by use of explosives.	
		(ii)	Describe each of the following methods of demolition:	
			(I) jack hammer;	
			(II) ball and crane;	
			(III) hydraulic breaker.	(10 marks)
	(b)	Descr	ribe the following types of plaster:	
			(i) sand faced plaster;	
			(ii) rough cast plaster.	
				(8 marks)
	(c)	(i)	Define the term underpinning.	
		(ii)	Outline three reasons for underpinning a building.	
				(7 marks)

3.	(a)	(i)	Define the term scaffold.	
		(ii)	Describe the following types of scaffolds:	
			(I) independent scaffolds; (II) putlog scaffolds; (III) gantry.	(10 marks)
	(b)	Desc	ribe the following types of floor finishes:	
		(i)	granolithic flooring;	
		(ii)	terrazzo flooring	
				(6 marks)
	(c)	Skete	ch and label an elevational view of a timber casement window.	(9 marks)
			SECTION B: DRAWING III	10
			Answer TWO questions from this section.	TOBOX
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4.			1:10, draw a strip foundation detail using the following information	Clar slot
1			ick floor slab; -1-5	P.102 CRC. P
13	1000		mesh; ge Damp proof membrane;	Blinding
			nding; - p 5 4	though cont
			nick hardcore;	= 50
			nick stone wall; -2	144
			mm foundation strip; 6	- 2
500			@175 mm % (main bars); -145 %	1 1 1 1 1 1
20			istribution bars)	A THE
S.L.				(15 marks)
5.	Usin	g drawi	ng No 01 and to a scale of 1:100 draw and label section XX.	(15 marks)
	The			an sha
. 6.			f 1:5, draw details of internal and edge reinforced concrete beam using formation:	ig the
	TOHO	wing in	Marie Control of Contr	a
	- Be	am size	of 450 x 200 mm	4 50 - 900
			I main bars;	0
100	- 2 I	0 10 - 0	2 hanger bars;	
0 500	- D	8 - 200	% distribution bars.	1
	1.1			(15 marks)
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## SECTION C: BUILDING SERVICES

Answer ONE question from this section.

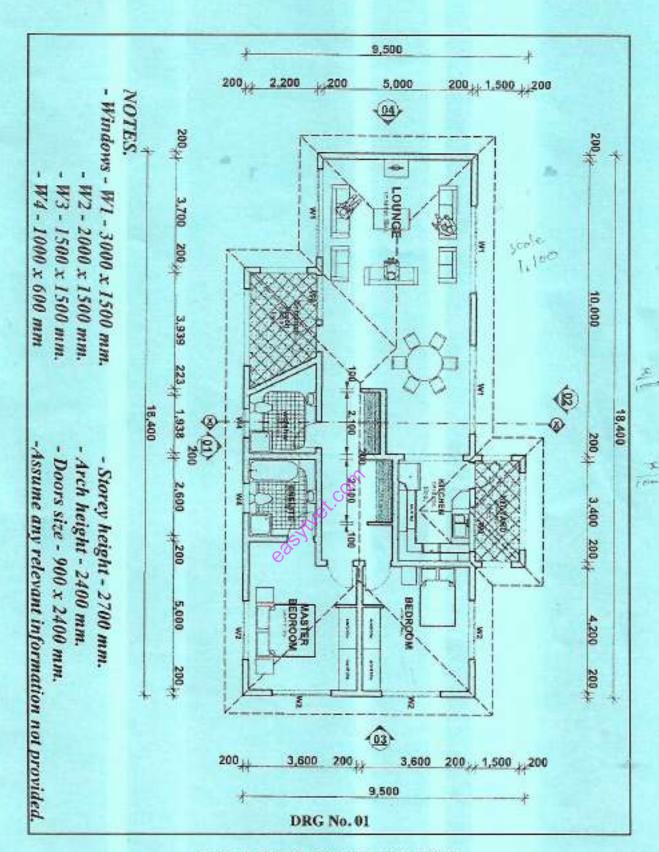
Outline three advantages of indirect water supply systems. (6 marks) 7. (a) Describe the following types of boilers: (b) independent boiler; (i) (ii) back boiler. (8 marks) (6 marks) Sketch and label a bell type flashing cistern. (c) Outline two functional requirement of sanitary appliances. (4 marks) (a) State three advantages of siphonic water closets; (i) (b) Describe the following types of water closets: (ii) (I) wash down type; (II) siphonic type. (9 marks)

Sketch and label a plunger type flashing cistern.

(7 marks)

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