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2306/306
CONSTRUCTION MANAGEMENT
Oct./Nov. 2018
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN QUANTITY SURVEYING

CONSTRUCTION MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Drawing instruments;

Scientific calculator.

This paper consists of EIGHT questions.

Answer FIVE questions in the answer booklet provided.

All questions carry equal marks.

Maximum marks for each part of a question are 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.

1. (a) State **four** roles of Kenya Bureau of Standards in the construction industry. (4 marks)
 - (b) Explain **five** principles of management. *planning, organizing, controlling, leading, Administration* (10 marks)
 - (c) Explain **three** methods of motivating workers in a construction firm. (6 marks)
2. (a) State **eight** activities carried out during pre-tender stage. (4 marks)
 - (b) Explain **two** methods of disciplining employees. (4 marks)
 - (c) **Table 1** shows activities and duration of a construction project.
 - (i) Draw a network diagram and indicate the critical path;
 - (ii) Determine the earliest, latest and float times.
 (12 marks)

Table 1

ACTIVITY	PREDECESSOR	DURATION (WEEKS)
A	-	8
B	-	6
C	-	9
D	C	12
E	A	3
F	A	12
G	B,D,E	4
H	G	3
I	G	7
J	F,H	4
K	I	15
L	J,M	3
M	I	6



3. (a) State **four** roles of a quantity surveyor during construction. (4 marks)
- (b) Explain **three** leadership styles. *Authoritative, Laissez faire* (6 marks)
- (c) Explain **three** causes of non economic industrial disputes. (6 marks)
- (d) Highlight **four** features of the construction industry. (4 marks)

4. (a) **Figure 1** shows the plan and section of a building. Using the data given, compute the materials required for the construction of the substructure including the slab. (Make reasonable assumptions). (12 marks)

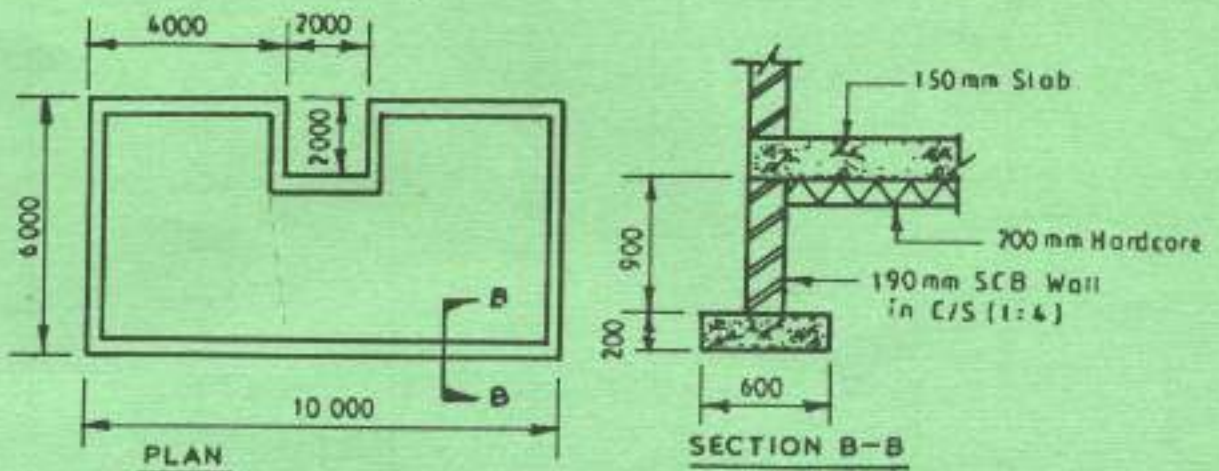


Fig. 1

DATA

Shrinkage of concrete	33%
Density of cement	1140 kg/m ³
Density of sand	1600 kg/m ³
Density of ballast	1500 kg/m ³
Density of hard core	2200 kg/m ³
Bulking of sand	20%
Proportion of concrete used	1:3:6
Yield of concrete	3/4 m ³
Block size	390 x 190 x 190 mm



- (b) Explain **four** methods of staff appraisal. (8 marks)
5. (a) State **four** office documents in a construction firm. (2 marks)
- (b) Explain **two** methods of written communication in a construction firm. (4 marks)
- (c) The work of a mason has been timed and rated in three cycles as shown in **Table 2**. Determine:
 (i) adjusted time;
 (ii) normal time;
 (iii) abstract to determine average basic times. (14 marks)

Table 2

S.NO	ELEMENT	RATING	WATCH READING(MIN)
	Check time		0.00
1	Batch materials	95	5.50
2	Mix materials	100	6.10
3	Select brick	100	2.15
	Ask for trowel	1.T	1.95
4	Pick mortar	95	2.65
5	Lay brick	85	3.70
1		100	6.00
2		95	6.85
	Talk to others	1.T	2.00
3		100	2.50
4		85	2.85
5		95	4.01
1		105	6.10
2		95	6.05
3		90	2.00
4		100	2.96
	Kneel for prayers	1.T	5.00
5		85	3.95
	Check time		1.00

Start of work 8.00 a.m

End of work 9.22 a.m

6. (a) State six systems of planning control in construction. (6 marks)
- (b) Table 3 shows a trial balance extracted from the books of accounts of Jogoo Traders Ltd as at 30th May 2015.
Prepare:
(i) Trading, profit and loss account;
(ii) Balance sheet. (14 marks)



Table 3
TRIAL BALANCE FOR JOGOO TRADERS
LIMITED AS AT 30TH MAY 2015

	DR	CR
	shs	shs
Premises	1,200,000	
Debtors and creditors	30,000	45,000
Cash at bank	96,500	
Cash in hand	20,000	
Purchase	150,000	
Sales		350,000
Stock of Goods on 1 st June 2014	45,000	
Discounts	5,000	3,000
Salaries	65,000	
Commissions		8,000
Power and Lighting	10,000	
Returns	14,000	22,000
Carriage inwards	5,000	
Carriage outwards	4,500	
Capital		1,247,000
Furniture	30,000	
	<u>1,675,000</u>	<u>1,675,000</u>

Additional information

Stock of goods on 30th May 2015 Ksh 35,500.

7. (a) Explain **four** methods of depreciation. (8 marks)
- (b) Explain **four** reasons for delegation in management. (8 marks)
- (c) State **four** objectives of leadership in an organization. (4 marks)
8. (a) Explain each of the following books of accounts:
- (i) purchase ledger;
 - (ii) sales day book;
 - (iii) return outward journal;
 - (iv) cash book;
 - (v) general journal. (10 marks)
- (b) Explain **five** reasons for site layout design. (10 marks)

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