

2306/305

**BUILDING ECONOMICS, CONSTRUCTION LAW,
ESTIMATING AND COSTING**

Oct./ Nov. 2017

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN QUANTITY SURVEYING

BUILDING ECONOMICS, CONSTRUCTION LAW, ESTIMATING AND COSTING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Scientific calculator.

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

*Answer **FIVE** questions choosing **TWO** questions from section **A**, **ONE** question from section **B** and **TWO** questions from section **C**.*

All questions carry equal marks.

Maximum marks for each part of a question are as shown.

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.

SECTION A: BUILDING ECONOMICS

Answer **TWO** questions from this section.

1. (a) Explain each of the following terms:
- (i) microeconomics;
 - (ii) macroeconomics.
- (3 marks)
- (b) Explain **four** factors affecting changes in construction demand. (6 marks)
- (c) (i) Outline **four** functions of money.
- (ii) Explain **three** properties of money.
divisibility, mobility, demand
- (8½ marks)
- (d) State **five** causes of cost-push inflation. (2½ marks)
2. (a) Distinguish monopoly from oligopoly. (4 marks)
- (b) Explain **three** factors of production. (4½ marks)
- (c) Outline **four** roles of Central Bank of Kenya. (4 marks)
- (d) Explain:
- (i) **two** objectives of firms;
 - (ii) **three** types of firms.
- (7½ marks)
3. (a) Differentiate between price and cost as used in construction industry. (4 marks)
- (b) Explain **four** design variables that have cost implications to a project. (6 marks)
- (c) Describe **four** methods of valuing landed property. (8 marks)
- (d) Highlight **two** roles of the government in Kenya in increasing demand for construction industry. (2 marks)

SECTION B: CONSTRUCTION LAW

Answer **ONE** question from this section.

4. (a) Explain each of the following terms as used in contracts:
- (i) quantum meruit;
 - (ii) breach of contract;
 - (iii) discharge of contract.
- (6 marks)
- (b) (i) Differentiate between mortgage and charge.
- (ii) Outline **three** types of mortgages.
- (8½ marks)
- (c) State **three** sources of law in Kenya.
- (1½ marks)
- (d) Outline each of the following as used in the law of tort:
- (i) trespass;
 - (ii) negligence;
 - (iii) vicarious liability;
 - (iv) nuisance.
- (4 marks)
5. (a) State **three** purposes of law in society.
- (3 marks)
- (b) (i) Outline the **four** conditions of joint tenancy.
- (ii) Explain **two** factors that may lead to determination of lease of land.
- (7 marks)
- (c) Define each of the following types of law:
- (i) civil law;
 - (ii) constitutional law;
 - (iii) criminal law;
 - (iv) international law.
- (6 marks)
- (d) (i) Define "Memorandum of Association".
- (ii) State **five** contents of Memorandum of Association.
- (4 marks)



Answer TWO questions from this section.

6. Use the data given to build up a unit rate of 150 mm thick vibrated reinforced concrete (1:2:4) in suspended slab (per m²). (20 marks)

DATA

Skilled labour per hour	Ksh 100
Unskilled labour per hour	Ksh 50
Cement per 50 kg bag	Ksh 650 ✓
Ballast per tonne-----	Ksh 1400 ✓
Sand per tonne-----	Ksh 1800 ✓
Bulking of sand-----	20% ✓
Density of sand-----	1600 kg/m ³ ✓
Density of cement-----	1440 kg/m ³ ✓
Density of ballast-----	1500 kg/m ³ ✓
Purchase price of 200 litre capacity mixer----	Ksh 450,000 ✓
Economic working life of mixer-----	4 years ✓
Salvage value of the mixer-----	Ksh 80,000 ✓
Interest on capital per year-----	14% of purchase price ✓
Efficiency of the mixer-----	85%
Maintenance and repairs-----	40% of annual depreciation ✓
* Haulage to and from the site per year-----	Ksh 30,000 *
Diesel consumption per day-----	12 litres @ Ksh 85 per litre
Insurance of mixer per year-----	3% of purchase price
All in hire rate of poker vibrator per day-----	Ksh 2000
All in hire rate of hoist per day -----	Ksh 5000
Make reasonable assumptions for information not given.	

7. (a) Highlight five sources of cost information. (5 marks)
- (b) Describe each of the following methods of approximate estimating:
- cubic content;
 - storey enclosure.

(6 marks)

- (c) Using the data given build up a unit rate for 12 mm \varnothing high yield reinforcement bars to BS 4449 with and including all necessary laps, bends and tying wire per kg. (9 marks)

DATA

Skilled labour per hour	Ksh 100
Unskilled labour per hour	Ksh 50
12 mm high yield reinforcement bar per piece—	Ksh 920
Weight of 1 m length of 12 mm \varnothing bar—	0.888 kg
Binding wire per kg —	Ksh 120

8. (a) Build up a unit rate for 10 mm thick terrazzo paving (1:3) mix including grinding and polishing surface (per m²) (14 marks)

DATA

Skilled labour—	Ksh 100 per hour
Unskilled labour—	Ksh 50 per hour
Cost of white cement—	Ksh 1000 per 50 kg bag
Cost of terrazzo chippings—	Ksh 660 per 50 kg
Density of white cement—	1442 kg/m ³
Density of chippings—	1400 kg/m ³
Colouring pigments—	10 kg/m ³ @ Ksh 300 per kg
Polish ... kg per m ² —	Ksh 80 per kg
Hire rate for grinding machine—	Ksh 2,500 per day
Make reasonable assumptions for information not given	

- (b) State **three** advantages and **three** disadvantages of owning a mechanical plant. (4 marks)
- (c) Explain the term "overheads" stating **one** example in construction industry. (2 marks)

THIS IS THE LAST PRINTED PAGE.