

2506/301

2507/301

INDUSTRIAL ORGANISATION
AND MANAGEMENT

June/ July 2023

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL
DIPLOMA IN AERONAUTICAL ENGINEERING
(AIRFRAMES AND ENGINES OPTION)
(AVIONICS OPTION)

MODULE III

INDUSTRIAL ORGANIZATION AND MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination

Non-programmable electronic calculator

Answer booklet.

*This paper consists of **Eight** questions.*

*Answer any **FIVE** questions in the answer booklet provided.*

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 4 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) Explain **four** essentials of a good filing system: (8 marks)
- (b) (i) Describe 'informal organization'.
(ii) Explain **two** merits of informal organization. (6 marks)
- (c) An aeronautical engineering company plans to sell some items in an area. Each item is purchased at Ksh. 500 on condition that all the unsold items will be returned to the manufacturer. The rent for the building is Ksh.200,000 and the selling price for each item is Ksh. 900.
Determine the number of items which must be sold to:
- (i) break-even;
(ii) earn a profit of Ksh. 40,000. (6 marks)
2. (a) Explain each of the following types of plant maintenance:
- (i) breakdown;
(ii) predictive;
(iii) routine. (6 marks)
- (b) Outline **five** objectives of 'method study'. (5 marks)
- (c) Highlight **five** benefits of engaging employees in decision making. (5 marks)
- (d) Distinguish between complementary goods and substitute goods. (4 marks)
3. (a) State **six** characteristics of mass production. (6 marks)
- (b) Outline **four** objectives of plant maintenance. (4 marks)
- (c) Explain **three** benefits of using the contract method of procurement to an organization. (6 marks)
- (d) Distinguish between reliability and durability of an equipment as used in maintenance. (4 marks)

4. (a) Explain **four** limitations of internal staff recruitment. (8 marks)
- (b) Table 1 shows time study data of a job operation with four elements and four cycles.

Table 1

Job Elements	Cycle in time (minutes)			
	1	2	3	4
A	2.40	2.80	3.20	2.10
B	4.00	4.20	3.00	4.80
C	2.60	3.20	2.80	2.60
D	2.00	2.80	2.20	2.40

Additional information:

- Activity B is machine controlled.
- Allowance; fatigue 9%, interruption 2%, inspection 1%.
- Performance rating is 112%

Determine the:

- (i) basic time;
- (ii) standard time. (9 marks)
- (c) State three features of land as a factor of production. (3 marks)
5. (a) Explain **four** reasons that may make managers to be reluctant to delegate authority. (8 marks)
- (b) Outline **four** factors that influence elasticity of supply of a product. (4 marks)
- (c) Explain **four** principles of scientific theory of management by FW Taylor. (8 marks)
6. (a) Distinguish between lead time and re-order quantity as used in stock control. (4 marks)

- (b) Table 2 shows the consumption of material 'P' in a certain warehouse.

Table 2

Descriptions	Quantity/duration
Minimum consumption	6,000 units
Maximum consumption	9,000 units
Re-order period	3-5 weeks
Re-order quantity	32,000 units

Determine the:

- (i) Re-order level;
- (ii) Minimum stock level;
- (iii) Maximum stock level;
- (iv) Average stock level.

(10 marks)

- (c) (i) Define an enclosed office.
(ii) Outline **five** advantages of an enclosed office.

(6 marks)

7. (a) (i) Define a centralized store.
(ii) State **three** limitations of a centralized store.

(4 marks)

- (b) Explain **three** causes of industrial disputes in an organization.

(6 marks)

- (c) Describe the stages of product design and development.

(10 marks)

8. (a) Highlight **four** objectives of production planning and control.

(4 marks)

- (b) Outline **four** functions of the maintenance department in an organization.

(4 marks)

- (c) With the aid of illustrations, explain each of the following:

- (i) shifts in the supply curve;
- (ii) movement along the supply curve

(8 marks)

- (d) Explain each of the following types of costs as used in cost estimation:

- (i) Direct method;
- (ii) Indirect labour.

(4 marks)

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