

2201/305

2203/305

2204/305

2206/305

2208/305

INDUSTRIAL ORGANISATION AND MANAGEMENT

Oct./Nov. 2004

Time: 3 hours

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THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN ELECTRONIC ENGINEERING  
DIPLOMA IN TELECOMMUNICATION ENGINEERING  
DIPLOMA IN ELECTRICAL ENGINEERING (POWER)  
DIPLOMA IN INSTRUMENTATION & CONTROL ENGINEERING  
DIPLOMA IN MEDICAL ENGINEERING**

INDUSTRIAL ORGANISATION AND MANAGEMENT

**3 hours**

**INSTRUCTIONS TO CANDIDATES:**

You should have the following for this examination:

Answer booklet

Mathematical tables/Electronic calculator

Answer any **FIVE** of the following **EIGHT** questions.

All questions carry equal marks.

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

**This paper consists of 4 printed pages**

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1. (a) (i) State any FIVE objectives of economic policy of a government.
  - (ii) Explain division of labour in reference to production stating TWO limitations of the system. (8 marks)
- (b) (i) Distinguish between OFFER and invitation to treat.
  - (ii) Discuss FOUR obligations of a business to the society. (12 marks)
2. (a) (i) State any THREE functions of International Monetary Fund (IMF).
  - (ii) Explain the following
    - I. Giffen product
    - II. Elasticity of supply (7 marks)
- (b) (i) Draw the supply curve and explain its significance.
  - (ii) State any THREE factors leading to a successful sale of a product. (7 marks)
- (c) State SIX differences between Financial Institutions and Commercial Banks. (6 marks)
3. (a) Explain any FOUR functions of management. (8 marks)
  - (b) List FOUR merits and THREE demerits of an organisation structure. (7 marks)
  - (c) (i) Define "Delegation".
    - (ii) Outline any THREE advantages of c (i). (5 marks)
4. (a) Explain
  - (i) Process layout
  - (ii) Product layout (6 marks)
- (b) Outline FOUR features of intermittent production systems. (4 marks)
- (c) Explain FIVE factors which might lead to low productivity in an organisation. (10 marks)
5. (a) (i) State any THREE advantages of statistical quality control (SQC).
  - (ii) Explain
    - (I) Acceptance Quality Level
    - (II) Average Outgoing Quality
    - (III) Process Out of Control (9 marks)

Handwritten signature and the word "Average" written below it.

- (b) List any THREE functions of the inspection department in an organisation. (3 marks)
- (c) XYZ factory is a manufacturing concern that specialises in bolts, it has designed a new production process subject to 100% inspection which gave the following result from a first run.

Table 1

Sample Number	Number of defective items
1	4
2	3
3	2
4	3
5	4
6	4
7	4
8	1
9	3
10	2

Using Table 1 draw a control chart for the number of defectives and comment whether the process is under control or not.

(Take sample size as 50). (8 marks)

6. (a) Explain the FOUR stages of product life cycle. (8 marks)
- (b) (i) Discuss FOUR management problems that a project manager is likely to face while trying to ensure project completion on schedule.
- (ii) Outline FOUR functions of a store-keeper. (12 marks)
7. (a) (i) State FOUR objectives of work study.
- (ii) Explain the basic steps of carrying out method study. (10 marks)
- (b) Table 2 shows that a city manufacturing organisation after applying an appropriate work simplification technique, took a direct time study of a simplified job and the following time elements in minutes were obtained:-

Table 2

Job element	Cycles				
	1	2	3	4	5
1	0.16	0.12	0.33	0.15	0.24
2	0.60	0.60	0.60	0.60	0.60
3	0.33	0.50	0.35	0.37	0.35
4	0.50	0.50	0.50	0.50	0.50
5	0.24	0.24	0.25	0.27	0.25

The following additional information was also determined about the jobs.

- (i) Job elements 2 and 4 are machine controlled and cannot be speeded up by the operator.
- (ii) There were two irregular occurrences while timing i.e. jobs having more than 25% variation from average.
- (iii) The operator was rated at 110% when working.
- (iv) Personal allowance 30 minutes a day, unavoidable delay 20 minutes a day, fatigue allowance is 10% of the operators actual physical working time.
- (v) A shift is 8 hours long

Required:-

- (I) what should the standard minutes per unit be for this job?
- (II) what should the shift output standard be? (10 marks)

8. (a) Define the following methods of production stating ONE example in each case.

- (i) Job
- (ii) Batch
- (iii) Mass (9 marks)

(b) Outline any THREE;

- (i) Reasons for keeping stock.
- (ii) Features of efficient layout of stores. (6 marks)

(c) Ng'ombeni Industry produces a particular product at the rate of 50 items per day. The demand occurs at the rate of 30 items per day. Given that set up cost per order is shs.1,000 and holding cost per unit time is shs.0.05.

Find the economic order quality and the associated total cost per cycle assuming that no shortage is allowed. (5 marks)

XC

$$C = AQC$$