

2207/305
INDUSTRIAL ORGANISATION
AND MANAGEMENT
Oct./Nov. 2007
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL
DIPLOMA IN AERONAUTICAL ENGINEERING AVIONICS
(COMMUNICATION AND NAVIGATION OPTION)

INDUSTRIAL ORGANISATION AND MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet.

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

All questions carry equal marks.

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

This paper consists of 4 printed pages

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

1. (a) (i) Explain the aims of recruitment and selection in organisations.
(ii) Outline the SEVEN-POINT plan method used for the recruitment and selection of employees. (6 marks)
- (b) (i) List any **three** benefits of training employees.
(ii) Illustrate the systematic training cycle. (6 marks)
- (c) (i) Describe the steps of the planning process.
(ii) Explain **four** reasons for delegation as a management tool. (8 marks)
2. (a) Outline any **four** contributions of Fredrick Winslow Taylor in the development of Scientific Management. (2 marks)
- (b) Henri Fayol prefaced his definition of management by stating what he considered to be the key activities of any industrial undertaking.
State the **six** key activities. (6 marks)
- (c) Describe the following management theories:
(i) Classical
(ii) Human Relations
(iii) Systems Approach (12 marks)
3. (a) Design the following requisition forms:
(i) Stores issue/order form
(ii) Inspection order form (9 marks)
- (b) Explain the following inventory control systems
(i) Two-Bin (Re-order level)
(ii) Constant-cycle-(Periodic Review) (5 marks)
- (c) Explain the following methods of determining the cost of material issued from stores:
(i) First-in-First-out
(ii) Last-in-First-out
(iii) Fixed price method (6 marks)
4. (a) State any **four** objectives of work study. (4 marks)
- (b) (i) Outline the sequence of carrying out method study.
(ii) State any **four** advantages of work sampling over time-study in work measurement. (10 marks)

- (c) The observed time for an operation of assembling an electric switch is 1.00 minutes. If the rating is 120 per-cent and an allowance of 10-per cent is allowed for the operation, calculate the:

- (i) Normal time
- (ii) Standard time per piece

(6 marks)

5. (a) Outline any **three** characteristics of each of the following methods of production:

- (i) Job
- (ii) Batch
- (iii) Flow

(9 marks)

- (b) Describe the following specifications used in production systems:

- (i) Manufacturing
- (ii) Material

(5 marks)

- (c) Explain the following stages of production planning and control:

- (i) Scheduling
- (ii) Dispatching
- (iii) Progressing

(6 marks)

6. (a) Explain the following terms as used in quality control:

- (i) Quality of design
- (ii) Conformance quality

(4 marks)

- (b) Describe the procedure for drawing a process control chart for variables. (6 marks)

- (c) The fraction defective of a product is 0.1 and the sample size is 20.

Determine:

- (i) the expected number defectives;
- (ii) the standard deviation;
- (iii) the probability of a single sample item containing 0, 1, 2 and 3 defectives.

(10 marks)

7. (a) Explain any **two** factors considered in plant layout.

(4 marks)

- (b) State **two** differences between Critical Path Method (CPM) and Programme Evaluation and Review Technique (PERT) in network analysis.

(2 marks)

- (c) Table 1 shows data for a proposed project.

Table 1

| Job i - j | Duration in days | | |
|------------------|------------------|----------------------|-------------------|
| | OPTIMISTIC to | MOST LIKELY t_l | PESSIMISTIC tp |
| 1-2 | 1 | 2 | 3 |
| 1-3 | 1 | 4 | 7 |
| 2-4 | 4 | 6 | 8 |
| 3-4 | 5 | 9 | 13 |
| 3-5 | 2 | 4 | 12 |
| 4-5 | 6 | 7 | 8 |
| 4-6 | 2 | 5 | 14 |
| 5-7 | 3 | 5 | 13 |
| 6-7 | 1 | 2 | 15 |

- (i) Draw the project network.
- (ii) Determine the project duration.
- (iii) Calculate the variance.
- (iv) Calculate the standard deviation.

(14 marks)

8. (a) (i) State any **two** aims of Cost Accounting in financial management.
- (ii) Explain the following terms used in business financial statements:
- I. Assets
 - II. Liabilities
 - III. Capital

(8 marks)

- (b) Describe the following methods of market research:

- (i) Product Analysis
- (ii) Distribution Analysis
- (iii) Competition Analysis

(6 marks)

- (c) (i) State the difference between UNITARY and PLURALISTIC approaches to employee relations.

- (ii) Outline any **four** matters covered by Procedural Agreements in Collective Bargaining.

(6 marks)