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TEVETA

DIPLOMA IN PRODUCTION AND OPERATIONS MANAGEMENT

LEVELS 6 YEAR II EXAMINATIONS

FINAL INTEGRATED SUMMATIVE EXAMINATIONS

SITTING: NOVEMBER/DECEMBER 2025

SUBJECT: OPERATIONS MANAGEMENT I

TIME ALLOWED: 3 HOURS **TOTAL MARKS:** 100

PASS MARK: 50

INSTRUCTIONS TO CANDIDATE

1. Write your Examination Number and National Registration Card number on the answer booklet provided. Ensure to append your signature in the answer space provided on the answer booklet.
2. Write your answer **SCRIPT SERIAL NUMBER** on the examination register and on the entry slip provided.
3. There are two (2) sections in this paper: Section A and Section B.
4. Section A consists of ten (10) multiple choice questions. Answer all questions.
5. Answer Question Two (2) and any other Three (3) questions in Section B.
6. Each question carries Twenty (20) marks.
7. Programmable calculators and cellular phones are not allowed in the examination room.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

SECTION A: MULTIPLE CHOICE QUESTIONS; ATTEMPT ALL QUESTIONS.

QUESTION 1

Write the letter of the correct answer in the answer booklet provided

1.1 Operational efficiency refers to the ability to: (2 marks

a) minimize output while minimizing inputs
b) maximize output while minimizing inputs
c) maximize output while maximizing inputs
d) minimize output while maximizing inputs

1.2 Which of the following is true about the Production and Marketing function in an organisation? (2 marks)

a) They both have distinct activities and do not require input from each other.
b) The Production function ranks higher than the Marketing function in the organisation structure.
c) The Marketing function collects customer feedback and share with the Production function.
d) The Marketing function is responsible for selling goods that they produce.

1.3 Efficient scheduling ensures one of the following. (2 marks)

a) Service customization.
b) Resource accountability.
c) Management of senior management meetings.
d) Operational workflows.

1.4 One of the following is **NOT** an importance aspect of stock control. Which one is it? (2 marks)

a) Reduces storage costs.
b) Improves sales forecast.
c) Enhances Supplier satisfaction.
d) Meets production requirements.

1.5 Identify the quantitative facility location factor from the list below. (2 marks)

a) Brainstorming.
b) Delphi method.
c) Analytical hierarchy.
d) Checklist.

1.6 Which of the following is **NOT** a function of the logistics department? (2 marks)

a) Design.
b) Production.
c) Procurement.
d) Reverse logistics.

1.7 The core and non-core operations of an organisation can best be described as: (2 marks)

a) Core operations are those activities that are documented in the company's constitution whilst the non-core operations are those that are in the company policy.
b) Core operations are those operations that are important to an organisation whilst non-core operations are not very important to an organisation.
c) Core operations are those operations that are associated with the production of the product whilst non-core operations are those operations that support the transformation process of a product.
d) Core operations are organisations strategic objectives whilst non-core operations are organisations functional objectives.

1.8 The following represents the steps involved in the design process of an assembly line. (2 marks)

Step 1 Product and process analysis.
Step 2 Workstation layout and floor planning.
Step 3 Machinery and automation integration.
Step 4 _____
Step 5 Quality control and error prevention.
Step 6 Trial run and optimization.
Step 7 Maintenance and continuous improvement.

Which step is missing in the design process of an assembly line

a) Worker training and skills development.
b) Machinery and automation purchasing.
c) Quality control checks.
d) Maintenance plan development.

1.9 Safety stock + EOQ is equal to: (2 marks)

a) Average inventory.
b) Normal maximum inventory.
c) Absolute maximum inventory.
d) Order point.

1.10 Which of the following is **NOT** correct about Infinite Loading? (2 marks)

a) Jobs are assigned to work centers without regard for capacity of the work center.
b) Jobs are loaded at work centers according to the chosen priority rule.
c) Helps identify bottlenecks in a proposed schedule to enable proactive management.
d) Allows only as much work to be assigned, as can be done with available capacity.

Total (20 marks)

SECTION B: ANSWER QUESTION TWO (2) AND ANY OTHER THREE (3) QUESTIONS.

QUESTION 2 (COMPULSORY)

Given that the following jobs arrive at your workstation where you work as the Operations Manager:

Job	A	B	C	D	E
Processing time (days)	4	9	11	14	17
Due data (days)	6	12	12	18	20

Using the critical ratio rule,

a) Determine the sequence of the jobs. (4 marks)

b) Calculate.

i) The total production time required to complete the jobs. (2 marks)

ii) The average job flow time. (4 marks)

iii) The Average job lateness (4 marks)

c) Explain **Three (3)** options that can expedite the time of production. (6 marks)

Total (20 marks)

QUESTION 3

With the aid of an example of a manufacturing company, explain the transformation processes. **(20 marks)**

QUESTION 4

HJK Hotels, a Zambian Chain of Hotels, is considering expanding its operations to the SADC region. In view of this expansion plan, the company is considering introducing the Operations Management Department.

a) State **Four (4)** benefits of Operations Management to an organisation. (8 marks)

b) Explain **Four (4)** challenges of expanding operations away from the home country. (12 marks)

Total (20 marks)

QUESTION 5

In 2005, the Government of the Republic of Zambia introduced the Multi-Facility Economic Zones (MFEZ) in order to enhance Zambia's competitiveness and industrialization. The zones were initiated to foster an attractive business environment, promote exports, and enhance domestic trade. The Ministry of Commerce, Trade and Industry (MCTI) recommended several locations for the establishment of MFEZs, such as the Lusaka South Multi Facility Economic Zone (LS-MFEZ). Companies establishing their operations in the MFEZ are advised to ensure that they select the best channel of distribution.

a) Explain **Four (4)** factors to consider when making a choice of a channel distribution. (8 marks)

b) Explain **Five (5)** possible location incentives that the Government could have offered for setting up a company in the LS-MFEZ. (12 marks)

Total (20 marks)

QUESTION 6

Trevor, a store officer of Ken Cork Ink (KCI) supplies has estimated that the monthly demand for Tonners is 500 with an annual ordering cost of K350. The price per Tonner is K70 and the carrying cost is 20%. Assist Trevor to:

a) Determine

i) Optimal order quantity. (6 marks)

ii) Total annual stocking cost. (4 marks)

iii) Order cycle. (4 marks)

b) Explain **Five (5)** benefits of Materials Management to Trevor. (6 marks)

Total (20 marks)

QUESTION 7

a) State **Four (4)** factors considered in designing products. (8 marks)

b) Assuming you are the Production Supervisor, and you have recommended that the company operates a re-order level stock control system.
With illustrations, explain the operation of the Re-order level stock control system.
(12 marks)

Total (20 marks)