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TEVETA
Technical Education, Vocational and Entrepreneurship Training Authority

DIPLOMA IN PRODUCTION AND OPERATIONS MANAGEMENT

LEVEL 6 YEAR II EXAMINATIONS

FINAL INTEGRATED SUMMATIVE EXAMINATIONS

SITTING: NOVEMBER/DECEMBER 2025

SUBJECT: MAINTENANCE MANAGEMENT

TIME: THREE (3) HOURS **TOTAL MARKS: 100**

PASS MARK: 50

INSTRUCTIONS TO THE CANDIDATE

1. Write your Examination Number and National Registration Card Number (NRC) on the answer booklet provided. Ensure to append your signature in the space provided on the booklet.
2. Write your answer SCRIPT SERIAL NUMBER on the examination register and, or the 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. Section B has six (6). Answer question Two (2) which is compulsory and any other Three (3) questions of your choice from the remaining
6. All questions carry equal marks.
7. Use pencils and graph papers (provided) for drawings
8. Programmable calculators and cell phones are not allowed in the examination room.

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

SECTION A: MULTIPLE CHOICE; ATTEMPT ALL QUESTIONS AND EACH QUESTION CARRIES 2 MARKS

QUESTION 1

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

1.1 What is the main goal of maintenance management?

a) To minimize costs
b) To maximize equipment uptime
c) To reduce labour hours
d) To improve quality (2 marks)

1.2 Which maintenance strategy involves performing maintenance tasks before the equipment fails?

a) Preventive maintenance
b) Predictive maintenance
c) Reactive maintenance
d) Proactive maintenance (2 marks)

1.3 Mulenga is asked to define maintenance. Maintenance is....

a) Repairing equipment after breakdown
b) Replacing equipment with new ones
c) Keeping equipment in good working condition
d) Improving equipment performance (2 marks)

1.4 ABS (Z) uses replacement maintenance. What is the best way to implement replacement maintenance?

a) Wait for equipment failure
b) Replace parts based on usage
c) Replace parts based on age
d) Replace parts according to maintenance needs (2 marks)

1.5 Sweet Sugar company applies breakdown maintenance for a section of its plant. What is the main disadvantage of this type of maintenance system?

a) High maintenance costs
b) Increased equipment lifespan
c) Improved equipment performance
d) Reduced downtime (2 marks)

1.6 Which factor should be considered when determining maintenance frequencies?

a) Equipment age only
b) Equipment usage only
c) Equipment age and usage
d) Equipment type only (2 marks)

1.7 The Factories Act requires...

a) All broken down machine be removed from the plant
b) All lifting tackle be identified and the working load be marked on it
c) All plant equipment be painted
d) All chain-blocks be painted yellow (2 marks)

1.8 The Plant manager insisted that the plant must apply Planned Lubrication as a maintenance strategy. Identify the biggest benefit of this strategy.

a) It is good for automated lubrication
b) It makes inaccessible lubricator point accessible
c) It makes lubrication a priority
d) Makes lubrication easier and reduces the risk of mistakes and omissions (2 marks)

1.9 What is the purpose of temperature stickers?

a) To measure pressure
b) To measure temperature
c) To identify high temperature areas
d) To measure temperature gradients (2 marks)

1.10 Ndanji is the engineering stores officer in charge of spare-parts. In the management of spare, she groups the spares according to their type. Which of the following is the correct type?

a) Programme spares
b) Reprogramme spares
c) Breakup spares
d) Receivable spares (2 marks)

(Total: 20 marks)

SECTION B: ANSWER QUESTION TWO AND ANY OTHER THREE QUESTIONS

QUESTION 2 (COMPULSORY)

a) Explain the relevance of store keeping and stock control to the maintenance function. (5 marks)

b) With the aid of a diagram, explain the cost optimization in maintenance. (15 marks)

Total (20 marks)

QUESTION 3

a) Explain the use and functions of **Five (5)** maintenance aids. (10 marks)

b) Mbala Sugar Company does not have an in-house maintenance team but instead hires sub-contractors to carry out maintenance. Explain the benefits that Mbala Sugar Company derives from such a system. (10 marks)

Total (20 marks)

QUESTION 4

a) Explain the legal requirement for maintenance in Zambia. (10 marks)

b) Describe **Five (5)** benefits of Planned Lubrication. (10 marks)

Total (20 marks)

QUESTION 5

a) Explain **Six (6)** benefits of having the Engineering Stores stocking the right quantities of spare parts. (12 marks)

b) Differentiate the use of graphs from Charts in maintenance. (8 marks)

(Total: 20 marks)

QUESTION 6

a) Explain ways Maintenance department of Mbala Sugar Company can handle the electrical power deficit currently being experienced across industry in Zambia. (10 marks)

b) State the contribution that Mbala Sugar can make to the reduction of the "greenhouse effect". (10 marks)

Total (20 marks)

QUESTION 7

a) Describe **Five (5)** methods of handling waste from industry. (10 marks)

b) Explain the relationship between production and maintenance. (10 marks)

Total (20 marks)