higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1420**(E)**(A4)T

NATIONAL CERTIFICATE

PRODUCTION AND QUALITY CONTROL N5

(8140055)

4 April 2019 (X-Paper)
09:00–12:00

This question paper consists of 5 pages.

Copyright reserved

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
PRODUCTION AND QUALITY CONTROL N5
TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Sketches must be large, neat and fully labelled.
5. Write neatly and legibly.

Copyright reserved

QUESTION 1

1.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (1.1.1–1.1.10) in the ANSWER BOOK.

1.1.1 The trend to just-in-time production and increased automation of production equipment have made it possible for some assembly operations to respond rapidly to orders.

1.1.2 Seven simple steps can be used to calculate the overall scores by using the factor rating method.

1.1.3 The centre-of-gravity method is based on the premise that a warehouse located centrally to the shops that receive goods from it will minimise the overall distribution costs.

1.1.4 Shop floor management provides and formalises an integrated framework of processes with defined roles, responsibilities and competencies to sustain and improve efficiency.

1.1.5 More advanced levels cannot be achieved through a better understanding of system behaviour and standardisation of prevention rules and the corresponding action plans.

1.1.6 Tetragon structure of shop floor management has been chosen to express that the elements complement and interface with each other.

1.1.7 Pareto analysis is also known as the 80/20 principle, which suggests that most of the losses associated with a process can be traced back to a few causes.

1.1.8 The aim of materials management is consequently to provide the correct material, at the correct work point, at the right time, in the right form and at the lowest cost.

1.1.9 Ideally, stock should be used or sold as soon as possible after being received; in other words, no stock should be kept on hand.

1.1.10 Examples of variable costs include indirect labour costs, repair costs, the cost of consumables, protective clothing and tool costs.

(10 × 2) **[20]**

QUESTION 2

2.1 Calculate the design capacity of an industrial oven that was designed to bake 60 loaves of bread per hour. (6)

2.2 Write short notes on the following:

2.2.1 Measuring capacity (5)

2.2.2 Design capacity (2)

2.2.3 Effective capacity (6)

2.2.4 Actual capacity (6)

[25]

QUESTION 3

3.1 A project is planned as follows:

Activity	Duration	Details
A	3 days	
B	4 days	Depends on A
C	6 days	Depends on A
D	2 days	Depends on B
E	3 days	Depends on C
F	2 days	Depends on E
G	3 days	Depends on E

Prepare a Gantt Chart to determine the overall length of the project. (10)

3.2 Discuss the following elements of just-in-time programme:

3.2.1 Production at the rate of customer demand (3)

3.2.2 Process-based shop floor layout (4)

3.2.3 Reduction of WIP (Work in Progress) (3)

3.2.4 Quality at source (5)

[25]

Copyright reserved

QUESTION 4

Briefly discuss the following most important responsibilities of the purchasing department:

4.1 Receipt of purchasing requisitions or orders (4)

4.2 Revision of purchasing requisitions (4)

4.3 Selection of suppliers (4)

4.4 Compiling a price register (3)
[15]

QUESTION 5

5.1 Name the SIX most important uses of cost data. (6)

5.2 Explain the following types of costs:

5.2.1 Manufacturing costs

5.2.2 Marketing costs

5.2.3 Administrative costs

(3 × 3) (9)
[15]

TOTAL: 100

Copyright reserved