higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

PRODUCTION AND QUALITY CONTROL N5

(8140055)

27 November 2024 (X-paper)
09:00–12:00

This question paper consists of 5 pages.

140Q1E2427

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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. Use only a black or blue pen.
5. Write neatly and legibly.

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QUESTION 1

Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.1–1.5) in the ANSWER BOOK.

1.1 A production plan is a short-term plan.

1.2 Make to order means that manufacturing operations only make the product as specified by a customer.

1.3 Rated capacity uses historical figures.

1.4 Work in progress: Actual input – actual output.

1.5 Bottleneck is a work centre that produces more than other work centres.

(5 × 1) **[5]**

QUESTION 2

Choose an item from COLUMN B that matches an item in COLUMN A. Write only the letter (A–E) next to the question number (2.1–2.5) in the ANSWER BOOK.

COLUMN A		COLUMN B	
2.1	Investment	A	production schedule of other parts of the process
2.2	4P model	B	link the firm and suppliers
2.3	Rope	C	buying shares
2.4	Purchasing function	D	direct material
2.5	A manufacturing cost	E	philosophy, process, people and partners

(5 × 1) **[5]**

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QUESTION 3: CAPACITY MANAGEMENT/CAPACITY CONTROL

3.1 Explain the difference between *variable costs* and *fixed costs.* (2 × 2) (4)

3.2 State FOUR contemporary location issues in location management. (4 × 1) (4)

3.3 Determine which warehouse will have the lowest total transport cost using the centre of gravity method from the table below.

Store	Units sold pm	Distance	
		Warehouse A	Warehouse B
1	1 500	40 km	25 km
2	1 700	45 km	24 km
3	1 600	50 km	33 km

(5)

3.4 State the THREE bits of information required to determine the breakeven analysis. (3 × 1) (3)

3.5 Draw a labelled diagram of the capacity management hierarchy. (11)

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QUESTION 4: SHOPFLOOR MANAGEMENT/PRODUCTION ACTIVITY CONTROL

4.1 State FIVE principles of lean thinking. (5 × 1) (5)

4.2 Name SEVEN types of waste found in manufacturing. (7 × 1) (7)

4.3 Assume that a work centre has the demonstrated capacity of 1 500 units per day and receives the following manufacturing orders:

DAY	1	2	3	4	5
ORDER	1 300	1 700	1 200	1 500	1 600

Prepare a table that will show the manufacturing based on backward loading. (5)

4.4 Copy and complete the table below to determine the weekly variance and cumulative variance.

WEEKS	1	2	3	4
Actual input	120	110	125	120
Actual output	115	112	125	118
Weekly variance				
Cumulative variance (or WIP)				

(8)

[25]

QUESTION 5: INVENTORY MANAGEMENT

5.1 Name FIVE types of inventory found in manufacturing. (5 × 1) (5)

5.2 State SEVEN decisions that affect the level of inventory. (7 × 1) (7)

5.3 Calculate the most economic order quantity if the:

V = Consumption in units per annum is 1 200
B = Order cost is R25
P = Percentage of average inventory value of inventory carrying cost is 25%
K = Cost per unit of inventory is R0,75 (5)

5.4 Assume that the company experiences the following stock movement over a five-day period.

Day 1: Receipt of 2 000 units at R25 per unit
Day 2: Receipt of 1 600 units at R30 per unit
Day 5: Issue of 1 000 units

Calculate the value of stock at the end of day five using the following methods of inventory evaluation:

5.4.1 FIFO method (3)

5.4.2 LIFO method (3)

5.4.3 Weight average method (4)

[27]

QUESTION 6: PRODUCTION COSTING

6.1 Give the formula for calculating total operating costs. (5)

6.2 Give the formula for calculating breakeven point. (6)

[11]

TOTAL: 100

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