higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

PRODUCTION AND QUALITY CONTROL N5

27 November 2024

This marking guideline consists of 5 pages.

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QUESTION 1

1.1 False
1.2 True
1.3 False
1.4 True
1.5 False

(5 × 1) **[5]**

QUESTION 2

2.1 C
2.2 E
2.3 A
2.4 B
2.5 D

(5 × 1) **[5]**

QUESTION 3

3.1
- Fixed costs refer to the expenses incurred in having the facilities to manufacture products or provide services, before anything has been produced.
- Variable costs are directly linked to each unit produced and therefore increase with each additional manufactured or services rendered. (2 × 2) (4)

3.2
- Globalisation
- Information and communication technology
- Regional incentives
- New approaches to production and logistics (4 × 1) (4)

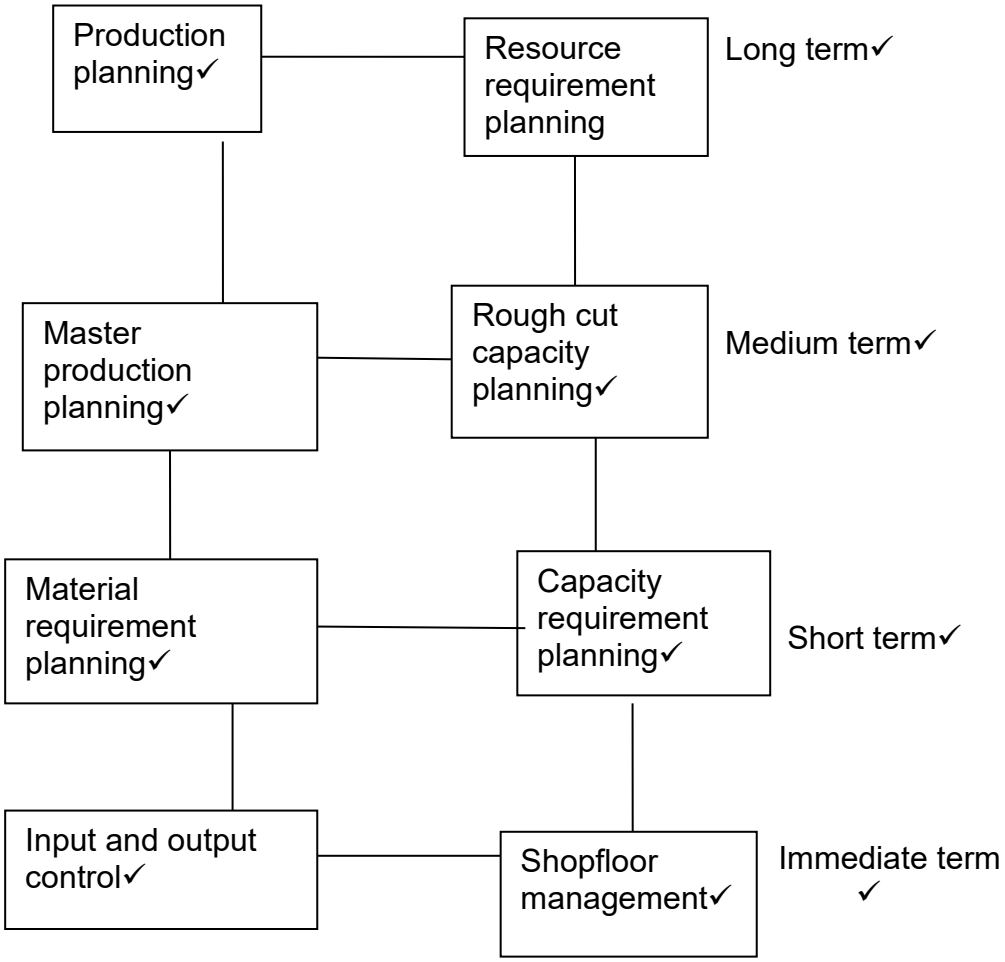
3.3 Warehouse A = (1 500 × 40) + (1 700 × 45) + (1 600 × 50)✓
= 60 000 + 76 500 + 80 000
= 216 500✓

Warehouse B = (1 500 × 25) + (1 700 × 24) + (1 600 × 33)✓
= 37 500 + 40 800 + 52 800
= 131 100 km✓

Warehouse B has the lowest transport cost.✓ (5)

3.4
- Income per unit of sales
- The cost per unit of production
- The fixed cost per time period (3 × 1) (3)

3.5



(11)
[27]

QUESTION 4

4.1
- Define value from the perspective of the end customer.
- Identify the value stream for each product/service and eliminate waste.
- Make the remaining value-creating steps flow.
- Provide only what the customers want and only when they want it.
- Pursue perfection. (5 × 1) (5)

4.2
- Overproduction
- Inventory
- Processing
- Defects
- Waiting
- Transportation
- Motion (7 × 1) (7)

4.3

DAY	1	2	3	4	5
ORDER	1 300	1 700	1 200	1 500	1 500
BACKWARD LOADING	✓1 500	✓1 500	✓1 200	✓1 500	✓1 500

(5)

4.4

WEEKS	1	2	3	4
Actual input	120	110	125	120
Actual output	115	112	125	118
Weekly variance	5✓	(2)✓	0 ✓	2✓
Cumulative variance (or WIP)	5✓	3✓	3✓	5✓

(8)
[25]

QUESTION 5

5.1
- Raw materials
- Components
- Semi-finished products
- Finished goods
- Consumables/Indirect material (5 × 1) (5)

5.2
- The master production schedule
- The production plan
- The distribution plan
- The purchasing plan
- The lot/batch size rules
- The safety stock levels
- The transportation (7 × 1) (7)

5.3 $EQ = \sqrt{\frac{2 \times V \times B}{P \times K}}$ ✓

$EQ = \sqrt{\frac{2 \times 1\,200 \times R25}{0,25 \times 0,75}}$ ✓

$EQ = \sqrt{\frac{60\,000}{0,1875}}$ ✓

$EQ = \sqrt{320\,000}$ ✓

EQ = 565,68✓ (5)

5.4 5.4.1 Under FIFO, the 1 000 units issued are assumed to be allocated from as 2 000 units from day 1 (1 mark).
Therefore, the value of the remaining stock is 1 000 from day 1 at a value
of R25/unit and 1 600 from day 2 at a value of R30/unit
= (1 000 × R25) + (1 600 × R30)(1 mark)
= R73 000 (1 mark) (3)

5.4.2 Under LIFO, the 1 000 units issued are assumed to be allocated from day 2. The receipt i.e. from day 2 is:
1 600 -1 000 = 600
Therefore, the value of the remaining stock is 600 from day 2 at R30 and 2 000 at R25
600 × R30 = R18 000 plus day 1 stock: 2 000 × R25 = R50 000
R68 000 (3)

5.4.3 Weight average method
Total stock receipt = 2 000 + 1 600
= 3 600 units✓
Weighted value of stock received on day 1 = $\frac{2\,000}{3\,600}$ × R25
= R13,89 per unit✓
Weighted value of stock received on day 2 = $\frac{1\,600}{3\,600}$ × R30✓
= R13.33✓ (4)
[27]

QUESTION 6

6.1 Total operating costs = Prime cost✓ + manufacturing overheads✓ + manufacturing costs✓ + marketing costs✓ + administrative costs✓ (5)

6.2 $BEP = \frac{FC}{RPU - VCU}$

Where: FC = the fixed costs
RPU = revenue per unit
VCU = variable costs per unit (6)
[11]

TOTAL: 100

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