higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

PRODUCTION AND QUALITY CONTROL N4

21 April 2021

This marking guideline consists of 4 pages.

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QUESTION 1

1.1 Long-term planning
1.2 Strengths
1.3 Jobbing production
1.4 Quality function deployment
1.5 Continuous
1.6 Qualitative and quantitative
1.7 Time-series
1.8 Materials requirements planning (MRP)
1.9 Intercompany transfers
1.10 Batch manufacturing

(10 × 2) **[20]**

QUESTION 2

2.1
- Job order or jobbing production
- Mass production
- Series or batch production (3)

2.2
- Long-term plans
- Medium-term plans
- Short-term plans
- Total plans
- Subplans
- Single plans
- Routine plans (7)

[10]

QUESTION 3

3.1
- Quality
- Cost
- Flexibility and responsiveness to customer demands
- Lead times
- Reliability
- Innovation
- Productivity (7)

3.2 3.2.1
- Control costs refer to those activities that are related to removing defects from the production process.
- There are TWO ways in which this form of control is implemented. One is by prevention and the other is by inspection or appraisal.
- Prevention includes activities such as quality planning, new product reviews, training, engineering analysis, etc.
- All these activities are implemented and carried out prior to production with the sole purpose of prevention of defects before they occur.
- Inspection and appraisal is aimed at eliminating defects after they occur but before the products reach the customer. (5)

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3.2.2
- Failure costs are incurred either during the production processes (internal failure) or after it is shipped to the customer (external failure).
- The internal failures include items such as scrap, rework, quality downgrading and machine downtime.
- The external failures include warranty charges, returned goods, allowances, etc. (3)

3.3
- The business/strategic plan
- The marketing plan
- The financial plan (3)

3.4
- They should be made aware of changes
- and the implication it will have on their own programmes. (2)

[20]

QUESTION 4

4.1
- When raw materials and parts come into operation✓ in order to avoid using defective raw materials or parts in the process.✓
- When a particular part of a process is known✓ for producing poor quality products.✓
- When finished goods leave an operation,✓ in order to avoid product returns, repairs, warranty claims, consequential damages, etc.✓
- Before a critical activity in a process,✓ e.g., before an expensive part of the process.✓
- After an unreliable part of a process with a high defect rate,✓ in order to limit future consequences of poor quality.✓ (5 × 2) (10)

4.2 EOQ $= \frac{\sqrt{2 \text{ X } 400 \text{ X } 10}}{0.1 \text{ X } 50}$ ✓✓

$= \frac{\sqrt{8000}}{5}$ ✓

$= \sqrt{1600}$✓

= 40 kg✓ (5)

4.3
- Long, medium and short-term forecasts
- Financial sales and product considerations
- Social responsibility
- Labour relations and personnel
- Technological developments
- The economy and political expectations
- Market trends
- Cultural and demographic changes
- Changes in stress and social value
- Changes in management and work ethics
- Monetary and fiscal policy
- Exchange rate trends
- Various forecasting technics (Any 10 × 1) (10)

[25]

QUESTION 5

5.1
5.1.1 D
5.1.2 B
5.1.3 E
5.1.4 C
5.1.5 A

(5 × 1) (5)

5.2
- What work must be done on that day?
- By whom it must be done?
- What resources are necessary to do the work?
- When it must be done?
- Where it must be done?
- How it must be done? (6)

5.3 The purpose of strategic planning is:
- to effect strategies
- that are worthwhile
- so that it can lead to a faster
- and better adaptation
- to changing circumstances
- and more successful
- functioning of the enterprise. (7)

5.4
- Production management plans and controls the activities:
- to be performed in the production system
- and includes decision making and supervision
- over the production process
- so that goals and/or services are manufactured or rendered according to the prescribe specification
- in the right quantity, according to the planned schedule
- at the lowest cost in a safe way. (7)

[25]

TOTAL: 100

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