higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

PRODUCTION AND QUALITY CONTROL N6

23 JULY 2018

This marking guideline consists of 5 pages.

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SECTION A

QUESTION 1

1.1
1.1.1 True
1.1.2 True
1.1.3 False
1.1.4 True
1.1.5 True
1.1.6 True
1.1.7 False
1.1.8 False
1.1.9 True
1.1.10 True
1.1.11 False
1.1.12 True
1.1.13 True
1.1.14 True
1.1.15 True

(15 × 1) (15)

1.2 1.2.1
- Leadership
- Strategy
- Customers
- Measurements, analysis and knowledge management
- Workforce
- Operations
- Results (7)

1.2.2
- Industrial engineering: The design of tools and jigs; the type of plant; the design, development and maintenance of the plant
- Factory layout and material handling: The design of the factory layout; arrangement of departments; design of a material-handling system; ensuring factory safety
- Demand forecasting: Forecasting of consumer demand and adaptation to consumer preferences
- Product design: Product selection, specialisation, standardisation, simplification and preparation of drawings and specifications
- Production planning: Drawing up production schedules; balancing workloads; determining machine utilisation

(Any 3 × 1) (3)

[25]

TOTAL SECTION A: 25

SECTION B

QUESTION 2

2.1
- Reduced supply-chain inventories
- Increased responsiveness and flexibility as inventories and wasteful obstacles and barriers to effectiveness and production are removed
- Improved on-time delivery to final customers
- Enhanced value creation for customers
- Improved profitability/throughput for the supply chain
- Reduction in total assets invested in the system as only essential increments to available capacity are added
- Simplification of relationships as objectives are clarified
- Reduction in cost across the supply chain
- Improved competitive position (9)

2.2
2.2.1 D
2.2.2 E
2.2.3 B
2.2.4 C
2.2.5 A

(5 × 1) (5)

2.3
- Machine breakdowns
- Start-up losses
- Slow running speed
- Power failures
- Bad work organisation
- Poor employee skills
- Absenteeism
- Go-slows
- Raw materials
- Strikes
- Labour and other shortages
- Poor productivity
- Reworks due to poor material or quality
- Customer returns (Any 9 × 1) (9)

2.4 Lead time is the time that elapses from the moment a decision to place an order is taken✓ until the consignment is received.✓ (2)

[25]

TOTAL SECTION B: 25

SECTION C

QUESTION 3

3.1
- Provide economic estimates of throughput, operational expenses and inventory.
- Accumulate and integrate data from TOC, total quality management and related management models to ensure consistency in the reporting systems.
- Verify constraint identification.
- Provide capacity cost estimates and support for investment analysis of potential additions to capacity.
- Explain the various assumptions underlying differences from other strategic or tactical analyses.
- Work with operating managers to identify solutions for easing constraints and their impact.
- Develop and sustain the activity-based cost management system to complement the information provided and required by TOC.
- Work to develop a comprehensive knowledge of incremental cost patterns and underlying cost structures to ensure that ongoing TOC decisions incorporate the impact on step-fixed and semivariable costs throughout the organisation.
- Provide throughput contribution data.
- Identify relevant constraints for all decisions.
- Identify direct linkages between throughput and operational expenses.
- Report on the impact of constraints.
- Ensure that the finance function does not become a constraint. (13)

3.2
- It leads to standardised actions to increase efficiency.
- It evaluates top management effectiveness regarding planning.
- It prevents malpractice, theft and waste.
- It encourages delegation because subordinates who are delegated to can be controlled better.
- It brings about the performance appraisal of all workers.
- It ensures standardised quality for the satisfaction of consumers.
- Environmental changes result in activities not being carried out according to plan.
- Continuous monitoring and revision of plans is essential. (8)

3.3
- Measurements must be reliable.
- Measurements must be valid.
- Measurements must be linked to enterprise objectives.
- Measurements must concentrate on critical points. (4)

[25]

TOTAL SECTION C: 25

SECTION D

QUESTION 4

4.1
- Management takes decisions which imply that a purposeful action programme is selected✓ from various alternatives in order to achieve a desired result.✓
- Management specifies definite targets for the business and plans and lays down the policy which should be followed by the business.✓ The future is thus anticipated and a work-performance plan is organised in an orderly manner.✓
- Management designs a suitable organisational structure for the task to be performed✓ and provides the necessary personnel.✓
- Management communicates with subordinates, equals and superiors✓ to convey information and commands.✓
- Management directs, supervises and motivates subordinates✓ so that a coordinated contribution may be made towards achieving the common objectives.✓
- Management controls activities by comparing actual output with the set standards✓ and, where necessary, by applying corrective measures.✓

(6 × 2) (12)

4.2
- Whenever a limitation exists that restricts the amount of product that can be produced, a decision must be made to choose one product (or product line) over another so that profits can be maximised.
- The criteria used to drive the segmentation decision include:
  - Strategic focus and long-term objectives for the product
  - Existing agreements with trading partners that would limit the extent of changes that can be made to the existing mix
  - Relative contribution margin of the available products and services
  - Demand for the various product/service bundles
  - Impact of the various products on the constrained resource
  - Interdependence or complementary purchase patterns for two or more of the available product
  - Purchase resources constrains, such as long lead times that affect the flexibility of the process
  - Cost and availability of outsourcing to offload critical constraints (9)

4.3
- Precontrol
- Concurrent or steering control
- Postcontrol (3)

4.4 The German word for baton (1)

[25]

TOTAL SECTION D: 25
GRAND TOTAL: 100

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