higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

PRODUCTION AND QUALITY CONTROL N6

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This marking guideline consists of 5 pages.

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QUESTION 1

1.1 marketing management
1.2 production department
1.3 Jobbing production
1.4 product; service
1.5 detecting deviations
1.6 JIT (just-in-time)
1.7 TOC (theory of constraints)
1.8 implicit or explicit
1.9 Post-control
1.10 serious deviations

(10 × 2) **[20]**

QUESTION 2

2.1
- Size of the enterprise
- Managerial level
- Enterprise activity
- Decentralisation
- Enterprise climate
- Importance of the activity (Any 5 × 1) (5)

2.2
- Five-step focusing progress
- VAT logical-structure analysis
- Drum-buffer-rope scheduling method
- Buffer management
- Supply-chain management (5)

2.3
- Produces products consumers want
- Produces products only at the rate customers want
- Produces with perfect quality
- Produces instantly with zero unnecessary lead time
- Produces with no waste of labour, materials or equipment.
- Every move has a purpose and there is no idle inventory. (Any 5 × 1) (5)

2.4 Capacity is the rate of output that can be achieved✓ from a process measured✓ in units of output per unit of time.✓ (3)

2.5
- Cause-and-effect diagram
- Check sheet
- Control chart
- Histogram
- Pareto chart
- Scatter diagram
- Stratification (7)

[25]

QUESTION 3

3.1
- Making and coordinating plans
- Communicating plans to those responsible for carrying it out
- Motivating managers at all levels
- Standard against which actual performance can be measured (4)

3.2
- The operating budget shows planned revenues and expenses for the coming year.
- The cash-flow budget shows the anticipated sources and uses of cash during the coming year.
- The capital expenditure budget (CAPEX) shows planned purchases of fixed assets such as plant, machinery and vehicles. (3 × 2) (6)

3.3 Brainstorming is a method of generating ideas from a team of people in a group setting.

Good practices:
- There is a facilitator who ensures everyone has a chance to participate.
- All ideas are properly recorded in a visible manner, e.g. on a flipchart.
- The facilitator should start the session by clearly stating the purpose and objectives.
- No idea should be rejected or ridiculed.
- The facilitator should ensure that the flow of ideas is not halted by the discussions.
- At the end of the session, the ideas should be analysed and reduced to a short list. (2 + 3) (5)

3.4 Continuous improvement involves a number of small incremental improvements,✓ whereas business process reengineering achieves quantum leap improvement through a fundamental rethink✓ and redesign of the process under investigation.✓ Continuous improvement usually focuses on activities within processes, whereas business process reengineering focuses on whole processes.✓✓ (5)

[20]

QUESTION 4

4.1
- Job order or jobbing production
- Mass production
- Series or batch production (3)

4.2
- Leadership
- Strategy
- Customers
- Measurements, analysis and knowledge management
- Workforce
- Operations
- Results (7)

4.3
- Over-production
- Waiting time
- Material handling and transport
- Processing waste
- Stock
- Rejects and defects
- Inspection
- Loss of customer goodwill

Steps to reduce problems:
- Proper production planning
- Clear procedures
- Professionally trained staff
- Properly maintained equipment (4 + 4) (8)

4.4 Internal setup activities can only be performed when the machine or process is stopped.

Examples:
- Removing completed work from the machine
- Removing dies and tools from the machine
- Fixing new dies or tools to the machine
- Trial runs and adjusting the machine

External setup activities can be performed while the machine or process is still running.

Examples:
- Getting instructions and other documentation for the next job
- Getting material from the stores for the next job
- Getting tools for the next job (3 + 3) (6)

[24]

QUESTION 5

5.1
- Identifying and removing the root causes of problems
- Continuously reducing lead times, batch sizes and setup times
- Striving for simplicity
- Improving supplier's performance
- Continuously improving quality
- Improving labour flexibility (Any 5 × 1) (5)

5.2 5.2.1 Throughput = sales less cost of sales/material costs.
= (R200 × R50) – (R80 × R50)✓
= R10 000 – R4 000✓
= R6 000✓ (3)

5.2.2 If 10% of the products are rejected it is equal to 45 products produced per day.

New throughput = (R200 × 45) – (R80 × R50)✓
= R9 000 – R4 000✓
= R5 000✓ (3)
[11]

TOTAL: 100

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