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Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

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PRODUCTION AND QUALITY CONTROL N6

(8140066)

30 March 2020 (X-paper)
09:00–12:00

This question paper consists of 5 pages.

011Q1A2030




DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
PRODUCTION AND QUALITY CONTROL N6
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. Start each section on a new page
 5. Write neatly.
-

QUESTION 1


Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.1–1.15) in the ANSWER BOOK.

- 1.1 In order to determine the earliest time by which a project can be completed, an earliest starting time and an earliest finishing time must be calculated for each activity. 
- 1.2 A business does not operate in isolation, but is also exposed to external interest groups who may each influence the business in some way or another.
- 1.3 Mass production particularly concerns manufacturing small quantities of a large variety of products.
- 1.4 Process production is almost identical to batch production.
- 1.5 Batch or series production lies between jobbing production and process production.
- 1.6 To a manufacturer the quality of a product is suitable if it complies with the specifications or prescribed standards.
- 1.7 The level of quality and the reliability of a product are not closely related.
- 1.8 The main disadvantage of sampling by variables is that every critical characteristic requires a separate sampling plan. 
- 1.9 JIT (just-in-time) is not a cure-all for every manufacturing problem, but if implemented properly JIT is a no-cost or low-cost method for improving the manufacturing process.
- 1.10 Takt is the German word for baton.
- 1.11 An increased number of changeovers can be accomplished only after the setup time has been increased to allow this.
- 1.12 The theory of constraints (TOC) is a concept that emphasises the role of constraints in limiting the performance of an organisation.
- 1.13 Under TOC buffer management forms the basis for shop floor control.
- 1.14 BPR (business process redesign) aims to break the existing process structures radically and replace them by fundamental and innovative solutions. 
- 1.15 Concurrent or steering control is the most popular form of control that concentrates on the completed enterprise achievements.


(15 × 1)

[15]


QUESTION 2

- 2.1 List 10 functions of the administrative department which helps management to achieve the business objectives. (10)
- 2.2 Discuss the activities of each of the following service departments:
- 2.2.1 Industrial engineering
- 2.2.2 Factory layout and material handling
- 2.2.3 Demand forecasting
- 2.2.4 Inventory control 
- 2.2.5 Wage determination
- (5 × 4) (20)
[30]


QUESTION 3

- 3.1 Name and explain the different phases in the design process of a product. (8)
- 3.2 List EIGHT benefits of implementing JIT (just-in-time).  (8)
- 3.3 Give FOUR conceptual stages of SMED (single minute exchange of die). (4)
[20]

QUESTION 4

- 4.1 Briefly discuss the key principles underlying the TOC (theory of constraints) under each of the following headings:
- 4.1.1 Processes/Organisations as chains (3)
- 4.1.2 Cause and effect  (3)
- 4.1.3 Physical constraints versus policy constraints (4)
- 4.1.4 Total system impact (3)
- 4.2 Name SEVEN benefits of the TOC. (7)
[20]

QUESTION 5

- 5.1 State and discuss the SIX contingency factors in the control process. (12)
- 5.2 Name THREE different types of control.  (3)
[15]

TOTAL: 100