

**UNIVERSITY OF ESWATINI**  
**FACULTY OF COMMERCE**  
**DEPARTMENT OF BUSINESS ADMINISTRATION**  
**MAIN EXAMINATION**  
**APRIL 2021**

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TITLE OF THE PAPER : OPERATIONS MANAGEMENT 1

DEGREE : BACHELOR OF COMMERCE

COURSE : BUS 431 & BA 438 (IDE)

TIME ALLOWED : THREE (3 HOURS)

Instructions:

1. THIS PAPER CONSISTS OF SECTION A AND SECTION B)
2. SECTION A IS CASE STUDY AND IT IS COMPULSORY QUESTION
3. ANSWER ANY THREE QUESTIONS FROM SECTION B

Note: You are reminded that in assessing your work, account will be given of accuracy of language and the general quality of expression, together with layout and presentation of your final answer.

THIS PAPER MUST NOT BE OPENED UNTIL THE INVIGILATOR HAS GRANTED THE PERMISSION

## SECTION A – COMPULSORY

### READ THE ARTICLE AND THE ANSWER QUESTION 1 IN FULLY

The Khulani Toy Company (KTC) views its primary task as making standardized line of high –quality, unique toys that last from cradle to puberty” As a rule, KTC introduces one or two new toys a year. In August 2008, the toy inventors informed the owner and manufacturing manager, Peter Matsebula, that they had designed a Madiba doll. This doll stand tow feet higher and is capable of reciting Madiba;s most famous quotations via electronic voice synthesizer.

One of the company’s three manufacturing staff departments, design engineering, states that the produce can be made primarily from moulded plastic, using the firm’s new all-purpose moulders (now used for making small attachments to the firm’s wooden toys). KTC , in its previous initial production of new toys has relied heavily on members of its skilled workforce to debug the produce design as they ,as they make the product and to perform quality inspections on the finished product. Production runs have been short runs to fill customer orders.

If the Madiba doll is to go into production, however, the production run size will have to be large and assembly and testing procedures will have to more refined, Currently, each toy maker performs almost all of the processing steps at his or her workbench. The production engineering department that the assembly of the new toy is well within the skill levels of the current workforce, but that the voice synthesizer and battery-operated movement mechanism will have to be subcontracted. KTC has always had good relations with subcontractors, primarily because the firm has placed its orders with sufficient lead time to enable its vendors to sequence KTC; s orders optimally with those of large toy producers in South Africa. Peter Matsebula has always favour large –range production planning so that he can keep his 50 to makers busy all the year ( one of the reasons he set up the factory in Johannesburg was to enable him to draw up large population of trendy toy makers who lived there). Matsebula believes the superiors of the firm’s three production departments – namely castles, puppets and novelties – are favour of the new product. The novelty department supervisor, Tom Kellerman, has stated, “My workers can make any toy – you give us an output incentive and we will produce around the clock”.

The marketing department has forecast a demand of 50,000 Midiba dolls for Christmas rush. The doll should sell at retail for E120. A preliminary cost analysis from the process-engineering department is that the dolls will cost no

more than R15 each to manufacture. The company is currently, operating at 70% capacity. Finance is available, and there is no problem with cashflow. Peter Matsebula is wondering if he should go into production of Madiba dolls.

**Source:** *Source: - operations management by D Kruger and R Ramphal , 5<sup>th</sup> edition, 2011*

**Question 1- Answer All questions in this section**

- a. Due to competitive pressure and changing economic conditions discuss five areas the three manufacturing staff departments put more emphasis on its business operations ? 10 marks
- b. Discuss five factors KCT should consider when subcontracting the voice synthesizer and battery-operated movement mechanism? 10 marks
- c. The marketing departent presented a proposal on the forecast demand of 50,000 Mabiba dolls in christams in EXCO (Executive Management). Discuss 8 Internal factors (Strenths and weakness) EXCO should consider before endosing the proposal. 20 marks

**Total 40 Marks**

**SECTION: ANSWER ANY THREE QUESTIONS IN THIS SECTION.**

**Question 2**

The manager of the large manufacturer of industrial pumps must choose between alternative forecasting techniques. Both techniques have been used to prepare forecasts for a six month period.

| Month | Demand | Forecast    |             |
|-------|--------|-------------|-------------|
|       |        | Technique 1 | Technique 2 |
| 1     | 492    |             |             |
| 2     | 470    |             |             |
| 3     | 485    |             |             |
| 4     | 483    |             |             |
| 5     | 498    |             |             |
| 6     | 492    |             |             |

- a. Using the MAD as criterion, which technique has the better performance record? 15 marks

- b. Using the better performance calculate the forecast performance for month 7. **5 marks**

**Total: 20 marks**

**Question 3**

Cell phone sales for a Eswatini base firm over the last 10 weeks are shown in the table below.

| Week | Unit Sales |
|------|------------|
| 1    | 700        |
| 2    | 724        |
| 3    | 720        |
| 4    | 728        |
| 5    | 740        |
| 6    | 742        |
| 7    | 758        |
| 8    | 750        |
| 9    | 770        |
| 10   | 775        |

- a. Determine the simple regression equation for the trend line **15 marks**  
b. Forecast the sales for weeks 11 and 12

**Question 4**

Discuss five issues affecting operational management today and any five ethical arising from many aspects of operations management? **20 marks**

**Question 5**

You have been appointed to participant in product design team. Explain 8 phases of Product Design and Development Process to the team . **20 marks**