UNIVERSITY OF SWAZILAND

FACULTY OF COMMERCE

DEPARMENT OF BUSINESS ADMINISTRATION

MAIN EXAMINATION PAPER; F/T STUDENTS

DECEMBER 2017.

TITLE OF PAPER    :    OPERATIONS MANAGEMENT 1

COURSE CODE    :    BA 438/BA506

TIME ALLOCATED :    THREE [3] HOURS

TOTAL MARKS    :    100 MARKS

INSTRUCTIONS

1. TOTAL NUMBER OF QUESTIONS IN THIS PAPER IS 4

2. THE PAPER CONSISTS OF SECTION A AND SECTION B: ANSWER THE QUESTIONS IN SECTION A WHICH ARE COMPULSORY AND ANY TWO [2] QUESTIONS IN SECTION B.

3. THE MARKS ALLOCATED FOR A QUESTION/PART OF A QUESTION ARE INDICATED AT THE END OF EACH QUESTION/PART OF THE QUESTION.

4. NOTE: MAXIMUM MARKS WILL BE AWARDED FOR QUALITY, LAYOUT, ACCURACY, AND GOOD PRESENTATION OF WORK.

5. THIS PAPER MUST NOT BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.

# SECTION A : ANSWER ALL QUESTIONS IN THIS SECTION [50 MARKS]

## QUESTION 1.

1.1.

Nonhlanlha works at a typical quick service restaurant(QSR).She is never involved in any problem solving activities because the system dictate they must defer to managers when problems arise. In addition, she has never been asked to provide any input at the store level of the organisation. Her manager tells her what to do and micro manages her work. Daily information, schedules, and work methods changes (e.g, when new menu items are introduced) are posted on notes in a break room bulletin board. Nonhlanlha is not very happy in her job and is thinking of quitting to find something else. She has seen about half of her co-workers quit in the last year.

 a. What is the cause of high turnover rate in the organisation? (5 marks)

 b. How does high turnover impact product quality and customer services in the QSR restaurant? (10 marks)

 c. How can Nhlanhla's manager or the corporate office improve employee involvement and engagement? (10 marks)

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1.2.

Mtfongwaneni Industries is planning an assembly plant to take components from three suppliers, and send finished goods to six regional warehouses. The location of these and the amounts supplied or demanded are shown in the table below. Where would the company start looking for a site for the assembly plant?                    (25 marks)

| | Location X, Y | Supply/Demand |
|---|---|---|
| Supplier1 | 191, 8 | 40 |
| Supplier2 | 93, 35 | 60 |
| Supplier 3 | 3, 86 | 80 |
| Warehouse | 183, 26 | 24 |
| Warehouse 2 | 89, 54 | 16 |
| Warehouse 3 | 63,87 | 22 |
| Warehouse 4 | 11, 85 | 38 |
| Warehouse 5 | 9, 16 | 52 |
| Warehouse6 | 44, 48 | 28 |

**[TOTAL 50 MARKS]**

## SECTION B. ANSWER TWO [2] QUESTIONS ONLY FROM THIS SECTION. EACH QUESTION CARRIES 25 MARKS.

### QUESTION 2.

2.1.

A photo processing company intends to open a new branch store in Mbabane. The table below contains information on two potential locations. Which site must the company select based on the total weighted score, rental costs and traffic volume?

| Factor | Weight | Scores out of 100 | |
| --- | --- | --- | --- |
| | | Site No.1. | Site No.2 |
| Proximity to existing store | 0.10 | 100 | 60 |
| Traffic volume | 0.05 | 80 | 80 |
| Rental costs | 0.40 | 70 | 90 |
| Size | 0.10 | 86 | 92 |
| Layout | 0.20 | 40 | 70 |
| Operating costs | 0.15 | 80 | 90 |

**(10marks)**

2.2.

Explain reasons you would consider to justify closeness of offices or work stations to each other during the location planning and design processes **(15 Marks)**

**[TOTAL 25 MARKS]**

## QUESTION 3.

### 3.1

Compute the multifactor productivity measure for each of the week shown for production of chocolate bars. What do the productivity figures suggest? Assume 40- hour weeks and an hourly wage of E12.Overhead is 1.5 times weekly labour cost. Material cost is E6 per kilogram.

| Week | Output(units) | Workers | Material(kgs) |
|------|---------------|---------|---------------|
| 1 | 30,000 | 6 | 450 |
| 2 | 33,600 | 7 | 470 |
| 3 | 32,200 | 7 | 460 |
| 4 | 35,400 | 8 | 480 |

( 15 Marks)

3.2 Using the following factor ratings, determine which location alternative (A, B, or C) should be chosen on the basis of maximum composite score.

(10 Marks)

### Location score

| Factor(100 points each) | Weight | A | B | C |
|-------------------------|--------|-----|-----|-----|
| Convenience | .15 | 80 | 70 | 60 |
| Parking | .20 | 72 | 76 | 92 |
| facilities | .18 | 88 | 90 | 90 |
| Display area | .27 | 94 | 86 | 80 |
| Shopper traffic | .10 | 98 | 90 | 82 |
| Operating costs | .10 | 96 | 85 | 75 |
| Neighbourhood | | | | |
| | 1.00 | | | |

[TOTAL 25 MARKS]

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## QUESTION 4.

4.1. What factors determine the level of complexity in an organisation    (10 marks)

4.2. In your view, why do you think service operations are more complex to manage than manufacturing operations?    (15 marks)

**[Total Marks 25]**

**END OF EXAMINATION: GOOD LUCK!!!**