



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY
FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION
DEPARTMENT OF GOVERNANCE AND MANAGEMENT SCIENCES

QUALIFICATION: BACHELOR OF BUSINESS MANAGEMENT	
QUALIFICATION CODE: 07BBMN	LEVEL: 7
COURSE CODE: OPM611S	COURSE NAME: OPERATIONS MANAGEMENT
SESSION: JUNE 2023	PAPER: PAPER 1/1
DURATION: 2 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	MS C KAUAMI MS B NDUNGAUA MR BRAMWELL KAMUDYARIWA
MODERATOR:	MR ERNEST MBANGA

<p style="text-align: center;">INSTRUCTIONS</p> <ol style="list-style-type: none">1. Answer ALL the questions.2. Show all formulae and calculations as marks will be awarded for them.3. Write clearly and neatly.4. Number the answers clearly. <p style="text-align: center;">PERMISSIBLE MATERIALS</p> <ol style="list-style-type: none">1. Calculator.

THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)

Section A:

[10 Marks]

Multiple Choice - Choose the correct Answer.

(Kindly note that questions 4 & 8 are 2 marks each, the rest 1 mark each)

1. _____ allows organisations to minimize costs and involves bulk buying, movement and bulk storage of raw materials and finished goods.
 - A. Economies of scale.
 - B. Product availability.
 - C. Risk management.
 - D. Uncertainty.

2. According to the Theory of Constraints (TOC), bottlenecks can be caused by:
 - A. Equipment and how it is used
 - B. Policies
 - C. Employee capability
 - D. All of the above
 - E. A&C

3. When measuring system performance, load refers to:
 - A. Ratio of production output to effective capacity
 - B. Actual vs design capacity
 - C. Backlog in system
 - D. Productivity of facilities
 - E. None of the above

4. How many minutes will it take to produce a pen if the backlog is 20 pens with a capacity to produce 30 pens an hour.
 - A. 1 hour and 30 minutes
 - B. 40 minutes
 - C. 67 minutes
 - D. 90 minutes
 - E. None of the above

5. Among the reasons why quality has become a priority is because of information revolution that allows ease of information collection and dissemination
 - A. True
 - B. False

6. Quality control (QC) is a systematic approach to guarantee quality by providing evidence that establishes confidence in a product.
- A. True
 - B. False
7. Total Quality management (QM) entails the following except:
- A. integrates control and assurance of activities
 - B. tasks of planning and providing resources
 - C. motivating and rewarding employees
 - D. recruitment and retrenchment
 - E. conforming to quality
8. If an organisation manufactures 480 hats per week that they plan to sell at N\$150 per hat and the total cost to produce the hats is N\$38200, what will the productivity ratio be?
- A. 18.84
 - B. 188.4
 - C. 1.884
 - D. 0.188

Section B**[61 Marks]****Question 1: Operations Management****(10)**

Using a diagram, illustrate and briefly describe the operations transformation process/system.

Question 2 - Supply Chain**(10)**

Describe the main objective of designing supply chain networks and discuss the different process design elements.

Question 3: Design of goods and services**(12)**

You have been appointed as design manager of Namibflix, a Namibian equivalent of Netflix aimed at bringing revolutionary entertainment promoting specifically the Sub-Saharan African heritage and culture. You are preparing for a session with the team on a new design strategy for what you consider to be breakthrough offerings.

- i. List and briefly explain three factors that influence the need for design of new products/ services. (6)
- ii. Since creativity and innovation is the lifeblood of Namibflix, briefly discuss three techniques you suggest for generating ideas in view of the new strategy. (6)

Question 4: Process Design**(9)**

Identify and explain in your own words the process structures for services, with one appropriate example.

Question 5: Aggregate planning**(10)**

Summarize the service supply management strategies that can be used for aggregate planning.

Question 6: Lean Systems management**(10)**

List and briefly explain 5 costs incurred as a result of waste.

Section C

[29 Marks]

Question 7: Forecasting

(15)

Actual demand/sale of Toyota Landcruiser at Gobabis Toyota in Namibia for the first six months of 2022 were as follows:

<u>Month:</u>	<u>Actual demand:</u>
January	55
February	75
March	121
April	98
May	103
June	130

Use this information and determine in whole numbers:

- i. The average monthly sales for that period (2)
- ii) Considering an upward trend in sales, increase the demand in June for the next three months by 10% in month 1; 8% in month 2; and 3% in month 3, respectively. (3)
- iii) SMA: make a forecast for July using a four-months simple moving average. (3)
- iv) WMA: make forecast for January, using three months weighted moving average where the weights are 0.6 for the most recent period; 0.3 for the second most recent period, 0.1 for the third most recent period, respectively. (4)
- v) Make a forecast for July, using the exponential smoothing technique, if the forecast for June was 120 and the smoothing constant is 0.4. (3)

Question 8: ABC Classification of Inventory**(14)**

Listed below are some parts Legal's Engineering uses in their production process. Use this information to classify the different items according to the ABC classification of inventory.

Part/ component	Unit price N\$	Annual demand/usage
K1	500	10
K2	25	90
K3	0.5	800
K4	300	16
K5	80	6
L1	75	25
L2	50	40
L3	90	10
L4	5	100
L5	1.5	200
M1	140	25
M2	75	30
M3	8	200
M4	15	80

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