



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION**

**DEPARTMENT OF GOVERNANCE AND MANAGEMENT SCIENCES**

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| <b>QUALIFICATION: BACHELOR OF BUSINESS MANAGEMENT</b> |   |
| <b>QUALIFICATION CODE: 07BBMN</b>                     | <b>LEVEL: 7</b>                           |
| <b>COURSE CODE: OPM611S</b>                           | <b>COURSE NAME: OPERATIONS MANAGEMENT</b> |
| <b>SESSION: JUNE 2025</b>                             | <b>PAPER: PAPER 1/1</b>                   |
| <b>DURATION: 2 HOURS</b>                              | <b>MARKS: 100</b>                         |

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| <b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b> |   |
| <b>EXAMINER(S)</b>                                  | <b>MS C KAUAMI<br/>MR MICHAEL NEEMA</b> |
| <b>MODERATOR:</b>                                   | <b>MR ERNEST MBANGA</b>                 |

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| <p style="text-align: center;"><b>INSTRUCTIONS</b></p> <ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Show all formulae and calculations as marks will be awarded for them.</li><li>3. Write clearly and neatly.</li><li>4. Number the answers clearly.</li></ol> <p style="text-align: center;"><b>PERMISSIBLE MATERIALS</b></p> <ol style="list-style-type: none"><li>1. Calculator.</li></ol> |
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**THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)**

**Section A:**

**[12 Marks]**

**Question 1: Multiple Choice - Choose the correct Answer. (1 mark each)**

1. One focus area of the lean penetration strategy is training for all levels of employees in the organisation.
  - A. True
  - B. False
  
2. The factors influencing effective capacity include all except:
  - A. Regulatory issues
  - B. Facility issues
  - C. Employee issues
  - D. Operational issues
  - E. Process issues
  
3. Aggregate planning is capacity planning in the long term
  - A. True
  - B. False
  
4. The lean stabilisation strategy is utilised to stabilise
  - A. Production and support process
  - B. Demand and supply
  - C. the supply chain
  - D. internal relationships
  
5. The following are characteristics of capacity planning, except:
  - A. Intimately related to demand
  - B. Critical resource
  - C. Never constant
  - D. Infinite
  - E. None of the above
  
6. Aggregate planning is about matching static demand with supply
  - A. True
  - B. False
  
7. Acquiring new capacity requires extensive planning, resources, time and may take several years
  - A. True
  - B. False

8. One of the advantages of lean methodology is combining craft and mass production and this means:
- A. Combining quality and remedy of inefficiencies
  - B. Combining old ways and large-scale production
  - C. Combining art and technology
  - D. None of these
  - E. All of these
9. Idleness costs are incurred only as a result of unproductive employees.
- A. True
  - B. False
10. Capacity decisions have no implications on the different functional areas in the organisation
- A. True
  - B. False
11. Aggregate planning requires the manipulation of the following controllable variable to ensure that the plan meets demand, excluding:
- A. Inventory
  - B. Employees
  - C. Idle time /over time
  - D. Pricing
  - E. Suppliers
12. Study the following statements and identify the correct option[s]
- Statement 1      Today, organisations are not guaranteed a client base due to globalisation and this requires them to deliver at a higher level than before
- Statement 2      It's important to remember that there is no single factor that guarantees customer satisfaction.
- A. Both statements are correct
  - B. Statement 1 is correct, statement 2 is incorrect
  - C. Statement 1 is incorrect, statement 2 is correct
  - D. Both statements are incorrect

## Section B

[56 Marks]

### Question 2: Operations management

(10 marks)

Summarize or illustrate in a diagram the operations management transformation system.

### Question 3: Supply chain management

(12 marks)

- a. Graphically illustrate, **and** briefly discuss the supply chain of a leather shoe manufacturing business. (6)
- b. Strategic partners are important in ensuring the success of any supply chain. Identify and briefly discuss what role any **two** strategic partners could play in the leather shoe manufacturing business. (6)

### Question 4: Design of Goods and Services

(10 marks)

#### <sup>1</sup>Case Study: Hi-Tec men's Apex 3-in-1 jacket by Hi-Tec in South Africa

Hi-Tec in South Africa designs, manufactures, and sells the Hi-Tec Men's Apex 3-in-1 jacket which they describe as follows: 'The Hi-Tec Men's Apex 3-in-1 is your go-to for year-round weather conditions. Wear it 3 ways – as a single fleece, an outer rain shell or as a warmer winter jacket with both fleece inner and waterproof outer. Features that promise ultimate performance are its 3000mm waterproof membrane, taped seams and SBS zips. Its fixed and removable hood can easily be folded in and out of its pouch and its 240g inner fleece offers great warmth.'

1. Drawing from the above case and the concept of robust design:
  - a. Briefly explain robust design (2)
  - b. What does the specification 'waterproof' really mean to a customer? What does 'fit for purpose' mean in this context? (4 marks - 2 each)
2. At what stage(s) of product design and development do you suggest Hi-Tec should include the usage conditions? Briefly motivate. (4)

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<sup>1</sup> Source: Kruger, D., Ramphal, R., & Maritz, M. (2023). *Operations Management (4th ed.)*. Oxford University Press Southern Africa.

**Question 5: Process Design**

**(12 marks)**

Describe the strategies for manufacturing processes and provide a relevant example of each strategy. (1 mark per strategy; 2 marks: explanation; 1 mark example)

**Question 6: Lean Systems management**

**(12 marks)**

List and briefly explain any 6 costs incurred as a result of waste.

(2 marks per answer)

**Section C****[32 Marks]****Question 7: Forecasting:****(15 marks)**

Actual sales of fridges for the first six months in 2024 were as follows:

|            |             |          |
|------------|-------------|----------|
| January 60 | February 60 | March 62 |
| April 58   | May 54      | June 52  |

Use this information and determine in whole numbers:

- i. The average actual monthly sales for that period (2)
- ii. Trends: Reduce this average by 5% per month for the next three months (3)
- iii. SMA: make a forecast for July using a four months simple moving average. (3)
- iv. WMA: make forecast for July, using a three months weighted moving average where the weights are 0.5; 0.3 and 0.2 respectively (4)
- v. Make a forecast for July, using the exponential smoothing technique, if the forecast for June was 54 and the smoothing constant is 0,5. (3)

**Question 8: Economic Order Quantity****(17 marks)**

Rukaa's Entertainment Centre sells 18 000 cases of Jumbo Fizzy drinks per year. The holding costs are estimated to be N\$ 60 per case and the costs of placing an order amount to N\$ 50 per order. The business is open for 350 days per year.

Determine:

- i. the optimal economic order quantity (EOQ) (3)
- ii. the number of orders per year (2)
- iii. the length of the ordering cycle (3)
- iv. the total annual inventory costs (3)
- v. if the holding costs increase to N\$70 per case, what will the total annual inventory costs amount to? (6)

**-END-**