



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

<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: JULY 2024</b>	<b>PAPER: PAPER 1/1</b>
<b>DURATION: 2 HOURS</b>	<b>MARKS: 100</b>

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

<p style="text-align: center;"><b>INSTRUCTIONS</b></p> <ol style="list-style-type: none"><li>1. Answer ALL the questions, <b>except</b> Question 5 where you can either answer <b>a) OR b)</b>.</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 7 PAGES** (Including this front page)

**Section A:**

**[12 Marks]**

**Question 1: Multiple Choice Questions – Choose the correct Answer**

(Questions are 1 mark each)

1. One of the measurement methods or metrics that are used in supply chain management is the Inventory turnover, Which ONE of the following is the formula used in this metric?
  - A. Inventory on hand / average daily usage
  - B.  $((\text{Total orders} - \text{error orders}) / \text{total orders}) * 100$
  - C. Cost of goods sold/average inventory
  - D. Actual delivery date – purchase order creation date
  
2. Average payment period for production materials refers to:
  - A. Time from receiving material to paying for material
  - B. How much inventory is being sold & re-stocked
  - C. How quickly revenue can be collected from customers
  - D. Number of days between paying suppliers and getting paid by customers
  - E. Order value that arrives on or before the requested shipping date
  
3. Inventory in the supply chain calls for buffer stock under:
  - A. Economies of scale
  - B. Product availability
  - C. Management of raw material
  - D. Uncertainty
  - E. Work in progress
  
4. Supply chain drivers determine the performance of the supply chain.
  - A. True
  - B. False
  
5. Average payment period for production materials refers to:
  - A. Time from receiving material to paying for material
  - B. How much inventory is being sold & re-stocked
  - C. How quickly revenue can be collected from customers
  - D. Number of days between paying suppliers and getting paid by customers
  - E. Order value that arrives on or before the requested shipping date
  
6. Supply Chain focuses only on the physical movement of material and supplies
  - A. True
  - B. False

7. Exponential smoothing is characterised by all but one of the following:
- A. Sophisticated method
  - B. Smoothing constant
  - C. Actual demand
  - D. Previous forecast
  - E. Regression
8. Which of the following is not a feature common to all forecasts?
- A. The underlying system of the past will be present in the future
  - B. No precise prediction can be made
  - C. The shorter the time horizon the less reliable the forecast
  - D. Forecasts for groups of items are more accurate
  - E. All of the above options are features common to all forecasts
9. Which behaviours underlying time series analysis refers to the variable that remains after all the other behavioural patterns have been accounted for?
- A. Trends
  - B. Random variations
  - C. Seasonality
  - D. Irregular variations
10. \_\_\_\_\_ utilises statistical modelling to predict future sales figures, often taking into account current and historical trends.
- A. Aggregate planning
  - B. Qualitative forecasting
  - C. Sales forecasting
  - D. Quantitative forecasting
11. These are the steps followed when doing a forecast. Choose the correct sequence
- A. Know forecast purpose, choose time horizon, select technique to be used, gather and analyse relevant data, make forecast, measure forecast
  - B. Measure forecast, know forecast purpose, make forecast, choose time horizon, select technique to be used, gather and analyse relevant data
  - C. Know forecast purpose, gather and analyse relevant data, select technique to be used, choose time horizon, make forecast, measure forecast
  - D. Select technique to be used, know forecast purpose, choose time horizon, gather and analyse relevant data, make forecast, measure forecast

12. The following are requirements of an accurate forecast, except:
- A. Accuracy
  - B. Should be in writing
  - C. Should enhance confidence
  - D. Meaningful units
  - E. Timely

**Section B:**

**[61 Marks]**

**Question 2: Operations Management**

**(12)**

Summarise any 6 **characteristics** of services.

**Question 3: Design of goods and services**

**(17)**

Design of goods and services is considered a basis for firm competitiveness. In your own words:

- a) Briefly outline the key considerations in design. (3)
- b) Recommend and explain one marketing and one non-marketing strategy that you believe can increase firm competitiveness. (2)
- c) Briefly explain the steps in product design & development. (12)

**Question 4: Process design**

**(12)**

As a graduate who completed the operations management module, you are thinking about starting your own small manufacturing business (with a product of your choice). You have come up with the design of this product and now you are trying to figure out the process structure for manufacturing this good, that will be most suitable, given variability, flexibility, and quantities. Respond to the following:

- a) In your own words, briefly discuss what process design is **and** why it is important in the operations of a business (4)
- b) Briefly describe the **product** of your choice that you are considering manufacturing. (2)
- c) Explain **which process structure for manufacturing** will be best for your product of choice (guided by variability, flexibility, and quantities) (6)

**Question 5: Aggregate Planning**

**(10)**

Answer only one question, **either a) OR b).**

- a) Summarize the service demand management strategies that can be utilized for aggregate planning. (2 marks per correct answer x 5)

**OR**

- b) Summarize the service supply management strategies that can be used for aggregate planning. (2 marks per correct answer x 5)

**Question 6: Quality management**

**(10)**

Explain any 5 of the most common dimensions for the assessment of the quality of goods.

(2 marks per dimension and explanation)

**Section C:**

**[27 Marks]**

**Question 7: Economic Order Quantity**

**(18)**

Okahandja Bottling Enterprises (OBE) has forecasted annual demand of 100 000 bottles per year. The holding costs are estimated to be N\$ 10 for each bottle and the ordering costs amount to N\$ 800 per order. The business operate 260 days per year. Determine:

- i. the optimal economic order quantity (EOQ) (3)
- ii. Number of orders per year (3)
- iii. the length of the ordering cycle (3)
- iv. the total annual inventory costs (3)
- v. if the holding costs decrease by 30% per bottle, and annual demand increases to 110 000 bottles per year, what will the total annual inventory costs amount to? What will be the difference? (6)

**Question 8: Capacity Planning**

**(9)**

Delicious Bakers has a plant for producing rolls. Last week the facility produced 30,000 rolls between Monday and Friday. The effective capacity is 33,000 rolls. The production line was designed to produce 40 000 rolls. The bakery can bake 1000 rolls per hour. They have a backlog of 665 rolls.

Determine:

- i) Utilisation (3)
- ii) Efficiency (3)
- iii) Load (3)

**-END-**