



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY
Faculty of Management Sciences**

Department of Management

QUALIFICATION: Bachelor in Business Management	
QUALIFICATION CODE: 07BBMA	LEVEL: 7
COURSE: Business Operations	COURSE CODE: BOP611S
DATE: June 2019	SESSION: 1st Opportunity
DURATION: 2 hours	MARKS: 100

1st OPPORTUNITY EXAMINATION QUESTION PAPER	
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THIS QUESTION PAPER CONSISTS OF 6 PAGES
(Including this front page)

INSTRUCTIONS

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.

PERMISSIBLE MATERIALS

1. Calculator.

Section A:

[16 Marks]

Multiple Choice Questions – Choose the correct Answer

1. Key considerations in design include all, except:
 - a. Manufacturability
 - b. Accessibility
 - c. Aesthetics
 - d. Usability
 - e. Produce-ability

2. Effective capacity is similar to:
 - a. Efficiency
 - b. Design capacity
 - c. Output capacity
 - d. Load
 - e. Utilisation

3. System design refers to:
 - a. Review of target market requirements
 - b. Design match to strategy
 - c. New product fit in existing organisation processes
 - d. Detailed design specifications
 - e. B & D

4. An aggregate plan assumes that demand is:
 - a. Fluctuating, seasonal or uncertain
 - b. Static and unchanged
 - c. Equal to supply
 - d. Is non-existent
 - e. None of the above

5. Operations can be classified according to their volume and variety of production as well as the degree of variation and visibility. Which of the following operations would be classified as high volume, low variety?
 - a. A family doctor
 - b. A front office bank
 - c. A fast food restaurant
 - d. A carpenter

6. The main purpose of industrial engineering is to study the relationship between _____ and _____.
 - a. Marketing and sales
 - b. Money and profit
 - c. Stakeholders and management
 - d. Humans and machines

7. _____ forecasting techniques require related variables to be identified which are used to forecast interested values for them.
- Exponential smoothing
 - Associative
 - Weighted moving average
 - Simple linear regression
8. Items in transit are referred to as:
- Pipeline inventory
 - Buffer stock
 - Anticipation inventory
 - Safety stock
 - Seasonal inventory
9. One of the other departments or functions within an organisation is referred to as *servitization*. Which of the following statements describes servitization?
- Managing the cost of the organisation's labour, raw materials, and overheads
 - Providing management with the relevant information that will enable it to manage effectively and efficiently
 - Purchasing raw materials, machinery and equipment for the organisation
 - Selling the goods or services of the organisation
 - A transformation process wherein production organisations embrace a service orientation and/or develop more and better services
10. Efficiency is one of the process performance ratios that organisations can use to measure the performance of a process. Which one of the following is the formula that is used to measure efficiency of the process?
- $\frac{\text{Items produced}}{\text{Inputs consumed}} = \frac{\text{Output}}{\text{Input}}$
 - $\frac{\text{Items produced}}{\text{Items sold}}$
 - $\frac{\text{Items sold}}{\text{Actual rate}}$
 - $\frac{\text{Designed production rate}}{\text{Items produced}}$
 - $\frac{\text{Items produced}}{\text{Actual rate}}$
11. _____ allows organisations to minimize costs and involves bulk buying, movement and bulk storage of raw materials and finished goods.
- Economies of scale
 - Product availability
 - Risk management
 - Uncertainty
12. When measuring system performance, load refers to:
- Ratio of production output to effective capacity
 - Actual vs design capacity
 - Backlog in system
 - Productivity of facilities
 - None of the above

13. 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. Forecasts for groups of items are more accurate
 - d. The shorter the time horizon the less reliable the forecast
 - e. All of the above options are features common to all forecasts
14. Order qualifiers are goods or services that customers
- a. Consider buying
 - b. Can afford to buy
 - c. Actually buy
 - d. Lay-by
 - e. Don't like
15. Shortage cost is also known as:
- a. Obvious cost
 - b. Inventory cost
 - c. Carrying cost
 - d. Stock-out cost
 - e. None of the above
16. The following steps are part of the Theory of Constraints (TOC), except:
- a. Identify
 - b. Create
 - c. Subordinate
 - d. Exploit
 - e. Elevate

Section B

[56 Marks]

Question 1: Operations Management

(10)

Using a diagram, illustrate and briefly describe the operations management system.

Question 2: Supply Chain Management

(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 Exotic Organics CC, a fast-growing horticultural venture that is bringing revolutionary health solutions to counter the current fast food industry. You are preparing for a session with the team on a new design strategy for what you consider to be breakthrough products.

- 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 Exotic Organics, briefly discuss three techniques you suggest for generating ideas in view of the new strategy. (6)

Question 4: Process management

(12)

Identify and explain in your own words the strategies for manufacturing processes, with one appropriate example.

Question 5: Lean Systems management

(12)

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

Section C**[28 Marks]****Question 6: Forecasting****(16)**

Actual demand/sale of 4x4 Isuzu Bakkies at Auas Motors in Namibia for the first six months of 2018 were as follows:

<u>Month:</u>	<u>Actual demand:</u>
January	75
February	95
March	122
April	83
May	93
June	130

Use this information and determine in whole numbers:

- i. The average monthly sales for that period (2)
- ii) Considering the trend in sales for the first 3 months of each year: Increase the average for the next three months by 15% in month 1; 8% in month 2; and 5% in month 3, respectively. (3)
- iii) SMA: make a forecast for July using a three-months simple moving average. (4)
- iv) WMA: make forecast for January, using four months weighted moving average where the weights are 0.4 for the most recent period; 0.3 for the second most recent period, 0.2 for the third most recent period, 0.1 for the fourth most recent period, respectively. (4)
- v) Make a forecast for January, using the exponential smoothing technique, if the forecast for July was 120 and the smoothing constant is 0.3. (3)

Question 7: Inventory Management**(12)**

X-travagant Repairs keeps a variety of parts in stock. Make use of the information provided below, to classify the inventory items into A, B and C class items, for better inventory management.

<u>Item:</u>	<u>Unit price N\$:</u>	<u>Annual usage in units:</u>
D1	90.00	1000
D2	150.00	20
D3	20.00	200
D4	7.00	2000
E1	1000.00	50
E2	8.00	200
E3	25.00	100
E4	10.00	200
F1	600.00	20
F2	400.00	50
G1	55.00	700
G2	550.00	300

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