NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF GOVERNANCE AND MANAGEMENT SCIENCES

COURSE CODE: BPQ712S	**COURSE NAME:** BUSINESS PROCESS & QUALITY MANAGEMENT
SESSION: JAN/FEB 2023	**PAPER:** THEORY
DURATION: 3 Hours	**MARKS: 100**

SECOND OPPORTUNITY EXAM PAPER	
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INSTRUCTIONS
1. Answer ALL the questions on the answer paper provided.
2. Write clearly and neatly.
3. Number the answers according to the number system used in this question paper.
4. Calculator is allowed, so long as it's not programmed.

THIS QUESTION PAPER CONSISTS OF 5 PAGES (Including this front page)

SECTION ONE (40 Marks)

MULTIPLE CHOICE (2 Marks x 15)

1. Databased systems, artificial intelligence programs and voice-recognition software are examples of _____.
   a. Hard technology
   b. Soft technology
   c. Perishable assets
   d. Integrated Operating Systems

2. All organizations face common issues regarding technology; which item below does not belong on the list?
   a. The right technology must be selected for the goods that are produced.
   b. Labor must be trained to operate the equipment.
   c. Work must be scheduled to meet shipping commitments/customer promise dates.
   d. CNC vertical machining centers minimize cost.

3. Information technology has significantly affected health care; which of the following is is not outcome?
   a. Cost reduction
   b. Revenue enhancement
   c. All answers are correct
   d. Improved clinical efficiency and patient care

4. Which of the following activities would not be part of a return facilitator's activities?
   a. Requesting money back for a customer
   b. Repairing goods
   c. Being an Internet enabler
   d. Invoking the service guarantee

5. _____ consolidate data from across the organization and allow companies to integrate information into a common database for easy access and analysis.
   a. Business Intelligence Systems (BIS)
   b. Data warehouses
   c. Data mining
   d. Neural networks

6. Dell's ability to provide a wide range of customized computer hardware to accommodate customers' needs best describes _____.
   a. Volume flexibility
   b. Design flexibility
   c. Cycle time
   d. Queue time

7. The number of patent applications and the number of improvement suggestions implemented relate best to which operational performance measure category?
   a. Financial
   b. Customer and market
   c. Innovation and learning

d. Productivity

8. The degree to which a process generates outputs with the minimal consumption of inputs, or generates a maximum amount of output for a given amount of input is called
   a. Productivity
   b. Value
   c. Efficiency
   d. Effectiveness

9. Units of output per machine-hour or tons per machine-hour are examples of ?
   a. Total productivity
   b. Multifactor productivity
   c. Partial-factor productivity
   d. Service productivity

10. Output per non-labor dollar is an example of
    a. Total productivity
    b. Multifactor productivity
    c. Partial-factor productivity
    d. Service productivity

11. Which of the following terms is the most encompassing?
    a. Value chain
    b. Transformation process
    c. General management process
    d. Operating system

12. Which of the following is not an assumption of break-even analysis?
    a. Price depends on cost
    b. Time is not a critical variable
    c. Cost and price are constant
    d. Facilities and equipment have infinite capacities

13. The following terms -- interchangeability of parts, division of labor, highly repetitive tasks -- best relate to focus on _____.
    a. Quality
    b. Cost and efficiency
    c. Quality
    d. Time

14. The quality revolution is most related to ...
    a. Continuous improvement
    b. Mass production
    c. Time-based competition
    d. Break-even analysis

15. Which of the following does not fit?
    a. Globalization
    b. Technology
    c. Mass customization
    d. Mass production

TRUE/FALSE (1 Mark x 10)

1. In general, the designs of both goods and services follow a similar path. The critical differences lie in the detailed product and design phase.

2. The design of a service cannot be done independently from the process by which the service is delivered.

3. An automated teller machine (ATM) is an excellent example of a Robust Process.

4. According to Japan's Genichi Taguchi, the greater the variance about the target value, the better the product and the lesser the average loss.

5. Value engineering refers to cost avoidance or cost prevention after the good or service is created

6. Product simplicity encourages the use of standard parts and components.

7. Design for Environment (DfE) is the explicit consideration of environmental concerns during the design of goods and services and processes, and include such practices as designing for recycling and disassembly.

8. Reliability does <u>not</u> apply to services processes.

9. Redundancy is the use of backup components in a design.

10. A parallel system has <u>no</u> redundancy.

SECTION 2 (40 Marks)

QUESTION 1 (10 Marks)

	FIRST QUARTER	SECOND QUARTER
Unit Selling Price	$15.00	$17.00
Total Units Sold	12,000	11,500
Labor Hours	10,000	9,500
Labor Cost/Hour	$8.00	$8.00
Material Usage (lbs.)	6,000	5,500
Material Cost/lb.	$12.00	$11.50
Other Costs	$25,000	$23,000

A. Using the information in Exhibit above, determine the total productivity for the First Quarter (use dollar output per dollar input). **(2 Marks)**

B. Using the information above, determine the multifactor productivity, non-labor in this case, for the Second Quarter. Use units as outputs. **(2 Marks)**

C. Given the information above, if unit output labor productivity for the First Quarter is 1.20 units per hour, determine the labor productivity index at the end of the Second Quarter using the First Quarter as a base. **(2 Marks)**

D. A computer manufacturer has a 75 percent customer retention rate. Their accounting department estimates the incremental contribution to profit and overhead as 40 percent. Customers purchase computers every three years at an average cost of $1,500.00. Determine the average value of a loyal customer. **(4 Marks)**

QUESTION 2
Expand and discuss the four performance perspectives of the Balanced Scorecard Model. **(10 Marks)**

QUESTION 3
a) Define value and three ways to increase it, describe a value chain using input-output or pre- or post-service diagrams. **(15 Marks)**

b) Distinguish between a value chain and supply chain with examples. **(5 Marks)**

QUESTION 4

Katutura Investments, a supplier of construction materials such as ready-mix concrete, sand, gravel and other products, conducted a survey of its customers to understand their important wants and needs. The survey revealed the following:
- Responsive to special needs
- Easy to place orders
- Consistent product quality
- On-time delivery
- Accurate invoices
- Lowest prices
- Attractive credit terms
- Salespeople's skills
- Helpful dispatchers
- Courteous drivers
- Fair and quick problem resolution

A) Draw an example customer benefit package and define the company's strategic mission. **(10 Marks)**

B) What elements of operations design choices and infrastructure in Hills strategy framework would an operations strategy have to address to meet these customer requirements? **(10 Marks)**