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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

MBA

SEM: II - THEORY EXAMINATION (2025 - 2026)

Subject: Operations and Supply Chain Management

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- (1.1) Production planning includes (CO1, K2) 1
- (a) Estimating
 - (b) Scheduling
 - (c) Routing
 - (d) all of the above
- (1.2) Product design and process selection are examples of _____ decisions. (CO1, K3) 1
- (a) system design
 - (b) financial
 - (c) technical
 - (d) none of these
- (1.3) According to Parasuraman, Zeithaml & Berry , the most important determinant of service quality is (CO2, K2) 1
- (a) Reliability
 - (b) Responsiveness
 - (c) Empathy
 - (d) Assurance
- (1.4) Services are typically produced and consumed simultaneously. This is an example of the _____ characteristic of services. (CO2, K2) 1
- (a) Intangibility
 - (b) Inseparability
 - (c) Variability
 - (d) Perishability

- (1.5) Aggregate planning is capacity planning for:(CO3, K3) 1
- (a) the intermediate range
 - (b) the short range
 - (c) typically one to three months
 - (d) none of these
- (1.6) In a two-bin inventory system, the amount contained in the second bin is equal to the:(CO3, K3) 1
- (a) ROP
 - (b) EOQ
 - (c) amount in the first bin
 - (d) none of these
- (1.7) Vendor analysis is the examination of the _____ of purchased materials. (CO4, K2) 1
- (a) Function
 - (b) Source
 - (c) Quality
 - (d) Cycle
- (1.8) The interface between the firm and its suppliers is: (CO4, K2) 1
- (a) Purchasing
 - (b) Production
 - (c) Distribution
 - (d) None of the above
- (1.9) A tool that is not used for quality management is a (CO5, K2) 1
- (a) Flowchart
 - (b) Histogram
 - (c) Redesign
 - (d) Check sheet
- (1.10) The "Control" phase of DMAIC is intended to ensure that: (CO5, K2) 1
- (a) Data analysis is overseen
 - (b) Inputs are closely monitored
 - (c) Improvements are sustained
 - (d) None of the above

2. Attempt all parts:-

- (2.1) Distinguish between total and partial productivity. (CO1, K3) 2
- (2.2) Briefly explain advantages of service blueprint.(CO2, K3) 2
- (2.3) Differentiate between agile and lean manufacturing. (CO3, K4) 2
- (2.4) Explain bullwhip effect. (CO4, K3) 2
- (2.5) Define Pareto chart. (CO5, K2) 2

SECTION-B

30

Answer any one of the following:-

(3.1) Long Beach Bank employs three loan officers, each working eight hours per day. Each officer processes an average of five loans per day. The bank's payroll cost for the officers is Rs. 820 per day, and there is a daily overhead expense of Rs. 500. The bank has just purchased new computer software that should enable each officer to process eight loans per day, although the overhead expense will increase to Rs. 550. Evaluate the change in labor and multifactor productivity before and after implementation of the new computer software. (CO1, K4) 6

(3.2) Explain the term 'plant layout'. Differentiate between product layout and process layout. (CO1, K3) 6

Answer any one of the following:-

(3.3) Define service quality. Describe five dimensions of service quality. (CO2, K3) 6

(3.4) Briefly explain the reasons behind the fast growth of services in India. (CO2, K4) 6

Answer any one of the following:-

(3.5) Sharp corporation purchases 8,000 transistors each year as components in minicomputers. The unit cost of each transistor is Rs. 10 and the cost of carrying one transistor in inventory for a year is Rs. 3 and ordering cost is Rs. 30 per order. Assuming 200 day working a year. Compute the following. 6

- a. Optimal order quantity
- b. Expected number of orders placed each year
- c. Expected time between orders (CO3, K4)

(3.6) Describe the importance of production planning and production control. (CO3, K3) 6

Answer any one of the following:-

(3.7) Define supply chain efficiency. Distinguish between efficient and responsiveness with reference to supply chain efficiency. (CO4, K4) 6

(3.8) Explain supply chain management. Briefly describe the drivers of supply chain management. (CO4, K4) 6

Answer any one of the following:-

(3.9) Briefly describe the Deming's 14 principle. (CO5, K4) 6

(3.10) Explain various cost associated with the quality management. (CO5, K3) 6

SECTION-C 50

4. Answer any one of the following:-

(4.1) Explain the factors to be considered while selecting location choice for existing organizations. (CO1, K4) 10

(4.2) Describe in detail input, output and processes with respect to banking, advertising and agriculture with suitable examples. (CO1, K4) 10

5. Answer any one of the following:-

(5.1) Define service gap. Describe important gap mention in SERVQUAL model. (CO2, K4) 10

(5.2) Describe the characteristics and classification of services with suitable examples. (CO2, K4) 10

6. Answer any one of the following:-

- (6.1) Explain production planning. Distinguish between production planning and control. (CO3, K4) 10
- (6.2) Define aggregate planning. Discuss the objectives of aggregate planning. (CO3, K4) 10
7. Answer any one of the following:-
- (7.1) Briefly describe inbound logistics activities and out bound logistics activities with suitable examples.(CO4, K3) 10
- (7.2) Discuss the importance of supply chain drivers in overall management of supply chain.(CO4, K2) 10
8. Answer any one of the following:-
- (8.1) Discuss the importance of seven tools of quality control with suitable examples.(CO5, K4) 10
- (8.2) Describe the significance of Deming's 14 principles for maintaining quality standards in a business organization. (CO5, K4) 10

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