School of Business
MBA
ETE - Jun 2023

Time : 3 Hours   Marks : 50

Sem II - MBDS5032 - Operations and supply Chain Management
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

1. Describe two specific roles of information technology (IT) in a supply chain, explaining in brief how these roles enhance operational efficiency and facilitate informed decision-making. K2 CO5 (2)

2. Describe any four causes of Bullwhip effect. K2 CO3 (2)

3. Explain the concept 5S of housekeeping in operations managment. K2 CO1 (2)

4. What is the procedure of benchmarking? K1 CO4 (2)

5. Discuss the role of demand forecasting in supply chain management. K2 CO2 (2)

6. Sales of Air Coolers at the Vijay Sales stores, over the past 4 months have been 100, 110, 120, and 130 units (with 130 being the most recent sales). K4 CO2 (6) ,CO3
Develop a moving-average forecast for next month, using:
a) 3-month moving average.
b) 4-month moving average.
c) 3-month weighted moving average with weights of 2, 2.5,3,4.

7. Diagrammatically show various flows in supply chain management and analyse the importance of efficient information and material flow in achieving an effective distribution network. K4 CO2 (5) ,CO4 ,CO3
OR
Discuss the main drivers that influence effective supply chain management and explain how these drivers impact supply chain performance. Provide real-world examples to support your analysis.

8. Analyse the role of Enterprise Resource Planning (ERP) systems in integrating and optimizing supply chain processes. K3 CO5 (5)

OR

Analyse the concept of resilience in supply chain management and explain its importance in mitigating disruptions and uncertainties.

9. K5 CO4 (8) ,CO1

Destination	Geographic Location (X,Y)		Monthly Quantity (Tonns)
	X	Y	
Noida	3	5	6000
Kanpur	4	6	8000
Ambala	6	8	4000
Jammu	8	6	3000
Shimla	9	10	4000

Identify the location to coordinate shipments in the supply chain with the Center of Gravity method.

10. Lindsay Electronics, a small manufacturer of electronic research equipment, has approximately 7,000 items in its inventory with an annual inventory value of $20 million and has hired Joan Blasco-Paul to manage its inventory. Joan has determined that 10% of the items in inventory are A items, 35% are B items, and 55% are C items. K4 CO2 (8)
a. How many units are categorized as A, B, and C items?
b. What percentage of the inventory value is represented by each category?
OR
What is ABC Analysis? Explain how it is used for Effective Inventory management System for a Company? Give example.

PTO

11. A company manufactures fan blades. These blades are manufactured on a high speed   K5 CO4 (8)
automated machine. The machine is set up to produce a large run of blades of 15000 in each set
up. The specified length of each blade is 47.25 inches (1200 mm). To set up the machine to
keep process and range in control, a control chart needs to set up. 15 samples were taken with 5
blades in each sample. The complete list of samples and their measured value are given below.
(Given A2=0.577)

Hour	Blades length (in inches)				
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
1	51	50	49	50	50
2	45	47	70	46	36
3	50	35	48	39	47
4	55	70	50	30	51
5	49	38	64	36	47
6	59	62	40	54	64
7	36	33	49	48	56
8	50	67	53	43	40
9	44	52	46	47	44
10	70	45	50	47	41
11	57	54	62	45	36
12	56	54	47	42	62
13	40	70	58	45	44
14	52	58	40	52	46
15	57	42	52	58	59

1. Develop the suitable control charts.
2. From the chart, what comments can you make about the process?

OR

Explain how statistical quality control techniques, such as control charts, can be used to monitor
and maintain the quality of a manufacturing process.