Reg. No.															

Question Paper Code	13771

MBA - DEGREE EXAMINATIONS, APRIL / MAY 2025

Second Semester

Master of Business Administration

24MBT204 - MANAGING OPERATIONS

Regulations - 2024

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Define the term operation management.	2	K1	CO1
2.	How would you show your understanding of Cellular Manufacturing?	2	K1	CO1
3.	Classify the types of forecast.	2	K2	CO2
4.	How would you explain Enterprise Resource Planning?	2	K1	CO2
5.	Recall the different approaches of product design.	2	K1	CO3
6.	Write short notes on design capacity.	2	K1	CO3
7.	Classify the layout of stores management.	2	K2	CO4
8.	List the functions of purchasing.	2	K1	CO4
9.	Define Project Management.	2	K1	CO5
10.	Demonstrate the various project planning and control techniques.	2	K2	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	In a developing country like India explain the role of operations in strategic management.	13	K2	CO1
		OR			
	b)	Discuss production system. Describe the types and characteristics of modern production and operation functions with suitable examples.	13	K2	CO1
12.	a)	The past data about the load on a stamping centre are as follows:	13	K3	CO2

Month	1	2	3	4	5	6	7
Load, Machine Hours	584	610	655	747	862	913	963

(i) Find an exponential smoothing forecast for the month of Dec.2015 (8^{th} period) Take (α=0.33) and f_0 =600.

(ii) Compare your answer with a five month moving average forecast with MAD.

OR

b) A trader in spare part business forecasts demand for Ball Bearing at the rate of 500 per month for next five months. Actual demand turned out to be 485, 480, 500, 525 and 515. Calculate the MAD, MSE, MFE, MPE, MAPE, TS and comment on it. *13 K3 CO2*

13. a) Summarize the legal, ethical, environmental issues related to product design. *13 K2 CO3*

OR

b) Describe the Product design Process and the methods to follow in the design process. *13 K2 CO3*

14. a) Define the term purchasing. What are the principles of good vendor/vendee relations? How a vendor is evaluated. *13 K3 CO4*

OR

b) The store of an oil engine repair shop has 10 items whose details are shown in the following table. Apply ABC analysis to the store. *13 K3 CO4*

Component Code	Description	Price/Unit	Annual Demand
C01	Packing threat	100	100
C02	Tower bolt	200	300
C03	Hexagonal nut	50	700
C04	Bush	300	400
C05	Coupling	500	1000
C06	Bearings	3000	30
C07	Bearing Small	1000	100
C08	Fuel pump	7000	500
C09	Fixture	5000	105
C10	Drill bit	60	1000

15. a) You are the operations manager of a manufacturing company planning to establish a new facility in a strategic location. Using the location factor rating method, assess and recommend the most suitable location for the new facility. Consider the following factors. *13 K3 CO5*

Factor	Weights
Proximity to suppliers	20
Labor availability	15
Transportation costs	15
Market access	10
Infrastructure	10
Tax incentives	10
Environmental regulations	10
Quality of life for employees	10

Location	A	B	C	D
Proximity to Suppliers	80	90	70	60
Labor Availability	70	60	85	95
Transportation Costs	85	80	75	70
Market Access	90	70	80	60
Infrastructure	80	85	70	75
Tax Incentives	75	90	80	70
Environmental Regulations	80	75	85	90
Quality of Life	85	80	90	75

OR

b) List any eight heuristic sequencing rules for scheduling production and explain them with examples. *13 K3 CO5*

PART - C (1 × 15 = 15 Marks)
(Compulsory)

16. a) Consider the tasks, durations and predecessor relationship in the following network. Draw the network and answer the questions that follow. *15 K4 CO5*

Activity Description	Immediate Predecessor(S)	Optimistic Time (Weeks)	Most likely Time (Weeks)	Pessimistic (Weeks)
A	-	4	7	10
B	A	2	8	20
C	A	8	12	16
D	B	1	2	3
E	D,C	6	8	22
F	C	2	3	4
G	F	2	2	2
H	F	6	8	10
I	E,G,H	4	8	12
J	I	1	2	3

(i) What is the variance for activity B?
(ii) Based on the calculation of estimated times, what is the critical path?
(iii) What is the estimated time of the critical path?
(iv) What is the probability of completion of the project before week 42?