KUMARAGURU
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Register Number: ……

MBA DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2022)

Third Semester

MBA - PROJECT MANAGEMENT

P22MPEO631**:** Operations Management

COURSE OUTCOMES

CO1: Appreciate the strategic role of OM in creating and enhancing a firm's competitive advantages and issues of OM.

CO2: Propose suitable tools and techniques of operations management for productivity improvement and operational issues in the value addition processes of a firm.

CO3: Display analytical skills in the application of problem-solving tools to resolve the operational issues.

Time: Three Hours **Maximum Marks: 100**

PART A (1Q x 20M = 20 Marks)

1 For the given activities determine: 20 CO2 [K_3]

a) Construct the network diagram
b) Critical path using PERT.
c) Calculate variance and standard deviation for each activity.
d) Calculate the total float for each activity.
e) Calculate the probability of completing the project in 26 days.

Activity	t_o	t_m	t_p
1-2	6	9	12
1-3	3	4	11
2-4	2	5	14
3-4	4	6	8
3-5	1	1.5	5
2-6	5	6	7
4-6	7	8	15
5-6	1	2	3

(OR)

2 i) "Cost of quality gives manufacturers an opportunity to analyze, and thus improve their quality operations" – Explain 10 CO2 [K_3]

ii) "Waste, by definition, is something that adds no value". Examine the Lean seven wastages and lean techniques to improve productivity. 10 CO2 [K_3]

PART B (5Q x 4M = 20 Marks)

3		Classify and explain the different types of production systems with suitable examples.	4	CO1	[K_4]
4		Compare the features of Continuous review system with Periodic Review System.	4	CO1	[K_2]
5		Distinguish between MRP , MRP II and ERP.	4	CO2	[K_4]
6		Interpret the different methods of evaluating plant location.	4	CO3	[K_2]
7		Identify and explain the importance of seven quality control tools with suitable examples.	4	CO3	[K_3]

PART C (3Q x 20M= 60 Marks) Answer Any Three Questions Only

8	i)	Summarize the challenges in global operations management.	10	CO1	[K_2]
	ii)	Infer the relationship of production with other management functional areas.	10	CO1	[K_2]
9	i)	Perform ABC analysis for a furniture store with the help of the details given in the table below.	10	CO2	[K_3]

Products	Annual Number of Items Sold	Costs per unit
Beds	5000	$80
Chairs	1500	$20
Coffee Tables	700	$40
Desks	600	$40
Ottomans	500	$30
Dining Table	700	$50
Book Cases	600	$15
Office Chairs	10,000	$20
Wardrobes	600	$40
Computer Cabinet	700	$30

	ii)	A manufacturing company places a semi-annual order of 24,000 units at a price of Rs.20 per unit. Its carrying cost is 15% and the order cost is Rs.12 per order. • What is the most economical order quantity? • Identify how many orders need to be placed?	10	CO2	[K_3]
10	i)	For an industry of your own choice examine the factors that affect your location decisions.	10	CO3	[K_4]
	ii)	Compare and contrast the characteristics of different types of layouts with suitable examples.	10	CO3	[K_4]

11	i)	Interpret the fundamental differences between the Six Sigma and Total Quality Management approaches to business strategy.	10	CO3	[K_5]
	ii)	In the manufacturing industry, plate thickness is one of the important CTQ factors. During the Measure phase, the project team performed the process capability study and identified that the process was not capable (less than 2 sigmas). In the Analyze phase, they collected 20 sets of plate thickness samples with a subgroup size of 4. Compute X bar.	10	CO3	[K_5]

	Measured values			
Sample	1	2	3	4
1	44	26	24	34
2	50	48	51	43
3	32	28	26	22
4	52	55	56	44
5	16	16	21	26
6	36	36	35	31
7	21	22	18	21
8	29	21	23	22
9	26	46	44	14
10	24	22	22	44
11	18	24	24	49
12	24	20	26	23
13	19	21	27	28
14	8	11	12	12
15	24	18	27	24
16	56	52	56	50
17	32	22	18	25
18	8	12	11	17
19	51	54	52	49
20	30	28	35	22

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