UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Logistics in Manufacturing Sector   **Semester: IV**
Program: BBA LM   **Time : 03 hrs.**
Course Code: LSCM 2011P   **Max. Marks: 100**

Instructions:

SECTION A
10Qx2M=20Marks

S. No.	Attempt all questions in this section	Marks	CO
Q 1	Answer the following		
(a)	_____ is the amount of time spent a job spends in a factory.	2	CO1
(b)	What is the meaning of PQM? a) Production Quality Model b) Product Quality Model c) Production Quantity Model d) Product Quantity Model	2	CO1
(c)	Planned order release incorporates lead time to order the components (T/F)	2	CO1
(d)	Full form of CRAFT is _____.	2	CO1
(e)	MRP is a statement of how many finished items are to be produced and when they are to be produced (T/F)	2	CO1
(f)	Delphi technique is a quantitative technique used for forecasting (T/F)	2	CO1
(g)	_____ is a technique for determining the quantity and timing for acquisition of dependent demand items to satisfy master production schedule.	2	CO1
(h)	The various types of transformation processes are_____.	2	CO1
(i)	Select all the correct statements a) End items are finished goods scheduled in the MPS or FAS that must be forecast b) Dependent demand is demand that is directly related to the demand for other SKUs and can be calculated without needing to be forecasted c) A competitively dominant customer experience is often called a value proposition d) Crash time is the maximum possible time the activity can realistically be completed	2	CO1
(j)	The algorithm for two resource scheduling problem is _____.	2	CO1

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SECTION B

4Qx5M= 20 Marks

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Q	Attempt all questions		
1	What is the difference between Gross Requirements and Net Requirements? Explain.	**5**	**CO2**
2	What are the various techniques for single resource sequencing problem?	**5**	**CO2**
3	What is the meaning of cellular layout? Explain diagrammatically.	**5**	**CO2**
4	What is the difference between economies and diseconomies of scale?	**5**	**CO2**

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SECTION-C

3Qx10M=30 Marks

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Q	Attempt all questions		
5	Find the forecast for the month of June using exponential smoothing. The value of alpha=0.3 Demand data Jan 23.3 Feb 32.4 Mar 34.0 Apr 27.5 May 38.5	**10**	**CO3**
6	What are the distinctions between manufacturing and service operations? Explain.	**10**	**CO3**
7	The new healthcare facility is targeted to serve seven census tracts in Delhi. Two locations are considered for a new facility at (5.5,4.5) and (7,2). Use population as the load and use rectilinear distances.		**CO3**

Table for Q7:

Sl. No.	Census tract	(x,y)	Population (l)
1	A	(2.5,4.5)	5
2	B	(2.5,3)	6
3	C	(5.5,4.5)	8
4	D	(6,2)	22
5	E	(8,4)	10
6	F	(7,2)	14
7	G	(10,2.5)	20

SECTION-D
2Qx15M= 30 Marks

Q	Answer the following questions		
8	A book binder has one printing press, one binding machine and manuscripts of 6 different books. The process is first printing and then binding. The times required for performing binding and printing operations for different books are shown below:	**15**	**CO4**

Book	1	2	3	4	5	6
Binding time(hours)	20	90	120	20	80	15
Printing time(hours)	25	60	75	30	90	35

Decide the optimum sequence of processing of books in order to minimize the total time required to bring out all the books. Also find the total minimum elapsed time.

Q			
9	Product A is made from two components, B and C. It takes one B and two C's to make a single product A. Component B is made from three parts D's. Component C is made from 1 part D and 2 part E's. Use this information together with data below to answer the following questions:	**15**	**CO4**

Part	Lead Time	Lot Size	On hand	Scheduled Rcpts
A	1	Lot for Lot	50	None
B	1	Lot for Lot	10	None
C	2	100	50	None
D	1	200	120	None
E	2	200	0	200, week 1

a) Make MRP records for A, B, C, D, and E. Production quantities and production start dates   for A are: 20 in week 2, 50 in week 4, 30 in week 6, 40 in week 7, 50 in week 9, and 40 in week 11.

Use the below MRP record:

Week	
Gross Requirement	
Scheduled receipts	
Projected Available	
Net requirements	
Planned order receipt	
Planned order release	