Reg No:

D. K. M. COLEGE FOR WOMEN

(AUTONOMOUS), VELLORE- 1

SEMESTER EXAMINATION

APRIL– 2019 15CPCO2D

QUANTITATIVE TECHNIQUES FOR BUSINESS DE

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Time: 3Hrs. **Max.**

SECTION –A (5 X 6=30)

Answer ALL the questions.

1. (a) Write a short note on Linear programming problem.

(Or)

(b)From the following data are the characteristics a project.

Activity	Immediate predecessors	Duration in days
A	-	2
B	A	3
C	A	4
D	B,C	6
E	-	2
F	E	8

i. Draw a Network diagram for the above project.

ii.Find the minimum project completion time and the critical path.

2. (a)Find the optimal ordering quality for the following.

Annual usage	1000 pieces
Cost per pieces	Rs. 250
Ordering Cost	Rs. 6 per order
Expecting cost	Rs. 4 per order
Inventory holding cost	20% of average inver

(Or)

(Or)

(b)What are the different methods in Transportation problem?

4. (a) When an assignment problem said to be unbalances? How to solve
to balance?

(Or)

(b)A company has 4 workers and 4 Jobs to be performed estimate of time(Man
take to perform each task is given below:

Workers	Jobs		
	A	B	C
1	8	26	17
2	13	28	4
3	38	19	18
4	19	26	24

How should the jobs to be allotted to men so as to optimize the total man hours

5. (a)A company distributes its products by trucks at its only loading statio
and contractor's trucks are used for this purpose. It was found out that
minutes, one truck arrived and the average loading time was three minu
belong to the contractor. Find out
    1. The probability that the truck has to wait.
    2. The waiting time of truck that wait.
    3. The expected waiting time of contractor'sTruck per day, assu

(Or)

(b)What is queuing theory? What are the objectives of queuing theory?

7. Unit cost = Rs. 100

Order cost = Rs. 160

Inventory carrying cost = Rs.20

Backorder cost (stock cost) = Rs. 10

Annual demand = 1000 units

Compute the following:

1. Minimum cost order quantity.
2. Time between orders.
3. Maximum number of back order.
4. Maximum inventory level.
5. Overall annual cost.

8. Solve the following transportation problem whose cost matrix, avai requirements of each warehouse are given as follows:- Apply VAM meth

Factory	warehouses			
	W_1	W_2	W_3	W_4
F_1	190	300	500	100
F_2	700	300	400	600
F_3	400	100	600	200
Requirements	50	80	70	140

9. A production supervisor is considering how he should assign the four job the four of the workers working under him. He wants to assign the jobs aggregate time to perform the jobs is the least. Based on the previ information the time taken by the four workers in performing these jo table.

Workers	jobs

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