

**M.Com. Part-I Examination, 2020 (DDE)**  
**Subject: Commerce**  
**Paper: 8**  
**(Quantitative Techniques)**

**Time: 2 Hours**

**Full Marks: 40**

*The figures in the margin indicate full marks.*  
*Candidates are required to give their answers in their own words*  
*as far as possible*

**Answer any four questions**

**10x4=40**

1. Obtain an optimum basic feasible solution to the following transportation problem:

Factory	Warehouse				Factory capacity
	W1	W2	W3	W4	
F1	3	2	7	6	5000
F2	7	5	2	3	6000
F3	2	5	4	5	2500
Warehouse requirement	6000	4000	2000	1500	

2. Explain, in details, different steps in the Hungarian Assignment Method.
3. (a) Explain the different phases of project management.

(b) Draw the project network in the following cases:

Activity	Immediate Predecessor	Duration Weeks
Start	-	0
A	Start	16
B	Start	20
C	Start	30
D	B	15
E	B	10
F	D	3
G	D	16
H	A	15
I	H,F,E	12
Finish	I,G,C	

5+5

4. What is the basic necessity of understanding replacement theory? Also mention two types of replacement policies in case of replacement of items that fail completely.

5+5

5. What are the advantages of simulation process? Write a short note on the Monte-Carlo Simulation process.

5+5

6. Explain the following terms in the context of queuing theory:

(a) Arrival process

(b) Queuing discipline

5+5