Code No: MB1316/R13

MBA I Semester Supplementary Examinations, Jan/Feb-2018

QUANTITATIVE ANALYSIS FOR BUSINESS DECISION

Time: 3 Hours **Max. Marks: 60**

Answer Any **FIVE** *Questions*
All Questions Carry Equal Marks
Question No. 8 is Compulsory

1. a) What is Correlation? Write the significance of correlation 4M

   b) Calculate Karl Pearson's Coefficient of Correlation from the following data. 8M

X	39	65	62	90	82	75	25	98	36	
Y	47	53	58	86	62	68	60	91	51	

2. a What is Normal Distribution? Write its Properties. 6M

   b Write down the steps involved in Decision Making? Explain the Decision making under conditions of Risk- Utility as a criterion. 6M

3. Write down the following 12M
   i. Permutations & Combinations
   ii. Baye's Theorem
   iii. Big M Method
   iv. Replacement Models

4. Solve the following linear programming problem by Simplex method. 12M

   Max $Z= 3x_1 +2x_2 +5x_3$

   S.T.

   $x_1 +2x_2 +x_3 \leq 430,$

   $3x_1 +2x_3 \leq 460$

   $x_1 +4x_3 \leq 420,$

   $x_1, x_2, x_3 \geq 0$

5. 12M

   Find an optimum solution to the following transportation problem.

Source/ Destination	D_1	D_2	D_3	D_4	Available
S_1	3	7	6	4	50
S_2	2	4	3	2	20
S_3	4	3	8	5	30
Demand	30	30	20	20	

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6. A Company has to assign four workers A,B,C,D to four jobs W,X,Y and Z respectively. The cost matrix is given below. Find the minimum cost of assigning the jobs. 12M

Workers/Jobs	W	X	Y	Z
A	1000	1200	400	900
B	600	500	300	800
C	200	300	400	500
D	600	700	300	1000

7. Solve the following Game problem through Dominance. 12M

Strategies	I	II	III
I	-5	10	20
II	5	-10	-10
III	5	-20	-20

8. A project consists of 8 activities with the following information. 12M

Activity	Immediate Preceeder	T_o	T_m	T_p	
A	-	1	1	7	
B	-	1	4	7	
C	-	2	2	8	
D	A	1	1	1	
E	B	2	5	14	
F	C	2	5	8	
G	D,E	3	6	15	
H	F,G	1	2	3	

i) Draw the PERT network and find out the expected project completion time.

ii) 95% confidence of completion

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