B.B.A. DEGREE EXAMINATION,ODD SEMESTER 2020
II Year III Semester
Business Maths and Operations Research

Max.marks :25

Answer any **FIVE** questions $(5 \times 5 = 25)$ Marks

1. Find the compound interest on Rs.10,000 for 4 years at 5% per annum. What will be the simple interest in the above case?

2. From a standard pack of 52 cards one card is drawn at random. Find the probability that it is either a red or a king.

3. Find the initial solution for the transportation problem using Vogels Approximation Method.

	S_1	S_2	S_3	Availability
W_1	5	4	3	6
W_2	4	7	6	8
W_3	2	5	8	12
W_4	8	6	7	4
Requirement	8	10	12	30

4. The activities of a project have the following PERT time estimates

Job	1-2	7-8	2-3	3-5	5-8	6-7	4-5	2-4	1-6
Optimistic time	3	4	6	5	1	3	3	2	2
Most likely time	6	19	12	11	4	9	6	5	5
Pessimistic time	15	28	30	17	7	27	15	8	14

   Draw the network diagram and determine the critical path.

5. Solve the LPP graphically

   $MaxZ = x + 3y$

   Subject to constraints: $2x + y \le 20$;

   $x + 2y \le 20$;

   $x; y \ge 0$

6. Five jobs1,2,3,4 and 5 are to be assigned to the five persons V, W, X, Y and Z

   The time taken in minutes by each of them on each job is given below:

	1	2	3	4	5
V	16	13	17	19	20
W	14	12	13	16	17
X	14	11	12	17	18
Y	5	5	8	8	11
Z	5	3	8	8	10

Work out the optimal assignment and the total minimum time taken.

7. Differences between PERT and CPM.