

**Subject : Computer Oriented Decisions Models**

Day : Monday  
Date : 19/12/2016



Time : 10.00 AM TO 1.00 PM  
Max Marks : 80 Total Pages : 2

**N.B.:**

- 1) Attempt **ANY FIVE** questions from Section – I and **ANY TWO** questions from Section – II.
- 2) Answers to both the sections should be written in the **SAME** answer book.
- 3) Use of simple calculators and logarithmic table is **ALLOWED**.
- 4) Figures to the right indicate **FULL** marks.

**SECTION – I**

**Q.1** Define Operations Research. What are the limitations of Operations Research? [10]

**Q.2** Solve the following Linear Programming Problem graphically: [10]  
 Maximize  $Z = 3x + 4y$   
 Subject to :  
 $x + y \leq 6$   
 $2x + y \leq 8$   
 $x, y \geq 0$

**Q.3** Find the Initial Basic Feasible Solution (I.B.F.S.) by using: [10]  
 a) North West Corner Method (N.W.C.M.)  
 b) Matrix Minima Method

Sources	Destinations			Supply
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	
S <sub>1</sub>	3	2	1	20
S <sub>2</sub>	2	4	1	50
S <sub>3</sub>	3	5	2	30
S <sub>4</sub>	4	6	7	25
Demand	40	30	55	125

**Q.4** Consider a job which requires four activities A, B, C and D. Four workers are employed who can do all these activities. The time required by each of them (in minutes) to perform each of the activities is as follows: [10]

Activities	Workers			
	I	II	III	IV
A	14	12	15	15
B	21	18	18	22
C	14	17	12	14
D	6	5	3	6

How should these activities be assigned to the workers so that the job is completed in minimum time?

**Q.5** How does degeneracy occurs in Transportation Problem? How can we deal with it? [10]

**Q.6** Briefly mention the areas of application of Network Techniques. [10]

**P.T.O.**