

S.S.M.S.

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BCS Department

Internal Examination, February 2017.

Class: S.Y.B.C.S

Subject: Operation Research

Time: 1 hr

Marks: 10

Q 1. Attempt any one

(2 marks)

a) Define the following terms in game theory

1) Fair Game 2) Saddle Point

b) Find the saddle point of the following game:

$$\begin{bmatrix} -5 & 2 & 0 & 7 \\ 5 & 6 & 4 & 8 \\ 4 & 0 & 2 & -2 \end{bmatrix}$$

Q 2. Attempt any two

(2 x 4 marks)

a) Find the IBFS by List-Cost method of the following

Transportation problem.

Destination	D1	D2	D3	Supply
Origin				
O1	13	15	16	17
O2	7	11	2	12
O3	13	20	3	16
Demand	14	8	23	

b) Solve graphically the following LPP

$$\text{Max } Z = 9x + 13y$$

$$\text{Subject to } 2x + 3y \leq 18$$

$$2x + y \leq 10$$

$$x \geq 0, y \geq 0$$

c) Solve the following assignment problem for minimizing total time for doing all jobs

		Jobs		
		I	II	II
Operator	A	7	3	5
	B	2	7	4
	C	6	5	3