First Year MHA Degree Supplementary Examinations April 2018

OPERATIONS RESEARCH (2013 Scheme)

Time: 3 Hours   **Max Marks: 100**

- **Answer all the questions**
- *Ordinary calculator can be used*

Essays: **(2x20=40)**

1. Solve the following L.P.P by a simplex method

   Maximize $Z = 40x_1 + 35x_2$

   Show that $= 2x_1 + 3x_2 \leq 60$
   $4x_1 + 3x_2 \leq 96$
   $x_1 x_2 \geq 0$

2. Define game theory, what is saddle point.

   For the following game find the optimal strategies for A & B also find the value of the game.

Player B / Player A	B_1	B_2	B_3
A_1	7	6	8
A_2	-4	-3	9
A_3	10	5	-2

Short Essays: **(2x10=20)**

3. Define decision making. Discuss briefly steps in decision making.

4. Measures to be applied in replacement of capital equipment in hospital.

Short notes: **(8x5=40)**

5. Advantages and disadvantages of simulation techniques.

6. North-west corner rule in transportation model.

7. Application of queuing theory in inventory management

8. What is float and slack in network model.

9. Lead time.

10. What are the elements of the network diagram

11. Application of simulation in health care.

12. Modification distribution method

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