

Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2018

Course	: DOR	Date	: 20/01/2018
Subject Code	: DOR-01	Time	: 3:00pm to 6:00pm
Subject Name	: Basics of Operation Research	Duration	: 3 Hours
		Max. Marks	: 70

Q-1 Define Operation Research and State its relations with decision making? (14)

OR

Describe various Operation Research models.

Q-2 What are the opportunities and shortcomings of operation research? (14)

OR

Describe the history of Operation Research in brief.

Q-3 Describe the structure of the linear programming model. (14)

OR

State the guidelines in linear programming model formulation.

Q-4 Write short note on the following (Any one) (14)

(A) Advantages of linear programming models.

(B) Graphical solution of linear programming problems.

Q-5 Solve the following L.P. Problem for Rudra Ltd. Find x_1 , x_2 such that (14)

$$5x_1 + 10x_2 \leq 50$$

$$x_1 + x_2 \geq 1$$

$$x_2 \leq 4, x_1, x_2 \geq 0 \text{ and } Z = x_1 + x_2 \text{ is minimum.}$$

OR

Devanshi Ltd. Has two machines A and B. He manufactures two product P and Q on these machines for manufacturing product P he has to use Machine A for 3 hours, Machine B for 6 hours and for manufacturing product Q he has to use Machine A for 6 hours and machine B for 5 hours. On each unit of P he earns Rs. 4 and on each unit of Q he earns Rs. 5. How many units of P and Q should be manufactured to get maximum profit? Each machine may not be used for more than 2100 hours.
