

# END TERM EXAMINATION

FIRST SEMESTER [MBA] DECEMBER-2015

Paper Code: MS 103

Subject: Decision Sciences

Time : 3 Hours

Maximum Marks : 75

Note: Attempt any five questions. All questions carry equal marks. Stats table(z) to be distributed.

- Q1. a) Differentiate between quartile deviation and standard deviation in terms of measure of dispersion.
- b) Following frequency distribution of online customer enquiry on an e-commerce portal.

X	F
0-10	15
10-20	35
20-30	45
30-40	45
40-50	70
50-60	10

Compute median and mode of distribution.

- Q2. a) How do we test significance of pearson correlation coefficient?
- b) Two regression equations are
- $$3x + 4y = 12$$
- $$6x + 5y = 30$$

Compute  $\bar{X}, \bar{Y}$  and  $r$ ?

- Q3. Solve the following LPP graphically
- $$\text{Max } Z = 4x_1 + 6x_2$$
- $$3x_1 + 4x_2 \leq 24$$
- $$5x_1 + 6x_2 \leq 40$$
- $$6x_1 + 8x_2 = 48$$
- $$x_1, x_2 \geq 0$$

- Q4. Solve the following LPP by simplex method.
- $$\text{Max } Z = 2x_1 + 3x_2 + 4x_3$$
- $$3x_1 + 4x_2 + x_3 = 108$$
- $$2x_2 + 3x_3 = 72$$
- $$5x_1 + 6x_2 = 160$$
- $$x_1, x_2, x_3 \geq 0$$

- Q5. a) Explain application of decision tree in business decision making.
- b) Consider the following pay.off matrix.

Strategy →	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>
Events ↓				
N <sub>1</sub>	100	-80	110	120
N <sub>2</sub>	180	120	100	-60
N <sub>3</sub>	-150	-120	-110	-110
N <sub>4</sub>	-100	80	120	80

Select strategy using a) Maxi Max b) Maximin c) Laplace d) Hurwitz

P.T.O.