

Seat No.: _____

No. of Printed Pages : 2

[13 P A-12]

SARDAR PATEL UNIVERSITY

NOVEMBER-DECEMBER : 2016 EXAMINATION,

BBA (ITM) (4 Years) SEMESTER : III

WEDNESDAY, 30/11/2016

EVENING SESSION TIME : 2.00 P.M. TO 4.00 P.M.

SUBJECT CODE : UM03CBB101

QUANTITATIVE TECHNIQUES FOR MANAGEMENT – I (NC)

TOTAL MARKS : 60

Q-1 (A) Distinguish : Primary data and Secondary data. [07]

Q-1 (B) Prepare a frequency distribution form the following data in which one of the class is [08]
24-32.

20, 8, 19, 12, 06, 57, 34, 34, 15, 12, 18, 03, 43, 56, 34, 48, 29, 62, 48, 19, 34, 43, 32,
40, 34, 27, 22, 18, 09, 24.

OR

Q-1 (A) Define statistics and explain the scope and limitations of it. [07]

Q-1 (B) Prepare a frequency distribution from the following data in which one of the class is [08]
60-70.

36, 24, 40, 25, 42, 45, 43, 55, 51, 46, 28, 18, 05, 26, 17, 09, 13, 25, 36, 44, 41, 43, 38,
26, 32, 59, 49, 53, 27, 13, 01, 41, 33, 39, 73, 36, 35, 33, 63, 46, 11, 66, 50, 19, 58, 37,
06, 51, 19, 29, 56, 14, 18, 39, 04, 44, 55, 51, 46, 65.

Q-2 (A) The runs of two batsmen in different innings are as follows decide which batsman is [07]
more stable, why?

A	12	115	6	73	7	19	119	36	84	29
B	47	12	76	42	4	51	37	48	13	06

Q-2 (B) The following frequency distribution of 162 observations has mode 74. Find the missing [08]
frequency and also obtain mean and median.

Class	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120
f	4	12	X	50	Y	13	9	4

OR

Q-2 (A) Find mean, median and mode of first ten natural numbers. [07]

Q-2 (B) For the following frequency distribution find range, quartile derivation and standard [08]
derivation.

Class	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170
f	6	18	78	80	100	72	30	10	6

Q-3 (A) Define correlation and state properties of correlation. [05]

Q-3 (B) Find correlation coefficient between x and y for the following data. [05]

X	48	49	50	51	52	53	54	55	56
Y	98	100	88	102	95	125	120	110	125

Q-3 (C) The sum of squares of difference in ranks of two variables is 33 and the coefficient of [05]
rank correlation is 0.8. Find the number of pairs of observations.

OR

Q-3 (A) Write the meaning of correlation and types of correlation briefly. [05]

Q-3 (B) Find correlation coefficient for the following data. [05]

$$n = 9, \sum x = 45, \sum y = 108, \sum x^2 = 285, \sum y^2 = 1356, \sum xy = 597$$

Q-3 (C) Find the coefficient of rank correlation for the following data. [05]

X	28	27	26	35	39	42	38	37	32	22
Y	40	42	38	49	41	50	59	44	45	36

Q-4 (A) Write the meaning and uses of linear programming problem. [07]

Q-4 (B) Use simplex method to solve the following linear programming problem. [08]

$$\text{Max } Z = 3x_1 + 2x_2$$

$$\text{s.t. } 2x_1 + x_2 \leq 10$$

$$x_1 + 3x_2 \leq 6$$

$$x_1, x_2 \geq 0$$

OR

Q-4 (A) Write the meaning, assumptions and limitations of linear programming. [07]

Q-4 (B) Use graphical method to solve the following linear programming problem. [08]

$$\text{Min } Z = 20x_1 + 40x_2$$

$$\text{S.t. } 36x_1 + 6x_2 \geq 108$$

$$20x_1 + 10x_2 \geq 100$$

$$3x_1 + 12x_2 \geq 36$$

$$x_1, x_2 > 0$$

All the Best