## M.B.A.(with Credits)-Regular-Semester 2012 / M.B.A. (Choice Based)-Regular-Semester 2016 Sem I Paper-MBA 116-C16 / PCB1F06 : Quantitative Techniques

P. Pages: 2

## Time : Three Hours

## \* 3 8 6 8 \*

GUG/W/16/3002

Max. Marks: 70

14

Notes : 1. Attempt **any five** questions.

2. All questions carry equal marks.

1. Calculation mean deviation from mean and median.

Profit per shop	No. of shops
Less than 5	29
Less than 10	224
Less than 15	465
sLess than 20	582
Less than 25	634
Less than 30	644
Less than 35	650
Less than 40	653
Less than 45	655

2. Calculate the coefficient of correlation and regression equations from the following data. 14

Marks in statistics	65	68	67	66	78	72	74	79	89	92
Marks in Accountancy	83	48	45	76	68	73	78	79	83	99

3. Calculate from the following the trend values by 3 yearly, 5 yearly and 7 yearly moving 14 average method and plot the same on a graph from the following.

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
consumption	10	12	14	16	20	22	24	18	16	10	8

4. A newspaper boy has the following probabilities of selling a magazine.

No. of copies sold	Probability
10	0.10
11	0.15
12	0.20
13	0.25
14	0.30
	1.00

Cost of a copy is 30 poise and sale price is 50 Paise. He cannot return unsold copies. How many copies should he order?

1

14

5. A company is faced with the problem of assigning six different machines to five different 14 jobs. The costs estimated in hundreds of rupees are given in the table below.

	Jobs					
	1	2	3	4	5	
1	2.5	5	1	6	2	
2	2	5	1.5	7	3	
Machines 3	3	6.5	2	8	3	
4	3.5	7	2	9	4.5	
5	4	7	3	9	6	
6	6	9	5	10	6	

Solve the problem assuming that the objective is to minimize the total cost.

- Solve the following transportation problem by using.
  - a) Least cost method.

6.

b) Vogel's Approximation method.

Go downs Stock available Factories -Demand

7. Find the maximum as well as minimum value of the objective function.

$$Z = 4x_1 + 5x_2$$
  
Subject to  
$$2x_1 + x_2 \le 6$$
$$x_1 + 2x_2 \le 5$$
$$x_1 - 2x_2 \le 2$$
$$-x_1 + x_2 \le 2$$
$$x_1 + x_2 \ge 1$$
$$x_1, x_2 \ge 0$$

8.	Explain simplex method of solving linear programming problem.	14
9.	Bring out the difference between regression and correlation.	14
10.	<ul> <li>Write short notes on any two</li> <li>a) Semi average method</li> <li>b) Characteristics and application of markov chain.</li> </ul>	14

- c) Modified Distribution method (MODE)
- d) Rank correlation.

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