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## MBA 2 Year 1st Semester

## QUANTITATIVE ANALYSIS

**Paper : MBA-104**

**Max. Marks : 80**

**Time: 3 hours**

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

**Note:** Attempt **compulsory** Question No. 1 from Section A and **four** questions from Section B (**one** question from each unit). All questions carry equal marks.

## Section-A

1. Using suitable examples illustrate the following:

- (a) Histogram

56004-1350-(P-4)(Q-9)(16) (1) [Turn Over]

7. (a) In a locality, 30% persons are unemployed. In a random sample of 10 persons, find the probability that
- (i) exactly 5 persons, and
  - (ii) not more than 3 are employed ?

- (b) There are 3 shooters A, B and C. Their respective probabilities of hitting the target are  $\frac{3}{5}$ ,  $\frac{2}{5}$  and  $\frac{1}{5}$ . All of them shoot at the target. Find the probability that two of them hit the target.

## Unit-IV

- 8.** A certain stimulus administered to 12 patients resulted in the following increases of blood pressure:  
5, 2, 8, -1, 3, 0, 6, -2, 1, 5, 0, 4.  
Can it be concluded that the stimulus increases the blood pressure?

9. In an experiment on immunisation of cattle from a certain disease, the following results were obtained :

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	Affected	Not Affected
Inoculated	12	26
Not Inoculated	16	6

## Is the vaccine effective in controlling the disease?

56004-1350-(P-4)(Q-9)(16) (4)

(1)

[ Turn Over

(d) Irregular movements

(e) Equally likely events

(f) Joint probability

(g) Null and alternate hypothesis

(h) Expected number of heads in tossing a coin 100 times.

### Section-B

#### Unit-I

2. Give a brief description of different measures of central tendency. Why is arithmetic mean so popular ?

3. Life (in hours) of electric bulbs of two brand A and B are as given below :

Length of life (in hours)	Number of bulbs	
	Brand A	Brand B
700-900	10	3
900-1100	16	40
1100-1300	20	12
1300-1500	8	3
1500-1700	6	2

Which brand's bulbs have

- (i) higher average life, and  
(ii) greater consistency.

#### Unit-II

4. The following data gives the ages and blood pressures of 10 women :

Age	56	42	36	47	49	42	60	72	63	55
Blood Pressure	147	125	118	128	145	140	155	160	149	150

Using the two regressions, estimate :

(i) age of a woman whose blood pressure is 135, and

(ii) blood pressure if the age is 49 years.

Also find the value of rank correlation coefficient.

5. Find the trend values, by taking 3-years moving average period, for the following time series :

Year	1997	1998	1999	2000	2001	2002
Sales (000 Rs.)	80	90	92	83	94	99
Year	2003	2004	2005	2006	2007	2008
Sales (000 Rs.)	92	104	112	116	110	120

#### Unit-III

6. (a) State and prove addition theorem.

(b) What are the properties of binomial distribution ?

(c) Explain and illustrate the relative frequency approach.