Roll No. .....

11444

MBA 2 Year (Ist Semester) (Old) Examination – December, 2012

QUANTITATIVE ANALYSIS

Paper : 2104

Time : Three Hours] *[M.M. : 70*

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 examination.

Note : Attempt ***five*** questions in all, selecting at least ***one*** question from each Unit. All questions carry equal marks.

UNIT – I

1. Following are the numbers of defective items produced in a factory during the last 50 days :

21	22	17	23	27	15	16	22	15	23
24	25	36	19	14	21	24	25	14	18
20	31	22	09	18	20	21	20	36	18
21	20	31	22	19	18	20	20	24	35
25	26	08	32	26	22	25	26	27	22

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Construct a frequency distribution with exclusive class intervals, choosing a class interval of 5. Also calculate the values of mode, median, 7th decile and 36th percentile for this distribution.

2. A purchasing agent obtained samples of 60 watt bulbs from two companies. The bulbs were tested for length of life and the following results were obtained :

Length of life (hrs)	No. of bulbs	
	Company A	Company B
1700-1900	10	3
1900-2100	16	40
2100-2300	20	12
2300-2500	8	3
2500-2700	6	2

Which company's bulbs have (i) higher average life (ii) greater consistency (iii) higher skewness ?

UNIT – II

3. (a) What is correlation ? Does correlation always signify a cause and effect relationship between the variables ?

(b) Explain the concept of regression and point out its usefulness in dealing with business problems.

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

Age (Years)	56	42	37	47	49	42	60	72	63	55
Blood Pressure	147	125	118	128	145	140	155	160	149	150

Obtain the two regression lines and estimate the values of (i) blood pressure if the age is 58 years and (ii) age if the blood pressure is 136. Also calculate the value of Karl Pearson's co-efficient of correlation.

UNIT – III

5. (a) Explain and illustrate the classical approach to probability.

(b) State Baye's theorem and explain its utility.

(c) Differentiate between Binomial distribution and Poisson distribution.

6. (a) An MBA applies for a job in two firms x and y. The probability of being selected in firm x is 0.7 and being rejected at y is 0.5. The probability of at least one of his applications being rejected is 0.5. Find the probability that he will be selected by one of the firms.

(b) In a normal distribution, 31% items are under 45 and 8% are over 64. Find the mean and standard

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deviation of the distribution. If one item is chosen randomly, find the probability that it will have a value between 40 and 58.

UNIT – IV

7. Explain the concept of (i) one-tailed and two-tailed tests and (ii) Type-I and type-II errors and their utility in hypothesis testing.

8. (a) In a random sample of 600 person from City A, 400 were found to be coffee addicted while in a random sample of 900 persons from City B, 500 were coffee addicts. Do the data indicate that there is significant difference in the coffee addiction proportion in the two cities ?

(b) The results obtained in a sample survey of 200 TV viewers on the opinion about TV programmes are as given below :

Gender	Opinion		
	Entertaining	Educational	waste of time
Male	52	28	30
Female	28	12	50

Is this evidence convincing that there is an association between gender and opinion ?

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