

Roll No.

11444

**MBA 2 Year 1st Semester (Old)
Examination–December, 2011**

Quantitative Analysis

Paper 2104

Time : 3 hours

Max. Marks : 70

Important Note : "Where there is no provision of internal assessment marks, the marks obtained by the candidates will be increased proportionately (if required) as per actual maximum marks given in the syllabus."

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

SECTION - A

UNIT - I

11444-1500-(P-4)(Q-8)(11)

(1)

[Turn Over

1. (a) Discuss the steps involved in construction of a continuous frequency distribution.

(b) Differentiate among arithmetic mean, median and mode. Which of them is most widely used and why ?

2. Calculate the values of arithmetic mean, standard deviation, 6th decile and 54th mercantile for the following distribution :

x	0-50	50-100	100-150	150-200	200-250	250-300	300-350	350-400
f	5	8	12	30	24	10	7	4

UNIT - II

3. The data on sales revenue and advertisement expenses of 12 companies are as given below :

Sales Revenue	28	40	80	54	120	46	33	64	76	92	55	28
(crore Rs.)												

Advertisement Expenses	1.2	3	10	7	8	5.6	4.8	7.6	7.4	10	6	1.4
(crore Rs.)												

Obtain the two regression equations and estimate the

(i) sales if advertisement expenditure is Rs. 2.5 crore, and

(ii) advertisement expenditure for achieving a sales target of Rs. 150 crore.

11444-1500-(P-4)(Q-8)(11) (2)

4. Calculate the trend values by the least square method for the following time series :

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Production (000 units)	10	12	16	13	19	26	23	28	30	32	36	33

Also estimate the production for the year 2004.

UNIT - III

5. (a) State and prove Addition Theorem of Probability.
- (b) What are the properties of normal distribution ? Why is it the most widely used distribution in hypothesis testing ?
6. (a) A bag has 10 red, 6 green and 4 white balls. Three balls are drawn without replacement. Find the probability of getting :
- (i) one ball of each colour,
 - (ii) no white ball, and
 - (iii) exactly 2 green balls.
- (b) Seven coins are tossed simultaneously 128 times and the number of heads obtained are given below :

No. of heads	0	1	2	3	4	5	6	7
Frequency	7	6	19	35	30	23	7	1

Fit a Binomial distribution to it and find the mean and standard deviation of the fitted distribution.

UNIT - IV

7. Discuss the steps involved in hypothesis testing. What is the role of test statistic in it ?
8. The following table shows the data on life (in hundreds of hours) of electric bulbs of 4 different brands, taking 3 bulbs of each brand :

Brand			
A	B	C	D
20	25	24	23
19	23	20	20
21	21	22	20

Can we infer that the mean life of the four brands of electric bulbs are equal ?