

D 90858

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Name.....

Reg. No.....

**FIRST SEMESTER M.B.A. DEGREE EXAMINATION, DECEMBER 2015**

Management

**BUS 1C 08—QUANTITATIVE TECHNIQUES**

(2013 Admissions)

Time : Three Hours

Maximum : 36 Weightage

**Part A**

*Answer all the questions.  
Each question carries 1 weightage.*

1. What is a random experiment ?
2. What is regression analysis ?
3. What is sampling error ?
4. What is a parametric test ?
5. What is normal distribution ?
6. Differentiate between positive and negative correlation.

(6 × 1 = 6 weightage)

**Part B**

*Answer any six questions.  
Each question carries 3 weightage.*

7. Explain the data entry in SPSS.
8. A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. Find the probability that the number of the ball drawn will be a multiple of 4 or 7. Comment on your answer.
9. The current accounts of a bank branch have an average balance of Rs. 7,500 and a standard deviation of Rs. 1,500. Assuming that the current account balance are normally distributed, find
  - (a) What is the probability of the account is more than Rs. 10,000 ?
  - (b) What is the probability of the account is less than Rs. 7,500 ?
10. Describe the business applications of correlation and regression.
11. Explain the importance of Normal distribution.
12. Elucidate the procedure of testing hypothesis.
13. A sample of 200 bulbs made by a company gives a life time mean of 1540 hours with a standard deviation of 42 hours. Is it likely that the sample has been drawn from a large population with a mean life time of 1500 hours ? You may use 5 percent level of significance to test your hypotheses.

Turn over

14. A controlled experiment was conducted to test the effectiveness of a new drug. Under this experiment 300 patients were treated with new drug and 200 were not treated with the drug. The results of the experiment are given below.

Treatment	Cured	Condition Worsened	No effect	Total
Treated with the Drug	200	40	60	300
Not Treated with the Drug	12	30	50	200
Total	320	70	110	500

Comment on the effectiveness of the drug at 5 percent level of significance.

(6 × 3 = 18 weightage)

### Part C

Answer any two questions.  
Each question carries 6 weightage.

15. Elucidate the non probability sampling designs with examples.  
16. Given the following set of data :

(a) Y	11	16	20	29	7	13	28
(b) X1	4	8	12	19	2	6	17
(c) X2	13	18	19	25	22	17	14

- (a) Calculate the multiple regression plan.  
(b) Predict Y when  $X_1 = 10$  and  $X_2 = 13$
17. A lumber company is concerned about how rising interest rates are affecting the new housing starts in the area. To explore this question, the company has gathered data on new housing starts during the past three quarters for five surrounding counties. This information is presented in the following table. At five percent level of significance, are there any differences in the number of new housing starts during the three quarters ?

Quarter 1	41	53	54	55	43
Quarter 2	45	51	48	43	39
Quarter 3	34	44	46	45	51

(2 × 6 = 12 weightage)