

**I Semester B.B.M. Examination, June/July 2010**  
**BUSINESS STATISTICS**

Time : 3 Hours

Max. Marks: 80

SECTION – A

Answer **any five** sub questions. **Each** question carries **two** marks. **(2×5=10)**

1. a) What is hypothesis testing ?
- b) What is forecasting ?
- c) What is probability ?
- d) What is a measure of central tendency ?
- e) What is secondary data ?
- f) What are random numbers ?

SECTION – B

Answer **any four** questions. **Each** question carries **five** marks : **(4×5=20)**

2. Find the mode and median for the following data :  
    27, 18, 17, 11, 24, 32
3. Explain the main steps involved in performing a regression analysis.
4. Discuss the illustrate the central limit theorem.
5. Range restriction reduces correlation – elaborate.
6. The mean and standard deviation of a random sample of 100 is 120 and 190.  
    Construct a 98% CI for the true mean content.

**P.T.O.**

Answer **any five** questions. **Each** question carries **ten** marks.

**(10×5=50)**

7. Define primary data. What are the various sources of primary data ?
8. What is central tendency ? Discuss the various parameters that are used to measure central tendency with example.
9. Following is the information about advertisement and sales :

	<b>Adv. exps.</b> <b>(Rs. in Crores)</b>	<b>Sales</b> <b>(Rs. in Crores)</b>
Mean	60	360
S.D.	15	75

Correlation coefficient is 8.25.

- 1) Calculate the regression equations.
  - 2) Find the :
    - a) Likely sales for advertisement expenditure of Rs. 55 crores.
    - b) Likely advertisement expenditure for sales of Rs. 490 crores.
10. The following data relates to the purchase of two cars from manufacturers P and Q :
- | <b>Manufacturers</b> | <b>No. of Cars</b> | <b>Mean life</b><br><b>(in lakh Rs.)</b> | <b>S.D.</b> |
|----------------------|--------------------|--|-------------|
| P                    | 250                | 550                                      | 90          |
| Q                    | 250                | 540                                      | 85          |

Is there a significant difference in the mean life of the two cars ?

11. A manufacturer of wool has determined by experience that the breaking strength of wool manufactured by him is normally distributed with a mean of 24 and a SD of 18. What is the probability that
    - a) a sample of 52 yields a mean of 25 and more ?
    - b) a sample of 64 yields a mean of 28 and more ?
  12. What is statistics ? Discuss its relevance in business and government currently.
  13. Discuss and explain Bayes' formula with suitable examples.
  14. What is sampling ? Explain the various types of sampling methods with suitable examples.
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