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12MBA13

**First Semester MBA Degree Examination, June/July 2019**  
**Quantitative Methods – I**

Time: 3 hrs.

Max. Marks:100

**Note: 1. Answer any THREE full questions from Q.No.1 to 6.**  
**2. Q.No. 7 & 8 are compulsory.**

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 1 a. What is meant by research problem? (03 Marks)  
 b. Briefly explain the research process. (07 Marks)  
 c. Explain the different types of measurement scales. (10 Marks)

- 2 a. What do you mean by sampling? (03 Marks)  
 b. Discuss the stages involved in sampling process. (07 Marks)  
 c. Explain the methods of collecting data. (10 Marks)

- 3 a. What is correlation? (03 Marks)  
 b. Find inter quartile range, Q.D. and coefficient of Q.D. from the following:

C.I.	0-15	15-30	30-45	45-60	60-75	75-90	90-105
f	8	26	30	45	20	17	4

(07 Marks)

- c. Calculate mean, median and mode from the data:

Earnings	66-67	67-68	68-69	69-70	70-71	71-72
Number of persons	15	24	40	20	14	11

(10 Marks)

- 4 a. State any 3 uses of standard deviation. (03 Marks)  
 b. Explain the types of correlation. (07 Marks)  
 c. Calculate Spearman's rank correlation coefficient for the following marks given out of 200 by 2-Judges X and Y in a music competition to 8 participants:

Marks by X	74	98	110	70	65	85	88	59
Marks by Y	121	133	170	102	90	152	160	85

(10 Marks)

- 5 a. What is meant by hypothesis for research study? (03 Marks)  
 b. There are 40 boys and 30 girls in a class. 4 students are selected at random. Find the probability that, the selected students are  
 i) All Boys  
 ii) At the most 2 boys. (07 Marks)  
 c. The following table gives the automobile accidents data occurred in a city. Fit a Poisson distribution:

Number of accidents	0	1	2	3	4
Number of Units	21	18	7	3	1

(10 Marks)

- 6 a. What is mean by observational study? (03 Marks)  
 b. Explain the steps involved in hypothesis testing. (07 Marks)  
 c. The height of child increases at a rate given in the table below:

Month	1	2	3	4	5	6	7	8	9	10
Height	52.5	58.7	65	70.2	75.4	81.1	87.2	95.5	102.2	108.4

Fit the straight line using the method of least squares.

(10 Marks)

- 7 a. Explain the types of research approaches which a researcher uses for study. (05 Marks)  
 b. Design a questionnaire to study the customer preference towards beauty products. (05 Marks)  
 c. Briefly outline the contents of business reports. (05 Marks)  
 d. Explain the uses of statistics in solving business problems. (05 Marks)
- 8 a. Explain the various types of sampling. (10 Marks)  
 b. Explain the steps involved in a research design. (10 Marks)

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