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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (Ind. Engg.) &amp; Mgt. (Spl. in TQM) (Sem.-2)

**FUNDAMENTALS OF STATISTICS**

Subject Code : IEM-203

Paper ID : [61008]

Time : 3 Hrs.

Max. Marks : 40

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt All EIGHT questions from SECTION-A carrying TWO marks each.
2. Attempt any SIX questions out of EIGHT from SECTION-B carrying FOUR marks each.

**SECTION-A**

1) Answer briefly :

- a) Discuss the difference between Arithmetic Mean and Geometric Mean.
- b) What is meant by Descriptive Statistics?
- c) Discuss the difference between Sample and Population
- d) What are the applications of correlation analysis?
- e) Discuss the method of Least Squares
- f) What are the limitations of median and mode?
- g) Discuss the concept of conditional probability.
- h) What are the applications of Normal Distribution?

**SECTION-B**

- 2) What is meant by level of significance?
- 3) Discuss the difference between one tailed and two tailed tests.

- 4) Write notes on :
  - a) How to judge sample size and what is standard error?
  - b) Benefits of Random Sampling.
- 5) Write detailed notes on :
  - a) How to setup a Hypothesis?
  - b) Steps involved in Hypothesis testing
- 6) Discuss in detail the features and applications of Poisson and Normal distribution.
- 7) From the data given below find :
  - a) The two regression equations.
  - b) The coefficient of correlation between marks in Economics and Statistics.
  - c) The most likely marks in Statistics when the marks in Economics are 30.

<b>Marks in Economics</b>	25	28	35	32	31	36	29	38	34	32
<b>Marks in Statistics</b>	43	46	49	41	36	32	31	30	33	39

- 8) Calculate Karl Pearson's Coefficient of correlation from the following data :

X					
Y	200-300	300-400	400 - 500	500 - 600	600-700
10 -15	-	-	-	3	7
15-20	-	4	9	4	3
20-25	7	6	12	5	-
25-30	3	10	19	8	-

- 9) Define the statistics. Explain in detail the sub divisions of statistics and its applications.