

K-22/2110

7532/N

Theory Paper II : Statistics  
Semester -III

Note: Students need to attempt any four questions in all. All questions will carry equal marks.

Time: 02:00 hours

Marks: 74

**Section - A**

- I. (a) Define Statistics. Mention importance and scope of statistics.  
(b) Discuss sampling and non sampling errors.
- II. (a) Define standard error and sampling distribution.  
(b) Distinguish between complete enumeration and sampling study.
- III. Discuss the different measures of central tendency.
- IV. State and prove multiplication theorem of probability.

**Section - B**

- V. Define correlation coefficient and its properties.
- VI. Discuss t-test for small samples for single mean.
- VII. Describe the uses of Chi-square test.
- VIII. Give the applications of F-test.

**Section - C**

- IX.(a) A cyclist covers his first 5 km. at an average speed of 10 km/hr., another 3 km. at 8 km./hr. and the last two km. at 5 km./hr.. Find average speed of the entire journey and verify your answer.  
(b) From the following regression equations:  
 $3X-2Y-10=0$  and  $24X-25Y+145=0$ ,  
Find means of X and Y and correlation coefficient.