M-34/2110 M. Sc. Fashion Design and Technology 10479/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 Discuss the fields where statistics is inevitable.

II. (a) Expound the sampling and non-sampling errors.
(b) What is meant by sampling frame and give its two examples.

III. (a) what is the difference between absolute and relative dispersion.
(b) Give two values x_1 and x_2, prove that

$$A.M. \geq G.M. \geq H.M.$$

IV (a) Discuss mutually exclusive or disjoint events.
(b) Give classical definition of probability and its properties.

Section – B

V. Difference between regression coefficient and correlation coefficient.

VI. Discuss the F-test for equality of variance.

VII. Describe the Chi-square test and conditions for applying Chi-square test.

VIII. Give the main assumptions to use t-test.

Section – C

IX. (a) An aeroplane covers the four sides of a square at speeds of 1000,2000,3000 and 4000 km. per hour respectively. What is the average speed of the plan in its flight around the square.
(b) By using the following data, find out the two lines of regression and from them compute the Karl Pearson's coefficient of correlation:
$\Sigma X=250$; $\Sigma Y=300$; $\Sigma XY=7,900$; $\Sigma X^2=6,500$; $\Sigma Y^2=10,000$ and $N=10$.