

**CERTIFICATE COURSE
IN
STATISTICAL METHODS ORDINANCES**

1. The instruction in this course will run a period of one academic year.
2. The examination of Certificate Course in Statistical methods will be held in a time on such date as the Academic Council may prescribe.
3. For the examination to be held after the first year there will be one theory paper of three hours duration carrying 100 marks. There shall be one Practical of 100 marks.
4. The course is open to the students of the University, affiliated colleges and members of the staff of the University.
5. The minimum qualification for admission to undergraduate Certificate Course in Statistical Methods will be Higher Secondary (+2) or Courses which are equivalent.
6. With special permission of the college/ faculty admission committee, students who are deputed by the Government, public bodies, industrial concerns, or who are recommended by the Professors and Head of the Departments in the university to prosecute the above course are also eligible for admission. Foreign students may also join such course with the special permission of the Admission Committee of the College/ Faculty concerned.

No. of Seats available for the Course- 50

Maximum Fee Structure under the Category no 4:

Details are as follows:

1. Degree Charges	100.00
2. Academic Assessment	200.00
3. Tuition Fee	200.00
4. Laboratory Fee	100.00
5. Admission Fee	50.00
	650.00

Fee Structure under the Category no 6:

1.	Degree Charges	100.00
2.	Academic Assessment	200.00
3.	Tuition Fee	200.00
4.	Laboratory Fee	100.00
5.	Admission Fee	50.00
6.	Students Welfare Fund	100.00
7.	College Caution Money	300.00
8.	Library fee	50.00
9.	Faulty Development and extra activities	200.00
		1300.00

**SYLLABUS FOR ONE YEAR CERTIFICATE COURSE
IN
STATISTICAL METHODS**

Section A (Compulsory)

- (a) **General nature and scope of statistical methods:** Collection and classification of data; different types of diagrams to represent statistical data; frequency distribution and related graphs and charts.

Central tendency: Its measure and their uses.

Dispersion: Its measure and their uses,

Moments; skewness and kurtosis.

Scatter diagram; Correlation coefficient with its properties and limitations; linear regression and its uses.

- (b) **Elementary idea of probability:** addition and multiplication theorems; statistical independence and conditional probability; repeated trials; mathematical expectation; binomial and normal distributions with their properties and their interrelations (without proof)

Elements of statistical inference: Properties of a good estimate; method of maximum likelihood; tests of significance; application of chi-square, t, F and Z tests.

- (c) **Elementary ideas about statistical populations:** Random sampling; simple random sampling and stratified random sampling; estimates of population mean and population total and standard errors of these estimates in both the sampling schemes.

Section B (optional)

(Any two of the following topics will be offered by a candidate)

- (d) **Design and analysis of experiments:** The analysis of variance techniques; replication; randomization and local control; analysis of completely randomized, randomized block and Latin square designs.

- (e) **Elements of statistical quality control:** \bar{x} charts; R, p, np and c charts and their uses (mainly applications); elementary idea of sampling inspection plans.
- (f) **Elementary theory of index numbers:** Methods of construction of index numbers of prices and quantities; construction of cost of living index numbers.
- Time series:** Components of a time series; the moving average method of determining trend.
- (g) **Statistical methods in Psychology and Education:** Nature of measurements in Psychology and Education; applications of the normal curve to special problems in these fields; t and Z scores; Percentile ranks-rank correlation and its uses; reliability and validity of test scores and their measures.

Books for reference:

1. Goon, A.M., Gupta, M.K. and Dasgupta, B.: Fundamentals of Statistics, Vol. I and II
2. Gupta and Kapoor : Fundamentals of Statistics, Sultan Chand and Sons.
3. Croxton, F.E. and Cowden, D.F.: Applied General Statistics.
4. Ansari and Chaudhari: Applied Statistics
5. Yule, G.U. and Kendall, M.G.: An Introduction to the Theory of Statistics.
6. Garrett, H.E.: Statistics in Psychology and Education.
7. Grant, E.L.: Statistical Quality Control.
8. Sukhatme, P.V. and Sukhatme, B.V.: Sampling Theory of Surveys with Applications.