

▪ SEMESTER:- II

▪ COURSE NO.:- AL-122

▪ COURSE TITLE:- MATHEMATICS

▪ CREDIT:- 2(1+1)

➤ THEORY

NO. OF UNITS	TOPICS	NO. OF LECTURES
1	<i>Introduction: Definition, introduction and scope of statistics in various fields.</i>	1
2	<i>Data condensation and graphical methods :  Raw data, attributes, variables, discrete and continuous variables, construction of frequency distribution and cumulative frequency, graphical representation of frequency distribution: Histogram, frequency polygon, frequency curves and ogive curves.</i>	2
3	<i>Measures of central tendency: Concept of central tendency, Arithmetic mean, median, mode, geometric mean, harmonic mean (Definition, formulae, merits and demerits).</i>	2
4	<i>Measures of dispersion: Concept of dispersion and measures of dispersion, range, mean deviation, standard deviation, coefficient of variation, variance (definition, and formulae).</i>	2
5	<i>Correlation: Concept of correlation, positive and negative correlation, methods of studying correlation, scatter diagram method, karl pearson's coefficient of correlation (covariance method), Rank correlation method.</i>	2
6	<i>Linear regression analysis: Introduction, lines of regression, derivation of line of regression of Y on X, line of regression of X on Y, coefficient of regression.</i>	2
7	<i>Theory of probability: Classical definition, Axiomatic approach to probability, theorems of probability.</i>	2
8	<i>Discrete probability distribution: Definition of discrete random variable, binomial distribution: Definition, mean and variance of binomial distribution, application of binomial distribution.  Poisson distribution: Definition, mean and variance of Poisson distribution, application of Poisson distribution.</i>	3
	<b>TOTAL</b>	<b>16</b>

➤ PRACTICALS

NO. OF UNITS	TOPICS	NO. OF EXPT.
1	<i>Frequency distribution of data</i>	1
2	<i>Graphical representation of data</i>	1
3	<i>Measures of central tendency</i>	1
4	<i>Measures of dispersion</i>	2
5	<i>Coefficient of variation</i>	2
6	<i>Coefficient of correlation</i>	2
7	<i>Rank correlation</i>	1
8	<i>Linear regression</i>	2
9	<i>Fitting a binomial distribution</i>	2
10	<i>Fitting of poisson distribution</i>	2
	<b>TOTAL</b>	<b>16</b>

➤ *Reference Books:*

- *Fundamental of statistics* *S. C. Gupta*
- *Statistical methods* *S. P. Gupta*