NISHITHA DEGREE COLLEGE

(Affiliated to Telangana University)
Accredited to NAAC with ' A ' Grade
2(f) and 12(B) Under UGC Act .1956
ISO : 9001:2015 Certified

Department of Statistics

COURSE OUTCOME OF STATISTICS

Introduction :

Statistics teaches you statistical thinking concepts that are essential for learning from data and communicating insights. By the end of the course, you will be able to perform exploratory data analysis, understand key principles of sampling, and select appropriate tests of significance for multiple contexts. You will gain the foundational skills that prepare you to pursue more advanced topics in statistical thinking and machine learning.

I-YEAR SEMESTER-I (PAPER-I)

Course Title	Course Type	HPW	Credits
Descriptive Statistics and Probability (Theory + Practical)	DSC-A	4(Th)+2(Pr)	4+1

Upon successful completion of this course, students will be able to:

- Organize, manage and present data.
- Analyze statistical data graphically using frequency distributions and cummulative frequency distributions.
- Analyze statistical data using measures of central tendency, dispersion and location.

- Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.
- Translate real-world problems into probability models..
- Calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.
- Analyze Statistical data using MS-Excel.

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I -YEAR SEMESTER-II PAPER-II

Course Title	Course Type	HPW	Credits
ProbabilityDistributions (Theory + Practical)	**DSC-B**	**4(Th)+2(Pr)**	**4+1**

Upon successful completion of this course , students will be able to:

- Use discrete and continuous probability distributions, including requirements, mean and variance, and making decisions.
- Define binomial outcomes and compute probability of getting X successes in N trials.
- Identify the characteristics of different discrete and continuous distributions.
- Identify the type of statistical situation to which different distributions can be applied.
- Use Poisson, exponential distributions to solve statistical problems..
- Use the normal probability distribution including standard normal curve calculations of appropriate areas.
- Use different distributions to solve simple practical problems.
- Analyze Statistical data using MS-Excel.

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II-YEAR SEMESTER-III PAPER-III

Course Title	Course Type	HPW	Credits
Statistical Methods	DSC-C	4(Th)+2(Pr)	4+1

Upon successful completion of this course, students will be able to:

- Calculate and interpret the correlation between two variables.
- Calculate the simple linear regression equation for a set of data.
- Employee the principles of linear regression and correlation, including least square method, predicting a particular value of Y for a given value of X and significance of the correlation coefficient.
- Know the association between the attributes.

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II - YEAR PAPER – IV (SEMESTER)

Course Title	Course Type	HPW	Credits
Statistical Inference	DSC-D	4(Th)+2(Pr)	4+1

On successful completion of the course, students will be able to:

- Know the construction of point and interval estimators.
- Evaluate the properties of estimators.
- Demonstrate understanding of the theory of maximum likelihood estimation.
- Analyze Statistical data using MS-Excel.
- Know the practical issues arising in sampling studies.

III YEAR PAPER – V (SEMESTER)

Course Title	Course Type	HPW	Credits
Applied Statistics - I	DSE (A)	3(Th)+3(Pr)	4 +1

- Appropriately interpret results of analysis of variance tests.
- Design experiments, carry them out, and analyze the data they yield.
- Demonstrate understanding of the concepts of time series and its applications in different areas.
- Explain how supply and demand relationships between the price of a product and the quantity of the same product.
- Determine the equilibrium price and quantity from a table of prices and the related quantity supplied and quantity demanded.
- Acquire knowledge on vital statistics, Index numbers and calculate an indices from given data.
- Analyze statistical data using MS-Excel.

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III- YEAR PAPER – VI [SEMESTER]

Course Title	Course	HPW	Credits
Applied Statistics - II	DSE (B)	3(Th)+3(Pr)	4+1

On successful completion of the course, students will be able to:

- Understand the concepts of quality control, chance and assignable causes of variation, control charts for variables and attributes, producer's and consumer's risk - Acceptance sampling plans.
- Understand the setting of mean chart limits, range chart limits using mean and range charts.
- Know the various techniques of operations research.

- Translate a real – word problem, given in words, into a mathematical formulation.
- Analyze the results and propose recommendations to the decision making processes.
- Build and solve transformation models and assignment models.
- Analyze statistical data using MS-Excel.

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III- YEAR PAPER – VII [SEMESTER]

Course Title	Course	HPW	Credits
Operations Research	DSE (C)	3(Th)+3(Pr)	4+1

- To find out graphical solution using TORA software
- To find out solution of Simplex, Artificial by TORA
- To find out the solution by NWCM.LCM and VAM by TORA
- To find out the optimal solution for Assignment problem by TORA
- Implement practical cases in operations research by using TORA.

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Head
Department of Statistics
Nishitha Degree College, Nizamabad.

NISHITHA DEGREE COLLEGE
Dept. of Statistics
NIZAMABAD.

22.12.21
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