



SHRI GNANAMBICA DEGREE COLLEGE

(AUTONOMOUS)
(Affiliated to S.V. University)



DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

PROGRAM OUTCOMES (POs) Bachelor of Science in Data Science (B.Sc DS)

Introduction

The Bachelor of Science in Data Science (B.Sc DS) program is designed to provide students with strong foundations in data science, statistics, machine learning, data analytics, cloud computing, big data technologies, and artificial intelligence. The program aims to develop analytical thinking, computational skills, data-driven decision making abilities, communication skills, ethical values, and interdisciplinary understanding required for modern data-centric industries and higher education.

PROGRAM OUTCOMES (POs)

After successful completion of the B.Sc DS program, graduates will be able to:

PO1 – Data Science and Computational Knowledge

Apply knowledge of programming, statistics, machine learning, databases, cloud computing, and data science methodologies for solving computational and analytical problems.

PO2 – Problem Solving and Analytical Skills

Identify, analyze, and develop suitable solutions for real-world problems using data analysis, statistical reasoning, algorithms, and computational techniques.

PO3 – Data Analysis and Visualization Skills

Collect, process, analyze, and visualize structured and unstructured data using appropriate tools, technologies, and analytical methods.

PO4 – Machine Learning and AI Applications

Develop and implement machine learning models, predictive systems, and AI-based applications using modern frameworks and technologies.

PO5 – Modern Tools and Big Data Technologies

Use modern data science tools, cloud platforms, big data technologies, business intelligence tools, and emerging technologies effectively in professional practice.

PO6 – Professional Ethics and Social Responsibility

Demonstrate professional ethics, data ethics, teamwork, leadership qualities, and social responsibility in data handling, analysis, and intelligent decision-making systems.

PO7 – Communication and Interpersonal Skills

Communicate effectively through oral, written, visual, and digital modes and function efficiently as an individual and as a team member in multidisciplinary environments.

PO8 – Lifelong Learning and Adaptability

Develop self-learning ability, critical thinking, adaptability, and continuous learning skills to cope with rapidly evolving technologies and professional challenges.

PO9 – Interdisciplinary and Quantitative Knowledge

Integrate knowledge from multidisciplinary and minor courses such as mathematics, statistics, finance, environmental studies, and social sciences for holistic understanding and data-driven problem solving.

CO-PO Mapping Methodology

The Course Outcomes (COs) of individual courses are mapped with the relevant Program Outcomes (POs) using the following scale:

Mapping Level	Description
3	High Correlation
2	Moderate Correlation
1	Low Correlation
-	No Correlation

Assessment and Attainment

The attainment of Program Outcomes is measured through:

- Internal Assessment Tests
- Semester End Examinations
- Laboratory Performance
- Assignments and Seminars
- Data Analysis Activities
- Mini Projects and Major Projects
- Viva-Voce Examinations
- Participation in Technical Events and Workshops

The attainment levels are evaluated periodically for continuous improvement of curriculum delivery and academic quality enhancement.

Conclusion

The Program Outcomes of B.Sc DS aim to prepare graduates with strong analytical abilities, technical competence in data science and artificial intelligence, ethical values, communication skills, and interdisciplinary understanding required for careers in data analytics, machine learning, business intelligence, research, higher education, and entrepreneurship.

The Program Outcomes are approved in BOS and Ratified in Academic Council.

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