



COSMOPOLITAN'S
VALIA C.L. COLLEGE OF COMMERCE & VALIA L.C. COLLEGE OF ARTS
D. N. Nagar, Andheri (West), Mumbai 400 053

**PROGRAM OUTCOMES, PROGRAM
SPECIFIC OUTCOMES & COURSE
OUTCOMES**

**Bachelor of Science
(Data Science)**

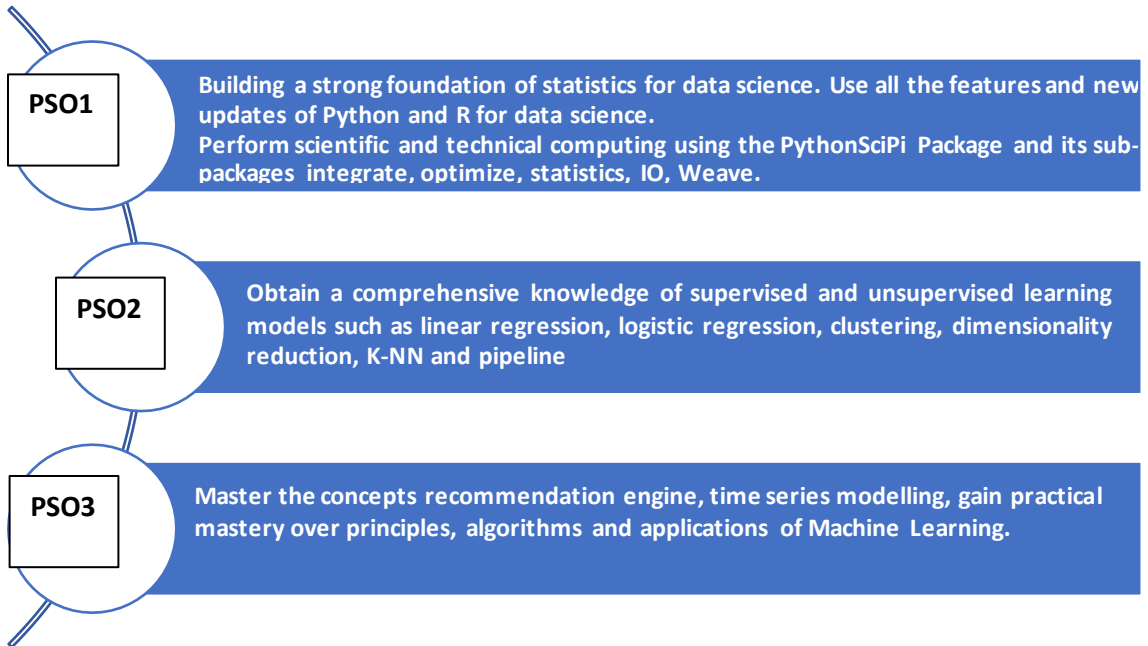
PROGRAM- Bachelor of Science (Data Science)

PROGRAM CODE: 1S02851

PROGRAM OUTCOMES

- PO1** Critical Thinking
- PO2** Effective Communication
- PO3** Social Interaction
- PO4** Effective Citizenship
- PO5** Ethics
- PO6** Environment and Sustainability
- PO7** Self-Directed and Lifelong Learning

PROGRAM SPECIFIC OUTCOMES



SEMESTER I

Course: Descriptive Statistics

COURSE OUTCOMES
CO1: To understand the use and importance of statistical data by tabulating and implementing sampling methods.
CO2: Able to identify association between the variables as well as computing consistent and inconsistent data.
CO3: Able to compute level of measures and apply as well as interpret data into graphs.
CO4: Apply measure of central tendency to minimize the sum of squared deviation.
CO5: Able to understand the basic assumption behind regression analysis and determine the model significance as well as able to apply various techniques for the modelling.

Course: Introduction to Programming

COURSE OUTCOMES
CO1: Proficiency in using and applying various datatypes including, string, arraylist, tuple and dictionary.
CO2: Ability to use regular expressions to perform complex operations in less code.
CO3: Learning to make use of date and time in Python for various applications.
CO4: Proficiency in using IPython architecture for Data Science Applications.
CO5: Knowledge about use of various data science tools.

SEMESTER I

Course: Web Technology

COURSE OUTCOMES

- CO1: To understand the meaning of the basic terminologies of web technology and explore, use the HTML5 concepts.
To understand the basic requirement of web design.
- CO2: To understand and use the Page layout, Navigation, Tables, Forms and Media features of HTML5.
- CO3: To understand and use Cascading Style sheet for beautifying the webpages.
- CO4: To understand and use the JavaScript for validation of user forms in web pages.
- CO5: To understand and use the technique of transmitting data between a server and web applications using JSON.

Course: Business Communication and Information Ethics

COURSE OUTCOMES

- CO1: To Communicate effectively in non-verbal way, draft and write effective business letters.
- CO2: To Effectively carry out communication activities of business by following email etiquettes, drafting memos.
- CO3: To Write elegant business reports and prepare user instruction manual.
- CO4: To Apply the information ethics in all walks of life.
- CO5: To Become a good communicator in life.

SEMESTER I

Course: Precalculus

COURSE OUTCOMES

CO1: To Apply the knowledge of numbers, graph and functions in real life.

CO2: To Apply trigonometry in modelling real life problems.

CO3: To Use analytic trigonometry and inverse circular functions to solve variety of problems.

CO4: To Apply complex numbers theory to different domains, use vectors and matrices to solve real life problems.

CO5: To Identify different types of conics from equations, understand sequences and series and basics of limits and derivatives.

SEMESTER II

Course: Probability and Distributions

COURSE OUTCOMES
CO1: To Organize, manage and present data.
CO2: To Analyse statistical data graphically using frequency distributions and cumulative frequency distributions.
CO3: To Use the basic probability rules, including additive and multiplicative laws, using the terms, in dependent and mutually exclusive events.
CO4: To Translate real-world problems into probability models.
CO5: To Derive the probability density function of transformation of random variables.
CO6: To Calculate probabilities and derive the marginal and conditional distributions of bivariate and one variables.

Course: Database Management

COURSE OUTCOMES
CO1: Students should be able to evaluate business information problem and find the requirements of a problem in terms of data.
CO2: Students should be able to draw database designing logical structure and can identify the entities which exist in a system.
CO3: Students should be able to construct normalized database and functional dependencies between attributes and relational algebra queries.
CO4: Students should be able to design the database schema with the use of appropriate datatypes for storage of data in database.
CO5: Students should be able to create, manipulate, query and backup the databases with features of SQL.

SEMESTER II

Course: R Programming

COURSE OUTCOMES
CO1: To use R Studio and explore the features for R programming.
CO2: To use R functions and graphics within R programming for solving problems.
CO3: To work with advanced graphics of R.import and use the data and represent the data into tables.
CO4: To apply formatting on table, use Pipelines in application and use strings, factors in R programme.
CO5: To manipulating Data Frames and make use of Dates in R application.

COURSE: Environmental Science

COURSE OUTCOMES
CO1: Ability to recognize explain important of environment and its resources.
CO2: Knowledge about insights of ecology and biodiversity.
CO3: Recognize the cause and effects of environmental pollution and other social issues.
CO4: Knowledge about population and its impact on environment.
CO5: Insight in to environment management and sustainable development.

SEMESTER II

Course: Calculus

COURSE OUTCOMES

CO1: Quickly and easily find the derivative of a function.

CO2: Perform integration of functions with ease.

CO3: Apply the knowledge of derivatives and integration to different domains and obtain the results.

CO4: Apply the knowledge of multiple integrals and polar coordinates to solve real life problems with ease.

CO5: Use partial derivatives and differential equations to solve variety of problems.