

COURSE TITLE	ADVANCE DATA ANALYTICS
COURSE CODE	01CT0817
COURSE CREDITS	3

Objective:

- 1 This course has been kept flexible so that Instructor can choose special topics which have evolved or added in this area. It has been specially designed in this way, to cover up all the latest tools, research and industry relevant content and the gaps due to the fast changes happening in the technology.

Course Outcomes: After completion of this course, student will be able to:

- 1 To familiarize and learn about the latest trends and research in the field.
- 2 To equip themselves with the conceptual and practical experience of few latest methods, tools, technologies or algorithms in Data Analytics.
- 3 Access databases as a data scientist using Jupyter notebooks with SQL and Python
- 4 Work with advanced concepts like Stored Procedures, Views, ACID Transactions, Inner & Outer JOINS

Pre-requisite of course: Programming, Algorithms, Data Structures, Data Analytics Tools

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	0	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	<p>Module Major focus of the course will be on Capturing, managing and using data for decision making., Using tools for mining different types of data such as structured data, text data, and web data, Building the technology stack for Data Analytics in terms of 4 V's of big data, i.e. Volume, Velocity, Variety, and Veracity, Research Data Analytics in different industries, Data security issues, Ethics and privacy issues. The course also focuses on the intermediate SQL, Relational Database and integrating SQL with Python. Implement the concepts of Data Analytics to infer from the real time data dealing with different fields like Bioinformatics, Transportation, Logistics, Security, Education, Healthcare, Environment, Military, etc.</p>	42
Total Hours		42

Textbook :

- 1 Data Analytics Made Accessible , Anil Maheshwari, McGraw Hill , 2020
- 2 A Comprehensive Guide To Learn About The Realms of Data Analytics , Benjamin Smith, Amazon Digital Services LLC, 2020

References:

- 1 Learning R: A step-by-step function guide to data analysis, Learning R: A step-by-step function guide to data analysis, Richard Cotton, O'Reilly, 2013

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
10.00	20.00	30.00	40.00		

Instructional Method:

- 1 Students may use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory, etc.

Supplementary Resources:

- 1 MOOC Course, NPTEL, COURSERA, Udemy, Infosys, Springboot, SWYAM etc. Online learning platform