PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada-520010

Offered to: M.Sc. (Computational Data Science)

Course Name	Business Analytics		L	T	P	C	CIA	SEE	TM
Course Code	22DS4E2		4	0	0	4	30	70	100
Year of Introduction: 2021	Year of Offering: 2023	Year of Revision: 2023			Percentage of Revision: NA				
L-Lecture, **T**-Tutorial, **P**-Practical, **C**-Credits, **CIA**-Internal Marks, **SEE**-External Marks, **TM**-Total Marks									

Course Descriptive and Purpose: This course provides students with the skills and knowledge necessary to analyze and interpret data, extract meaningful insights, and make data-driven decisions. The curriculum covers a range of topics, including data visualization, predictive modelling, machine learning, and the application of analytics in various business domains.

Course Objectives: This course is designed to Develop Analytical Skills, Understand Data Management, Learn Data Visualization Techniques, Explore Statistical Analysis, Strategic Planning with Analytics and Hands-on Application.

Course Outcomes:
Upon successful completion of the course, the student will be able to:
CO1: What is Big data, Characteristics of Big data, and Why Business Analytics.
CO2: Infer about Techniques for Predictive Modeling, Business Analytics Importance, Visual Analytics, Web Analytics.
CO3: Analyze Heuristic Search Methods, Model Based Decision Making.
CO4: Explain Terms used in RDBMS and MongoDB, MongoDB Query Language.
CO5: Discuss about Location Based Analytics for Organizations, Cloud Computing and Bl and Mapper-Reducer-Combiner.

CO-PO MATRIX								
COURSE CODE	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
22DS4E2	CO1	M				M		
	CO2		M					
	CO3	M		M			M	
	CO4		M					M
	CO5			M				M

UNIT I (12 Hours)
Big Data Analytics:
Types of Digital Data (Structured, Unstructured and Semi-structured Data) - Big data from Business Perspective (Introduction of Big data, Characteristics of Big data, Data in the Warehouse, Importance of Big data) - Big data Use Cases (Patterns for Big Data Deployment, Big data Market Survey).

UNIT II (12 Hours)
Introduction to MongoDB and MapReduce Programming
MongoDB: Why MongoDB - Terms used in RDBMS and MongoDB - Data Types - MongoDB Query Language
MapReduce: Mapper - Reducer - Combiner - Partitioner - Searching - Sorting - Compression.

UNIT III (12 Hours)
Business Analytics- Descriptive and Predictive Analytics

Introduction Business Analytics: What and Why Business Analytics - Business Analytics Importance. **Descriptive Analytics:** Data Warehousing - Business Reporting - Visual Analytics - Business Performance Management.

Predictive Analytics: Techniques for Predictive Modeling - Web Analytics - Web Mining - Social Analytics - Case Study.

UNIT IV (12 Hours)

Business Analytics- Prescriptive Analytics

Prescriptive Analytics: Case Study – Model Based Decision Making (Optimization and Multi-Criteria Systems).

Modeling and Analysis: Heuristic Search Methods and Simulation - Case Study.

UNIT V (12 Hours)

Business Analytics: Emerging Trends and Future Impacts

Opening Vignette - Location Based Analytics for Organizations - Analytics Applications for Consumers - Web 2.0 - Online Social Networking - Cloud Computing and Bl - Impacts of Analytics in Organizations - Analytics Ecosystem.

Prescribed Text Book			
S.No.	Author	Title	Publisher
1	MarcJ.Schniederjans,DaraG.Schniederjans,ChristopherM.Starkey	Business Analytics Principles, Concepts, and Applications	Pearson.2014.
2	R.Sharada,D Delen	Business Intelligence and Analytics	E. Turbon-Tenth Edition.
3	R.N.Prasad& Seema Acharya	Fundamentals of Business Analytics	Wiley Publications, 2nd Edition, 2016

Reference Text Book			
S.No.	Author	Title	Publisher
1	Frank J Ohlhorst	Big Data Analytics: Turning Big Data into Big Money	WileyandSASBusinessSeries,2012

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Re-accredited at 'A+'by the NAAC

M.Sc.(Computational Data Science)   **Semester :IV**
Course Code: 22DS4E2Course Name: Business Analytics

Time: 3 Hours   **Max. Marks: 70**
SECTION-A
Answer the following questions. (5×4=20Marks)

1.(a) What is Structured Data? (CO1, L1)
                              (or)
  (b) What is Datawarehouse (CO2, L2)
2. (a) What is the Purpose of RDBMS? (CO5, L1)
                              (or)
  (b) What is Data Type? (CO5, L1)
3. (a) What is Business Analytics? (CO2, L1)
                              (or)
  (b) What is a Visualization? (CO2, L1)
4. (a) What is a Model? (CO4, L1)
                              (or)
  (b) Explain the details of Prescriptive Analysis. (CO4, L2)
5. (a) Explain the concept Web 2.0. (CO6, L5)
                              (or)
  (b) Explain the impact of ADS system. (CO6, L5)

SECTION-B
Answer the following questions   (5×10=50Marks)

6. (a) Explain the characteristics of Big Data and Why Big Data is important? (CO1, L2)
                              (or)
  (b) Explain the Classification of Analytics. (CO2, L2)
7. (a) List various methods in MongoDB. (CO5, L4)
                              (or)
  (b) Analyze Parallel Breadth-First Search. (CO6, L4)
8. (a) Apply Business reporting and Visual Analytics for any organization. (CO2, L3)
                              (or)
  (b) Identify and explain difference between Web and Social Analytics. (CO2, L3)
9. (a) Explain Structure of Mathematical Models for Decision Support. (CO4, L2)
                              (or)
  (b) Explain Genetic Algorithm. (CO4, L5)
10. (a) Expalin Cloud Computing and BI (CO6, L6)
                              (or)
   (b) Explain Analytics Ecosystem. (CO6, L6)