Course Code				**22ANDSL302**			
Title of the Course				**BIG DATA ANALYTICS**			
Offered to:				MBA– Business Analytics			
L	**5**	**T**	**0**	**P**	**0**	**C**	**4**
Year of Introduction:		**2024-25**		**Semester:**			**3**
Course Category:		**Domain Specific Elective**		**Course Relates to:**		**GLOBAL**	
Year of Revision:		**NA**		**Percentage:**		**NA**	
Type of the Course:				**Sill Development**			
Crosscutting Issues of the Course :				**NA**			
Pre-requisites, if any				**Basic Knowledge on Data base and data structures**			

Course Objectives

The objective of this course is to enable student with understanding of the concepts of BIG DATA and to describe the big data analytics with critical evaluations and also committed to data-driven decision making to automate and optimize business processes.

Course Outcomes: At the end of this course, students should be able to:

CO1: Analyse an overview of Identify Big Data and its Business Implications with its contents and scope.

CO2: Recognize the characteristics of Hadoop Map Reduce and to optimize business decisions and to create competitive advantage with BIG Data Analytics.

CO3: Understand the concept of Apache PIG in Hadoop Echo System.

CO4: Understand the concept of Apache HIVE and H Base .

CO5: Understand the concept of security and ethics in handling the data

CO-PO-PSO MATRIX										
		PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
	CO1		3	2	3	3	3	3	3	2
	CO2		2		3	3	3	3	3	2
	CO3		2		3	3	3	3	3	2
	CO4			2	3	3	3	3	3	2
	CO5			2	3	3	3	3	3	2

Course Content

Unit 1: Introduction to Big Data Big Data concept, Features & challenges - The Role of Big Data in Business Decision-Making- Challenges and Opportunities of Implementing Big Data Analytics in Business, Business Use Cases: Marketing, Finance, Operations, and HR. **(15 Hours)**

Unit II. Hadoop Technologies: Hadoop : Hadoop and its features - Hadoop Ecosystem and Hadoop Components - Hadoop Architecture and Cluster, YARN : YARN components and YARN architecture - YARN workflow YARN Mapreduce : Map reduce application execution flow. **(15 Hours)**

Unit III Apache PIG and APACHE HIVE : PIG Components & Execution - PIG data types - Data models in PIG **HIVE**: Introduction, Architecture and components - Data types and data models - HIVE partitioning and bucketing - HIVE tables **(15 Hours)**

Unit IV : Hbase: Introduction to HBase - HIVE data loading techniques - Run modes configuration and data models - Introduction to Apache Spark its architecture **(15 Hours)**

Unit V : Big Data Security and Ethics- Strategic Decision-Making with Big Data :Data-Driven Decision-Making Frameworks- Leveraging Big Data for Competitive Advantage-Scenario Planning and Simulation with Big Data-Data Privacy and Security Challenges in Big Data-Ethical Considerations in Big Data Analytics-Regulatory Compliance: GDPR (General Data Protection Regulation) , CCPA(Central Consumer Protection Authority)-Best Practices for Secure Big Data Analytic. **(15 Hours)**

Reference Books:

1. Chaurasia, B. K., & Verma, S. (2019). Big Data Analytics: Concepts and Applications in Indian Context. CRC Press.
2. Bhatnagar, S., & Dubey, R. (2020). Big Data Analytics: For Indian Professionals. McGraw-Hill Education.
3. Jain, R., & Sharma, S. (2018). Big Data and Business Analytics in India. Springer.
4. Gupta, S., & Bhatnagar, N. (2017). Big Data Applications for Government and Institutions in India. IGI Global.
5. Prasad, R. N., & Acharya, S. (2018). Big Data Analytics: A Practitioner's Approach in India. Wiley India.
6. A practitioner-focused guide covering various big data technologies and applications, tailored to the Indian business landscape.

PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

MODEL QUESTION PAPER

M.B.A. (Business Analytics) EXAMINATION
22ANDSL302: BIG DATA Analytics

Duration: 3 hours **Maximum Marks: 70**

Section-A

Answer the following questions **(5X 4=20Marks)**

1. a) Explain 4 Vs of Bigdata (K2) (CO1)

OR

b) Explain the Features of Hadoop. (K2) (CO1)

2. a) What is Yarn and components of YARN (K1) (CO2)

OR

b) Write about introduction and importance of the PIG (K1) (CO3)

3. a) What is HIVE, how does it work in the real time world (K1) (CO4)

OR

b) What is HBase and explain the need of HBase in real world. (K1) (CO4)

4. a) Difference between SQL and No Sql how does NoSql Started (K2) (CO)

OR

b) Explain briefly how data is generated through business. (K2)

5. a) Explain how leveraging Big Data provides competitive advantages to businesses, with examples(K3)

OR

b) Analyse the challenges associated with data privacy and security in Big Data. (K3)

Section-B

Answer the following questions (5 x 8M = 40Marks)

6.
   a. Write the definition of BIGDATA and computational view of Bigdata? (K2) (CO1)

   OR

   b. Briefly explain key advantages of Hadoop and Key advantages of Hadoop? (K2) (CO1)

7.
   a. Briefly discuss about YARN Application and Work-flow (K2) (CO2)

   OR

   b. Explain Map-reduce program and frame work (K2) (CO2)

8.
   a. Explain briefly PIG Execution modes and Architecture (K3) (CO5)

OR

b. Pig Execution Procedure. (K3) (CO3)

9.

a. Write the procedure for HIVE Architecture and components (K2) (CO4)

OR

a. What is HBase and explain the need of HBase in real world. (K2) (CO4)

10.

a. Critically assess how companies can leverage Big Data for competitive advantage while navigating ethical and regulatory challenges. (K4) (CO5)

OR

b. Discuss the significance of scenario planning and simulation in strategic decision-making with Big Data, using industry examples. (K4) (CO5)

Section-C

Answer the following questions (1 x 10M = 10Marks) K3 (CO5)

Case Study

With 90 million transactions a week in 25,000 stores worldwide the coffee giant is in many ways on the cutting edge of using big data and artificial intelligence to help direct marketing, sales and business decisions

Through its popular loyalty card program and mobile application, Starbucks owns individual purchase data from millions of customers. Using this information and BI tools, the company predicts purchases and sends individual offers of what customers will likely prefer via their app and email. This system draws existing customers into its stores more frequently and increases sales volumes.

The same intel that helps Starbucks suggest new products to try also helps the company send personalized offers and discounts that go far beyond a special birthday discount. Additionally, a customized email goes out to any customer who hasn't visited a Starbucks recently with enticing offers—built from that individual's purchase history—to re-engage them

1. How does Starbucks use Big Data and AI to personalize customer experiences?
2. What role does the Starbucks loyalty program and mobile app play in collecting customer data?
3. How does predictive analytics help Starbucks tailor its marketing strategies?

***