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Seventh Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026

Big Data Analytics

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Describe the 3 V's of Big Data and discuss the challenges faced with Big data.	10	L2	CO1
	b.	Explain the classification of digital data.	10	L2	CO1
OR					
Q.2	a.	Discuss Big Data Analytics and explain the following terminologies : i) Symmetric Multiprocessor System ii) CAP Theorem.	10	L2	CO1
	b.	Explain the features and advantages and NOSQL. Discuss the types of NOSQL data bases.	10	L2	CO1
Module – 2					
Q.3	a.	Discuss the need for Hadoop and its high level architecture.	10	L2	CO2
	b.	Illustrate MapReduce process with a word count example.	10	L3	CO2
OR					
Q.4	a.	Discuss the limitation of HDFS and its solution. Explain the YARN architecture.	10	L3	CO2
	b.	Implement a MapReduce program in Java/Python/R to implement matrix multiplication.	10	L4	CO2
Module – 3					
Q.5	a.	Discuss replication and Sharding in MongoDB.	10	L2	CO3
	b.	Illustrate the CRUD operations using MongoDB query language with examples.	10	L3	CO3
OR					
Q.6	a.	Demonstrate the following operations in MongoDB query language with examples : i) Count ii) Limit iii) Sort iv) Skip.	10	L2	CO3
	b.	Explain the application of the following in MongoDB i) Cursors ii) Indexes iii) MongoExport iv) Aggregate function.	10	L2	CO3
Module – 4					
Q.7	a.	Discuss the features of Hive. Explain the Hive architecture.	10	L2	CO3
	b.	Explain the DDL and DML commands in Hive.	10	L2	CO3
OR					
Q.8	a.	Express the features and philosophy of Pig. Discuss ETL processing.	10	L2	CO3
	b.	Discuss the following in Pig. i. Relational operators – Foreach and Limit ii. Complex data types – Tuple and Map.	10	L2	CO3
Module – 5					
Q.9	a.	Discuss the features of spark. Explain the spark software stack.	10	L2	CO4
	b.	Explain the steps involved between acquisition of data from multiple sources and its application in spark.	10	L2	CO4
OR					
Q.10	a.	Discuss text mining and its applications. Explain the process of text minng.	10	L2	CO4
	b.	Implement a word count program in Hadoop and spark using Java/Python/R.	10	L4	CO4