



R22 Regulation

Subject code: 4E6HA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Regular Examinations, May 2025

BIGDATA ANALYTICS

(CSE(DS))

Maximum Marks: 60

Date:16.06.2025

Duration: 3 hours

- Note:
- 1.This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	Illustrate the importance of Big Data in today's world.	1M	1	L2
b)	Summarize the challenges in Big Data platform.	1M	1	L2
c)	Differentiate between load leveling and load balancing.	1M	2	L2
d)	Define leader election. Why is it important in distributed systems?	1M	2	L1
e)	What is SCALA and why is it used in Big Data?	1M	3	L1
f)	What are the key considerations in data acquisition for Big Data?	1M	3	L1
g)	Differentiate Map and Reduce Task.	1M	4	L2
h)	List out the Benefits of Using Apache Oozie in Big Data.	1M	4	L1
i)	Express about the Relational Databases.	1M	5	L2
j)	Explain the common characteristics of NoSQL.	1M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	What is Big Data? Describe the characteristics and features of a big data in detail.	10M	1	L3
OR				
3	a) Analyze Big Data architecture with a neat schematic diagram. b) Explain about industrial example for big data in detail.	5M 5M	1	L4 L3
4	a) Describe the BigData Frame work of Lambda Architecture in detail. b) What is Sharding? Explain different sharding strategies and their impact on performance.	5M 5M	2	L4 L3
OR				
5	a) Explain Load Leveling with Queues. Discuss its importance and provide a real-world example. b) Discuss the Pipes and Filters pattern with a suitable Big Data use case.	5M 5M	2	L2 L4

6	a) Explain the architecture and working of HDFS. How does it ensure fault tolerance?	5M	3	L4
	b) Describe the publish-subscribe messaging framework with suitable examples.	5M		L3
OR				
7	a) Write a short SCALA program that reads and processes a dataset using Spark.	5M	3	L3
	b) What is Apache Spark? Explain its architecture and core components.	5M		L5
8	a) Express the various core components of the Hadoop.	5M	4	L2
	b) Write functions of Job and Task Trackers in Map Reduce Framework.	5M		L3
OR				
9	Consider a collection of literature survey made by a researcher in the form of a text document with respect to cloud and big data analytics. Analyze Using Hadoop and Map Reduce, write a program to count the occurrence of pre dominant key words.	10M	4	L5
10	a) List the classification of NoSQL Databases and explain about Columns based Database	5M	5	L3
	b) Explain detail about graph databases with an example	5M		L2
OR				
11	Demonstrate about the web application Framework of Django in detail.	10M	5	L4