Raj Kumar Goel Institute of Technology, Ghaziabad

Model Question paper (Even Semester) 2023-24

B.TECH. [Branch/Sections:] SEM: VI

Subject Name: Big Data **Subject Code : KCS061** **Roll No.: _____**	**Max. Marks : 100** **Time : 3 Hrs.**

Instructions :

1. *Attempt the questions as per the instructions given*
2. *Assume missing data suitably, if any*

Section – A

Q1.	Attempt **all** the parts **2 x 10 = 20**	
(a).	What is the role of Sort & Shuffle in Map-Reduce?	CO2
(b).	List any five big data platforms.	CO1
(c).	Give the full form of HDFS.	CO1
(d).	Define heartbeat in HDFS.	CO2
(e).	Differentiate between flume and Sqoop.	CO3
(f).	List down the entity of YARN.	CO4
(g).	Compare and Contrast No SQL Relational Databases	CO4
(h)	Define "Data Locality Optimization".	CO5
(i)	What is the purpose of bloom filter?	CO5
(j)	Name two types of nodes in Hadoop	CO3

Section – B

Q2.	Attempt **any three** parts of the following **10 x 3 = 30**	
(a).	Illustrate on how cloud and big data related to each other.	CO1
(b).	Discuss Master Slave and Peer-Peer replication in detail	CO2
(c).	Illustrate the architecture of Map-Reduce.	CO3
(d).	Explain how CRUD operations with example are performed in MongoDB	CO4
(e).	Differentiate between Pig,Hive ,Mapreduce	CO5

Section – C

Attempt any one part from each question **10 x 5 = 50**

Q3. (a).	Elaborate various components of Big Data architecture.	CO1
(b).	Detail about the analysis vs. reporting while introducing the Big Data.	CO1
Q4. (a).	Differentiate "Scale up and Scale out" Explain with an example How Hadoop uses Scale out feature to improve the Performance.	CO5
(b).	Explain the Anatomy of Map Reduce job run.	CO5
Q5. (a).	Write a brief note on composing map-reduce calculation.	CO2
(b).	Demonstrate the design of HDFS and concept in detail.	CO2
Q6. (a).	Summarize the role of indexing in MongoDB using an example.	CO3
(b).	Write the benefits and Challenges of HDFS?	CO3
Q7. (a).	State features of Apache Spark and also explain three ways of how Spark can be built with Hadoop components.	CO4
(b).	Compare and Contrast (i) Apache Pig vs Map-Reduce (ii) Pig vs SQL (iii) Pig vs HIVE	CO4