

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov – Dec 2023				
(B. Tech) Program: Electronics and Telecommunication				
Examination: LY Semester: VII . Scheme - II				
Course Code: EXDLC7034		Course Name: Big Data Analytics		
Duration: 2.5 Hours		Max. Marks: 60		
Instructions:				
(1) All questions are compulsory.				
(2) Draw neat diagrams wherever applicable.				
(3) Assume suitable data, if necessary.				
		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	Define the term Big Data.	02	CO1	U
ii)	Describe any 2 business drivers for NoSQL systems.	02	CO3	U
iii)	Explain HDFS components.	02	CO2	U
iv)	List out the types of Recommender Systems and give one real life example.	02	CO6	U
v)	For each of the following write its NoSQL data architecture pattern a) MongoDB c) Neo4j b) Redis d) CoughDB	02	CO3	Ap
vi)	List the types of queries fired on stream data.	02	CO5	U
vii)	What do you mean by Data Stream?	02	CO5	U
viii)	Describe in brief role of combiner with suitable example in MapReduce Framework	02	CO4	U
Q.2	Solve any four questions out of six.	16		
i)	Discuss the main characteristics of Big Data.	04	CO1	U
ii)	Compare and Contrast Key value store and Document store NoSQL architectural patterns. Give one example of each.	04	CO3	An
iii)	How to compute Page Rank for any web graph.	04	CO5	U
iv)	Generalize how the data flow takes place in MapReduce framework. Demonstrate using WordCount Problem.	04	CO4	U
v)	Give Hadoop ecosystem and briefly explain its components	04	CO2	U

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vi)	Explain Girvan Newman Algorithm for social network graph.	04	CO6	U
Q.3	Solve any two questions out of three.	16		
i)	How does Hadoop work? Explain in detail with an example.	08	CO2	An
ii)	What do you mean by NoSQL databases? What is the alternative to ACID property in NoSQL databases?	08	CO3	U
iii)	Apply A-priori algorithm to generate association rule between two objects with example?	08	CO5	Ap
Q.4	Solve any two questions out of three.	16		
i)	Explain the design of recommender system used to recommend movies to users.	08	CO6	Ap
ii)	List Big Data Challenges and solution for each of the challenge.	08	CO1	U
iii)	Solve matrix multiplication using map reduce algorithm.	08	CO4	Ap
