

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: M.TECH
BRANCH: IT**

**SEMESTER : II
SESSION : SP/22**

SUBJECT: IT 513 BIG DATA ANALYTICS

TIME: 2HRS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Candidates have to attempt all 5 questions maximum of 50 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
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- Q.1(a) What is big data? Elaborate its role in Health care system [5]
- Q.1(b) Differentiate among Descriptive analytics, Predictive analytics and Prescriptive analytics. [5]
- Q.2(a) What are Dependent, Independent and Interdependence systems? Explain with the help of examples. [5]
- Q.2(b) What is Hadoop? Explain the different parts of Hadoop. [5]
- Q.3(a) Consider a Hard Disk in which block size = 1000 Bytes, each record is of size 250 Bytes. If total number of records are 10000 bytes and data entered in Hard Disk without order (Unordered) what is the average time complexity to search a record from Hard Disk? [5]
- Q.3(b) Explain the following terms [5]
Sharding
Replication
- Q.4(a) How Hadoop runs MapReduce job? Elaborate. [5]
- Q.4(b) What is NoSQL Database? What are its different types? When should NoSQL be used? [5]
- Q.5(a) What is YARN? Elaborate the anatomy of YARN application run. [5]
- Q.5(b) Differentiate between Pig and MapReduce. [5]

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