Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **15CS3007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BIG DATA PLATFORMS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the characteristics of big data with suitable examples. | CO1 | 10 |
| b. | Discuss the various sources and applications of big data. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Compare and contrast business intelligence and big data analytics. | CO1 | 8 |
| b. | State few examples of human generated and machine generated data. | CO1 | 5 |
| c. | You are at the library. You see a few students browsing through the library catalog on a kiosk. You see few students fill up the feedback form on the services offered by the library. Quite a few students are learning using e-learning content. Think for a while on the different types of data that are being generated in this scenario. Support your answer with logic. | CO1 | 7 |
| 3. | a. | Discuss the CAP theorem with suitable examples. | CO1 | 5 |
| b. | State the advantages of NoSQL database. | CO1 | 5 |
| c. | Describe the different types of NoSQL databases with suitable examples. | CO1 | 10 |
| (OR) | | | | |
| 4. | a . | List the various data types in MongoDB. | CO1 | 5 |
| b. | Do the following using MongoDB commands:   * Create a company database and Create a collection called “students” with the necessary fieldsInsert a document into the customer collection with new fields age and DOB. * Insert a document into the customer collection with new field “hobby” using save command and observe the difference between save and insert. * Display the details of customer whose age is >40. * Sort the documents based on the customer\_name. * Display the customer name and city without displaying \_id field. * Display the name of the customer starts with ‘J’ * Display the first 2 documents. | CO1 | 7 |
| c. | Distinguish between SQL and MongoDB. | CO1 | 8 |
| 5. | a. | Explain the various phases of map tasks and reduce tasks. | CO2 | 10 |
| b. | Describe the YARN architecture with a neat diagram. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Explain each components of the Hadoop Eco System. | CO2 | 15 |
| b. | Specify the limitations of Hadoop 1.0 architecture. | CO2 | 5 |
| **7.** | a. | Describe the Hbase architecture with a neat diagram. | CO1 | 15 |
| b. | Compare and contrast Hbase and RDBMS | CO1 | 5 |
| (OR) | | | | |
| 8. | a. | Discuss the main features of Cassandra. | CO1 | 10 |
| b. | Illustrate the CRUD(Create, Read, Update and Delete) operations in Cassandra with syntax and appropriate examples. | CO1 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Give a detailed note on map-side joins and reduce- side joins. | CO2 | 10 |
| b. | Describe the process of shuffle and sort in MapReduce with a neat diagram. | CO2 | 10 |

ALL THE BEST