



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B. E. - Information Science and Engineering

Semester End Examination; July - 2021

Big Data

Time: 3 hrs

Max. Marks: 100

Note: Answer any FIVE full questions.

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| 1 a. | Define Big data with example. Write a note on data explosion. | 10 |
| | b. Discuss the following with respect to Big data: | |
| | i) Data velocity | 10 |
| | ii) Data variety | |
| 2 a. | Explain shared-everything and shared-nothing architecture. | 10 |
| | b. Explain the Big data processing life cycle. | 10 |
| 3 a. | Write a note on Google File System (GFS). | 10 |
| | b. What is HDFS? Explain HDFS architecture. | 10 |
| 4 a. | Discuss conceptual SQL / Map-Reduce architecture. | 10 |
| | b. Explain how does Hive process queries? | 10 |
| 5 a. | Explain the attributes of the map phase and reduce phase. | 10 |
| | b. Write a note on; | |
| | i) Map-Reduce objects | 10 |
| | ii) Map-Reduce dataflow | |
| 6 a. | Define Map-Reduce and explain its phases. Write five common steps of parallel computing. | 10 |
| | b. Explain HDFS and Map-Reduce architecture along with its components. | 10 |
| 7 a. | Explain the steps to run a Map-Reduce job. | 10 |
| | b. Explain in detail YARN architecture. | 10 |
| 8 a. | Discuss unit test for Map-Reduce applications. | 10 |
| | b. Explain the following: | |
| | i) YARN scheduler's | 10 |
| | ii) YARN commands | |
| 9 a. | Explain Hive architecture . | 10 |
| | b. Describe the following with respect to Hive: | |
| | i) Data types | 10 |
| | ii) Built in functions | |
| 10 a. | Explain in detail error handling in Pig. | 10 |
| | b. Write a note on; | |
| | i) Programming with Pig Latin | 10 |
| | ii) Common Pig commands | |