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Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET UNIVERSITY)

Ph.D. (Second Semester-Summer) Examinations, April – 2026

23SPPECS2015 – Big Data Analytics
(CSE)



Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

Answer ANY FIVE Questions.

(14 x 5 = 70 Marks) Marks

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| 1.a. Discuss the different open source technologies for big data analytics? | 8 |
| b. Discuss about Cassandra data model? | 6 |
| 2. Explain Hadoop architecture with diagram and working. | 14 |
| 3.a. Discuss CAP theorem and its implications in distributed databases. | 7 |
| b. Discuss security and privacy issues in Big Data and possible solutions. | 7 |
| 4. Explain working of following phases of Map Reduce with one common example. (i) Map Phase (ii) Combiner Phase (iii) Shuffle and Sort Phase (iv)Reducer Phase | 14 |
| 5.a. Explain Partitioning and combining in details? | 7 |
| b. Explain Apache Pig architecture and its components with diagram? | 7 |
| 6.a. Describe data flow in HDFS during read and write operations. | 7 |
| b. Explain task execution lifecycle in MapReduce. | 7 |
| 7. Explain HBase architecture and storage mechanism with example. | 14 |
| 8.a. What are uses of Crowd sourcing analytics for data analytics? | 7 |
| b. Explain Apache Pig architecture and its components with diagram? | 7 |

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