

**BACHELOR OF ENGINEERING IN INFORMATION TECHNOLOGY**  
**3rd YEAR 2nd SEMESTER EXAMINATION, 2022**  
**Big Data (HONS.)**

Time: 3 Hrs.

Full Marks: 100

- Group 1: CO1** **(30)**
1. Write the difference between any two of the following: (2 x 3 = 6)
    - A. Public and Private Cloud
    - B. Hybrid and Community Cloud
    - C. IaaS and PaaS
  2. Write short notes on the following features of cloud computing (any two): (2 x 6 = 12)
    - A. Scalability and elasticity
    - B. Availability and Reliability
    - C. Accessibility and Portability.
  3. Any one of the following: (12)
    - A. Explain cloud computing with the help of 5 important characteristics.
    - B. With the help of a suitable diagram, explain the three service models of cloud computing.
    - C. What do you mean by public cloud? Explain the advantages and disadvantages of it.

- Group 2: CO2** **(30)**
4. Write the difference between any two of the following: (2 x 3 = 6)
    - A. Structured vs Unstructured Data
    - B. Semi-structure vs Quasi-structure Data
    - C. Nominal vs Ordinal Data
  5. Write short notes on the following features of cloud computing: (2 x 6 = 12)
    - A. Application of Big Data
    - B. Type of Data Analysis
  6. Any one of the following: (12)
    - A. Explain the 5 V's of Big Data.
    - B. What is Google File System and how does it works, explain using a diagram.
    - C. With the help of a suitable diagram, explain Data Analytics Pipeline.

- Group 3: CO3 (Any FOUR)** **(4 x 5 = 20)**
7. Write some advantages and disadvantages of Hadoop.
  8. Draw the master-slave architecture of Hadoop Distributed File System and Explain it.
  9. Explain in detail about YARN architecture.
  10. Write the working principle of map-reduce framework of Hadoop.
  11. Draw Hadoop Ecosystem and Explain it in your own words.

- Group 4: CO4** **(20)**
- (Question number 12 is mandatory and Choose any one of the following: Question 13 or Questions 14, 15)
12. Briefly explain about CRUD operations of MongoDB. (12)
  13. Write short note on NoSQL Databases. (8)
  14. Mention the differences between mongoDB and SQL. (4)
  15. Explain in detail about CAP theorem. (4)