

B.Sc. (Data Science) (NEP) Semester-II  
**BSCDS21 - Database Management System**

P. Pages : 1

Time : Three Hours



**GUG/W/24/15261**

Max. Marks : 80

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1. i) Explain the significance of Database Management System. 8
- ii) Write a note on Client-Server Architecture. 8
- OR**
- i) Explain External, Conceptual and Internal level of architecture. 8
- ii) Describe types of DBMS with example. 8
2. i) Explain ER-model with an example. 8
- ii) Explain the term Normalization and Functional Dependency with an example. 8
- OR**
- i) Describe creation of Database using SQL. 8
- ii) Differentiate 1NF and 2NF using example. 8
3. i) Discuss advantages and disadvantages of NoSQL technology. 8
- ii) Explain properties of key-value store. 8
- OR**
- i) Explain key-value database with example. 8
- ii) Describe the types of NoSQL Databases. 8
4. i) Explain the concepts and use-cases of columnar database. 8
- ii) Write a note on Document databases. 8
- OR**
- i) Explain characteristics of a columnar database. 8
- ii) Describe procedure of implementation of document database using MongoDB. 8
5. i) Explain properties of graph model. 8
- ii) Write a note on future databases. 8
- OR**
- i) Discuss Reliability, maintainability and scalability of information systems. 8
- ii) Explain graph data structure. 8

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