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**CSH 203**

**II Semester M.Sc. Examination, September/October 2022**  
**COMPUTER SCIENCE**  
**Advanced Database Management Systems**

Time : 3 Hours

Max. Marks : 70

**Note : Answer any five full questions. All questions carries equal marks.**

1. a) With a neat diagram, differentiate between two-tier and three-tier architecture of DBMS. 7  
b) What is XML ? Explain different XML tools used for transforming document. 7
2. a) Explain the various components of database system architecture. 7  
b) Explain the use of NoSQL database. Explain JSON document database. 7
3. a) Explain when to use columnar databases. List advantages and disadvantages of columnar databases. 7  
b) What is SSD ? Explain flash SSD performance characteristics. 7
4. a) Discuss various Sybase IQ Knowledge Modules. 7  
b) With a suitable diagram, explain the elements of Spark processing. 7
5. a) Write a note on classification of database servers. 7  
b) Briefly explain the open source NoSQL distributed Cassandra database implementation. 7
6. a) Explain MongoDB sharding architecture with a neat diagram. 7  
b) Explain the HBase Consistency in detail. 7
7. a) Differentiate between Hive query language and commonly used structured query language. 7  
b) With a neat diagram, explain relational database storage architecture. 7
8. a) Write a note on any two NoSQL database APIs. 7  
b) Explain the quantum transactions and quantum search in detail. 7