# CST-504 DATABASE MANAGEMENT SYSTEM

Full Marks: 80                                    Time : 3 Hours

Answer any FIVE Questions including Q No. 1 & 2

Figures in the right hand margin indicates marks

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|---|---|---|
| Q.1. | Answer ALL the questions. | |
| a) | What is Data Dictionary? | 2x10 |
| b) | List out all the states of a transaction. | |
| c) | What do you mean by schedule? | |
| d) | Define FD in a relation. | |
| e) | Define Primary key. How it is different from candidate key. | |
| f) | Distinguish between DROP and DELETE. | |
| g) | Define Encryption. Name the different types of encryption techniques. | |
| h) | Define the mapping constraints associated with a database. | |
| i) | What do you mean by lossless join? | |
| j) | Define Data Abstraction. | |
| Q.2 | Answer any SIX questions. | |
| | | 5x6 |
| a) | Define Data Independence. Explain its types. | |
| b) | What is the role of DBA in a database? | |
| c) | What is Transaction? Describe the ACID properties of transaction. | |
| d) | What do you mean by serializability and recoverability of a schedule? | |
| e) | Explain different symbols used in E-R model with example. | |
| f) | Who is a database user? Name and explain various types of database user. | |
| g) | What do you mean by lock? List the types of Lock. | |
| Q.3. | Describe three-level architecture of Database with a suitable diagram. | 10 |
| Q.4. | Define normalization. Describe the conditions of 1NF, 2NF, 3NF and BCNF. | 10 |
| Q.5 | What do you mean by Data Model? Describes the types of Data Model. | 10 |
| Q.6 | Explain various types of database languages used in SQL. Write down the syntax with example of following command in SQL<br><br>(i)    CREATE<br>(ii)   INSERT<br>(iii)  UPDATE | 10 |
| Q.7. | What is Join? Explain different types of Join used in DBMS with example. | 10 |