**UNIT I**

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| **Q.No.** | **Question** | **Marks** |
| 1 | Which are the various database models available? Explain in Brief. | 8 |
| 2 | How normalization is useful while creating database? Which are the various forms of normalization? Explain with example. | 10 |
| 3 | Explain concept of views and index. How to create views and Index? How Index is used while querying database? | 10 |
| 4 | Explain various components of DBMS with diagram | 8 |
| 5 | How DBMS handles Data Integrity, Data redundancy and inconsistency problems? | 8 |
| 6 | Explain with example referential integrity. Also discuss the situations when  referential integrity constraint is getting violated by insert, delete and update  operations on the relation | 8 |
| 7 | Create a table ‘emp’ with the following columns by assuming suitable  data type and size with correct syntax in SQL.  [4]  Emp\_id, Ename, City, State, Salary, Age, Hire\_date  c) Give an expression in SQL to solve each of the following queries :  [6]  i) Find the names of all employees whose name starts with ‘Ma’.  ii) List all the employees name and salary whose age is less than 20 years.  iii)  Select the employees whose salary is between Rs. 10000 and Rs. 60000 | 10 |
| 8 | What is a data constraint ? Explain primary key and foreign key constraint  with an example. Also write various features of primary and foreign key. | 8 |
| 9 | Explain the following :  1) Datatypes used in SQL 2) Entity relationship model. | 8 |
| 10 | Create table salesman\_master with following columns by assuming suitable data type and size– salesman No(primary key), name, address, city, state, salary(not null), sales\_target.  Give an expression in SQL for each of the following queries from  salesman\_master.  i) List the details of those whose salary is in between 10000 to 15000 INR.  ii) Add the columns ‘telephone\_no’ and ‘mobile\_no’ to salesman\_master table. | 4 |
| 11 | Explain various DDL queries and constraints with example | 10 |
| 12 | Explain various DCL and TCL queries | 8 |
| 13 | Explain various DML queries with example. | 8 |
| 14 | How vertical and horizontal filtering is performed in RDBMS? Explain with example. | 6 |
| 15 | Create a table student\_master with following columns by assuming suitable data type and size\_Roll\_no (primary key), name, surname, address, city, state, pincode, branch, date\_of\_admission.  Give an expression in SQL for each of the following queries from this table.  i) Find the roll no, names, surname and branch of students who stay in the city named ‘Pune’ or Mumbai’.  ii) Find the roll\_no, name, surname of students whose surname starts with ‘Pa’ | 4 |