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| **Sn.** | **Probable Questions and Probable Marks** | **Marks** |
| 1 | A university registrar’s office maintains data about the following entities  Courses, including number, title, credits, syllabus, and prerequisites  course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom;  Students, including student-id, name, and program; and  Instructors, including identification number, name, department and title. Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled.   1. Construct an E-R diagram for the registrar’s office. Document all assumptions that you make about the mapping constraints 2. Construct appropriate tables for E-R diagram designed with above | 10M |
| 2 | Discuss the disadvantages of file processing system that led to the development of database system. | 6 M |
| 3. | A weak entity set can always be made into strong entity set by adding to its attributes; the primary key attributes of its identifying entity set. Outline what sort of redundancy will result ifwe do so while converting into tables | 5 M |
| 4 | Explain with example what physical data independence is. Also explain its importance | 5M |
| 5 | What do you understand by the term data abstraction? | 2M |
| 6 | Discuss the various areas in which database system is used. |  |
| 7 | Explain the three-level architecture of DBMS with the help of an example. Mention its advantages also. | 6M |
| 8 | What is the difference between logical and physical data independence? | 4M |
| 9 | Explain the various functional components of a DBMS with the help of a suitable diagram | 6M |
| 10 | Explain different constraints on Specialization/Generalization with suitable example | 5M |
| 11 | By using all the basic & Extended features of ER diagram draw an ER diagram for the bank database. | 10M |
| 12 | Explain Logical level Independence and Physical level Independence | 4M |
| 13 | Draw and explain levels of Abstraction. | 4M |
| 14 | Explain stages of database systems | 2M |
| 15 | What are data models and why that are so important? Draw hierarchical model with example. | 4M |
| 16 | Explain Database life cycle? | 3M |
| 17 | Write down ER models benefit in detail. | 2M |
| 18 | What are mapping cardinality? | 2M |
| 19 | What is generalization and specialization explain it with help of example | 5M |
| 20 | List down difference between File system and DBMS | 5M |
| 21 | Draw ER model for online book shop | 6M |
| 22 | What are disadvantages of DBMS | 2M |
| 23 | Discuss the entity integrity and referential integrity constraints. | 4M |
| 24 | For the databasesystem to be usable, it must retrieve data efficiently. The need of efficiency has led designers to use complex data structures to represent data in the database. Developers hide this complexity from database system users through several levels of abstraction. Explain those levels of abstraction in detail |  |
| 25 | Explain with example the conceptof referential integrity constraint (e.g. Foreign key in SQL). Also discuss the situations when referential integrity constraint is getting violated by Insert, Update and delete operations on  Table. | 5M |
| 26 | Consider the following database schema:  Physician (regno,name,tel\_ no, city)  Patient(p name,street,city)  visit(p name,regno,date\_of\_visit, fee)  Write SQL queries for following requirements (any 2)   1. Find the name and city of patients who visited a physician on 13 July 2017. 2. Get the name of the physician and the total no. of patients visited him 3. Get the details of date wise fees collected at clinic. | 5M |
| 27 | Write short note on Embedded SQL along with its applications | 5M |
| 28 | Branch(b\_no, b\_name, b\_city, asset) ; Cutomer (c\_no, c\_name, c\_city, Street)  Loan(l\_no, b\_name, amount) ; Account (acc\_no, b\_name, balance)  Borrower (c\_no, l\_no) Depositor ( c\_no, acc\_no)  Answer the following queries using SQL   1. Find name and address of the customer who have a loan 2. Find loan data including customer name ordered by decreasing amounts   3. Find the average assets of each branch. Display the data in sorted order of average assets. | 6M |
| 29 | Consider the insurance database , where the primary keys are underlined. Construct the following SQL queries for this relational database.  a. Find the number of accidents in which the cars belonging to “John Smith” were involved.  b. Update the damage amount for the car with license number“AABB2000”in the accident with report number“AR2197”to $3000.  person(driverid, name, address)  car(license, model, year)  accident(reportnumber, date,location)  owns(driverid,license)  participated(driverid,car,reportnumber,damageamount) | 4 M |
| 30 | Solve the following queries considering the relations Emp& Dept.  Emp( eno, name, designation, deptno, salary) Dept ( deptno, dname, location)   1. Find the employees with salary more than 20000. 2. List the details of employees whose name is having letter ‘e’ in it 3. Find the average salary of department no. 123   Display the employees from highest salary to lowest. | 6M |
| 31 | Write a trigger with raise\_exception error when insert operation is done when salary should not be less than 3000. | 4M |
| 32 | Explain Dynamic sql. | 3M |
| 33 | What is cursor? Define Implicit and Explicit cursor with example | 4M |
| 34 | Write a procedure in oracle for For an employee database raise the salary by 5 % |  |
| 35 | Write P1/SQL block of code which accepts the roll no. from user, the attendance of roll no entered by user will be checked in stud\_att(Roll\_no,Att) table. Attendance of Roll no entered is displayed on screen | 5M |
| 36 | Explain with example the conceptof referential integrity constraint (e.g. Foreign key in SQL). Also discuss the situations when referential integrity constraint is getting violated by Insert, Update and delete operations on | 5M |
| 37 | What is index and how it improves performance of select query | 4M |
| 38 | Write the PL/SQL block of code to calculate the factorial value of a number | 5M |
| 39 | Consider the following relations:  S (S#, SNAME, STATUS, CITY)  SP (S#, P, QTY)  P (P#, PNAME, COLOR, WEIGHT, CITY)  Give an expression in SQL for each of queries below:  (i) Get supplier names for supplier who supply at least one red part  (ii) Get supplier names for supplier who do not supply part P2. | 5M |
| 40 | It is easy to create index on all attributes of any relation, why it is not recommended to create index on allattributes? | 5M |
| 41 | Write PL/SQL code block that raise a user defined exception when business rule is violated. BusinessRule for client - master table specifies when the value of bal - due field is less than 0 handle the exception. | 5M |
| 42 | For sample Employee DB print out the salaries over 30000 for all personnel use exception handling | 5M |
| 43 | Explain 3NF and BCNF. Also enlist their differences | 5M |
| 44 | Write PL/SQL trigger for following requirement  Event: Deletion of row from stud(roll\_no, name, class) table.  Action: after deletion of values from stud table, Values should be inserted into cancel\_admission(roll\_no, name) table.  Note: for every row to be deleted, action should be performed | 5M |
| 45 | Explain Any 2: 1. Temporal Data, 2. Referential Integrity 3. Enterprise Constraints | 4M |
| 46 | Explain what is normalization? Explain with example requirements of Third Normal form |  |
| 47 | What is non subversion rule? what is Minimal Cover? Write a algorithm to find it. | 2M |
| 48 | what is Minimal Cover? Write a algorithm to find it. | 3M |
| 49 | Define Normalization. Explain how 2NF remove various Data Anomalies with suitable example | 4M |
| 50 | Show that if a relational schema is in BCNF then it is also in 3NF | 3M |

**Note- For solving questions on ER diagram, SQL solving, Procedure, Trigger, function and cursor any Database or scenario can be given. Above are just the few examples. Do more practice on it.**