

313302

12526

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answer with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) Define Data and DBMS.
 - b) State any two Codd's rules.
 - c) Define tuple and Data Warehouse.
 - d) Define normalization. List levels of normalization.
 - e) List any four aggregate functions in SQL.
 - f) Draw PL/SQL Block structure.
 - g) State various data types in PL/SQL.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain three levels of data abstraction with diagram.
 - b) Differentiate between network model and Hierarchical model. (Any four points)
 - c) Explain composite and multivalued attribute used in ER diagram with example of each.
 - d) Differentiate between PL/SQL function and procedure. (Any four points)
- 3. Attempt any THREE of the following:** **12**
- a) Draw ER diagram for Hospital Management System.
 - b) Write SQL queries for the following table :-
Bookmaster (bookid, bookname, subjcode, author, no_of_copies, price)
 - i) Display all books written by 'Y. C. Kanetkar'.
 - ii) Get the list of books whose copies are less than two.
 - iii) Update all prices with increase of Rs. 50.
 - iv) Display all books whose prices are between 200 and 500.
 - c) Write a PL/SQL program that asks the user to input two numbers and divide the first number by the second. Handle the predefined exception.
 - d) State and explain ACID properties of transaction.
- 4. Attempt any THREE of the following:** **12**
- a) Define index? Explain three types of index with example.
 - b) Write a SQL command to :-
 - i) Create a new user 'user1' with password 'user@2025'.
 - ii) Assign create session and create table privileges to the above user.
 - iii) Assign insert and delete privileges on 'Emptable' to the above user.
 - iv) Remove delete privilege on 'Emptable' from the above user 'user1'.

- c) Write PL/SQL program to print largest of three numbers.
- d) Differentiate between physical and logical backup.
- e) Write PL/SQL procedure to print numbers between 20 to 30.

5. Attempt any TWO of the following: 12

- a) Draw the overall structure of DBMS. Explain storage manager and query processor components.
- b) Consider the following schemas :-
 - i) Dept (Dept_No, DName, LOC)
 - ii) Emp (Emp_No, Ename, Job, sal, Dept_No) Draw and explain parent child relationship for above schemas and apply referential integrity constraints.
- c) State the use of sequence. Write and explain the syntax of create sequence and alter sequence.

6. Attempt any TWO of the following: 12

- a) Write the SQL queries for the following Emp table :-
 - i) Display average salary of all employees.
 - ii) Write names of employees who stay in Mumbai or Pune.
 - iii) Set the salary of employee Ramesh to 50000.
 - iv) Display names of employees whose salaries are less than 50000.
 - v) Remove the record of employees whose dept no is 10.
 - vi) Remove the column dept no from Emp table.
 - b) Define cursor. Explain steps to use explicit cursor with example.
 - c) Explain Roll forward and Roll Backward recovery technique in DBMS with example.
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