

BBA (H) Semester VI Examination, 2021
Subject: Database Management System
Paper: SM-6.3

Time-3 Hours

Full Marks: 80

Candidates are required to give their answers in their own words as far as practicable

Group A

Answer any *six* questions

$5 \times 6 = 30$

1. What is data independence? What are the advantages and disadvantages of Database Management System (DBMS)?
2. What is Blocking factor?
3. Differentiate between spanned and unspanned records.
4. Write short note on Nested Queries.
5. What are the differences between Relational Database and Object-Oriented Database? Give example for each.
6. Define self join with example.
7. Explain DDL and DML with suitable example for each.
8. Define degree of a relation with suitable example.

Group B

Answer any *five* questions

$10 \times 5 = 50$

9. Based on the following two relations, define the following set operations in the light of Relational Algebra.
 - (a) Intersection
 - (b) Projection
 - (c) Difference
 - (d) Cartesian product

P:

Id	Name
101	Jones
103	Smith
104	Lalonde
107	Evan
110	Drew
112	Smith

Q:

Id	Name
103	Smith
104	Lalonde
106	Byron
110	Drew

10. Define the following with example for each.

- (a) Theta join
- (b) Left outer join
- (c) Right outer join
- (d) Full outer join

11. Based on the following relations, answer the following SQL queries.

S (S#, SNAME, STATUS, CITY) : SUPPLIER TABLE
P (P#, PNAME, COLOR, WEIGHT, CITY) : PART TABLE
J (J#, JNAME, CITY) : PROJECTS TABLE
SPJ (S#, P#, J#, QTY)

- (a) Get full details of projects.
- (b) Get the part number for parts such that no other part has a higher weight value.
- (c) Get S# values for suppliers who supply project J2.
- (d) Get COLOR values for parts supplied by supplier S1
- (e) Get S# values for suppliers who supply both projects J1 with a red part.

12. Give functions and examples of the following SQL command.

- (a) INSERT
- (b) UPDATE
- (c) DELETE

13. Explain the following comparison operators with examples.

- (a) LIKE
- (b) NOT LIKE
- (c) BETWEEN
- (d) NOT BETWEEN

14. Describe the three level database system architecture for data abstraction.

15. Explain the following with examples:

- (a) DATE functions
- (b) GROUP BY clause