MS – 534

II Semester B.C.A. Degree Examination, May/June 2014
(Y2K8 Scheme) (2008-09 and Onwards)
(F + R – 70 – 2011-12 and Onwards/R – 60 – Prior to 11-12)
COMPUTER SCIENCE
BCA 205 : Database Management Systems

Time : 3 Hours Max. Marks : 60/70

Instructions : 1) *Section **A, B, C,** is common to **all**, Section **D** is applicable to the students who have taken admission from **2011-12** onwards.*
2) ***70** marks for students from **2011-12** onwards*
***60** marks for **repeater** students prior to **2011-12**.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **one** mark. **(10×1=10)**

1) Define Database.

2) What is Entity ? Give example.

3) What is network data model ?

4) Define schema.

5) What is an attribute ? Give an example.

6) What is primary key ?

7) What is Hashing ?

8) What is SQL ?

9) What is relational algebra ?

10) What is DML ? Give example.

11) What is a cursor ?

12) Define transaction.

P.T.O.

SECTION – B

II. Answer **any five** questions. **Each** question carries **three** marks : **(5×3=15)**

13) Explain the properties of database.

14) Briefly explain database languages.

15) Define the terms :

i) Track

ii) Cylinder

iii) Sector.

16) Explain Boyce Codd Normal form with an example.

17) What is relational schema and relational instance ? Give one example.

18) What is view and its advantage ?

19) What is trigger ?

20) Discuss the types of locks in brief.

SECTION – C

III. Answer **any five** questions. **Each** question carries **seven** marks. **(5×7=35)**

21) Explain client server architecture with neat diagram.

22) Explain the following terms with at least one example.

a) Super key

b) Foreign key

c) Weak entity.

23) Explain memory hierarchies and storage devices.

24) Define functional dependency. What are its properties ?

25) Explain selection and projection operation in relational algebra with an example.

26) Explain the following SQL commands with examples.

i) Create ii) Alter

iii) Select iv) Truncate.

27) a) Explain PL/SQL control statements with an example.

b) Write PL/SQL code to find the factorial of a given number.

28) Explain the concepts of commit and roll back.

SECTION – D

Note : Section **D** should be answered by students of **2011** batch onwards only.

IV. Answer **any one** question. **Each** question carries **ten** marks : **(1×10=10)**

29) a) Explain the responsibilities of DBA.

b) Write any five applications of DBMS. **(5+5)**

30) a) Describe the different notations used in ER diagram.

b) Construct an ER-diagram for BCA department database. **(5+5)**

SA – 909

II Semester B.C.A. Degree Examination, April/May 2015
(CBCS) (2014-15 and Onwards)
COMPUTER SCIENCE
BCA 204 : Database Management Systems

Time : 3 Hours Max. Marks : 70

Instruction : *Answer* ***all*** *Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1) What is DBMS ? Why do we need a DBMS ?
2) Write down any two responsibilities of data base administrator.
3) List the implicit properties of data base approach.
4) Differentiate between single value and multi valued attributes.
5) Define referential integrity constraints with example.
6) What is heap file ? How pages organized in a heap file ?
7) List out different types of Join operations.
8) What is group by clause ? Give example.
9) Mention the kind of constraints we can specify in the create command DDL.
10) What are the advantages of PL/SQL ?
11) Define two-phase locking.
12) What is time stamp ? Explain.

SECTION – B

II. Answer **any five** questions. **Each** question carries **ten** marks. **(5×10=50)**

13) a) List and explain the main characteristics of database approach. **6**

b) Explain the difference between logical and physical data independence. **4**

14) a) Design E-R diagram for keeping track of information about company database taking into account of at least four entities. **7**

b) What is a relationship ? Give an example of one-to-one and many-to-many relationships. **3**

P.T.O.

15) a) Discuss techniques for allocating file blocks on disks. 6

b) Differentiate between primary and secondary storage with example. 4

16) a) Differentiate between prime and non-prime attributes. 2

b) What is normalization ? Explain third normal form with example. 4

c) Which normal form based on concept of functional dependencies ? Explain the same with neat diagram. 4

17) a) What is constraint ? Give the detailed explanation of key constraint and domain constraint. 5

b) Explain selection and projection operation in relational algebra with an example. 5

18) a) Explain insert, delete and update statements in SQL with example. 5

b) Consider the following relation.

Emp-salary (Emp-no. Ename, DOB, DNo., Salary)

Write the SQL for the followings :

a) Display the number of employees working in each department.

b) Find the sum of salaries of all employees

c) Find sum and average salaries of employee of 'BCA' department.

d) Find the highest salary that an employee draws.

e) Find the least salary that an employee draws. 5

19) a) What is cursor ? What are the cursor attributes ? Explain. 5

b) Explain for...loop statement in PL/SQL with an example. 5

20) a) Define transaction. Explain ACID properties of transaction. 5

b) Discuss the types of locks in brief. 5

MS – 571

II Semester B.C.A. Examination, May 2016
(CBCS) (2014-15 and Onwards)
COMPUTER SCIENCE
BCA – 204 : Database Management System

Time : 3 Hours Max. Marks : 70

***Instruction** : Answer **all** Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. **(10×2= 20)**

1) Define DBMS. Mention any two advantages of DBMS.

2) What do you mean by DBMS catalog and metadata ?

3) Give any four functions of DBA.

4) Name any four types of attributes.

5) What do you mean by generalization and specialization ?

6) Define Primary key and Foreign key.

7) Define Functional dependency.

8) How are storage devices classified ?

9) What are the applications of Relational algebra in RDBMS ?

10) Mention the different categories of SQL statements.

11) What is an exception ? Mention major types of exceptions.

12) What are the desirable properties of transactions ?

P.T.O.

SECTION – B

II. Answer **any five** questions. **Each** question carries **ten** marks. **(5×10 = 50)**

13) a) Explain the functions of DBMS. 6

b) What is data independence ? Explain briefly the two types of data independence. 4

14) a) Define relationship. Explain briefly cardinality ratio constraint of Relationships. 5

b) Explain the E-R notations used in database schema design. 5

15) a) Explain various methods of allocating file blocks on disks. 6

b) Explain briefly RAID technology. 4

16) a) Explain briefly insertion, updation and deletion anomalies in database. 3

b) What is normalization ? Explain briefly the various types of Normal forms with examples. 7

17) a) Explain briefly schema based constraints in relational data model. 5

b) Explain selection and projection operations in relational algebra with an example each. 5

18) a) Explain briefly DDL statements with syntax and examples. 4

b) What is JOIN operation ? Explain different types of joins with syntax and example. 6

19) a) What is a database trigger ? Explain any four types of trigger. 5

b) Explain While.. Loop statement in PL/SQL with an example. 5

20) a) Define transaction. Explain briefly different states of transaction with a neat state transition diagram. 6

b) What is time stamp ? Explain briefly two methods of generating time stamps. 4

US – 639

II Semester B.C.A. Examination, May 2017
(F + R) (CBCS) (2014-15 and Onwards)
COMPUTER SCIENCE
BCA 204 : Database Management System

Time : 3 Hours

Max. Marks : 70

Instruction : *Answer* ***all*** *Sections.*

SECTION – A

Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1. Define DBMS. Mention one application of DBMS.
2. Define Query. Give an example.
3. Define Schema and an Instance.
4. Define Entity and Relationship.
5. Define Data Independence.
6. What is RAID ?
7. Explain Functional dependency.
8. Explain Domain and Tuple.
9. Explain Commit and Rollback commands.
10. Explain database Triggers.
11. Explain dirty read related to transaction processing system.
12. What is concurrency control ?

SECTION – B

Answer **any five** questions. **Each** question carries **ten** marks. **(5×10=50)**

13. a) Explain the advantages of DBMS. **5**
    b) Explain different people behind DBMS. **5**

P.T.O.

14. a) Explain data model and its types. 5

    b) Explain database environment. 5

15. a) Write an E-R diagram of employee salary database and also mention type of association between the entities. 5

    b) Explain one to one, one to many and many to many relationships with example. 5

16. a) Explain the structure of Hard disk. 5

    b) Explain internal and external hashing. 5

17. a) Explain design guidelines of relational schemas. 5

    b) Explain 2NF and 3NF with examples. 5

18. a) Explain different characteristics of relations. 5

    b) Explain Cartesian product and selection operations. 5

19. a) Write an SQL query for the following :

    a) To create a table of Hospital database with minimum 5 fields

    b) To insert two records

    c) To add new field

    d) To display all records. 6

    b) Explain different types of cursors. 4

20. a) Explain serial and non serial schedules. 5

    b) Explain lock and unlock operations for binary locks. 5

SM – 618

II Semester B.C.A. Examination, May/June 2018
(CBCS) (F + R) (2014-15 and Onwards)
COMPUTER SCIENCE
BCA 204 : Database Management System

Time : 3 Hours Max. Marks : 70

***Instruction** : Answer **all** Sections.*

SECTION – A

Answer **any ten** of the following. **Each** question carries **two** marks : **(10×2=20)**

1. Define :
   a) DBMS
   b) Data Model.
2. Define Data Independence. Mention the types.
3. Differentiate centralized database architecture and client server database architecture.
4. What is an entity ? Mention the types of entities.
5. Define RAID.
6. What are database anomalies ? Mention the types.
7. Define normalization.
8. Explain different data types in SQL.
9. Expand PL/SQL. Mention any two advantages.
10. What is a view ? Give the syntax for view creation.
11. List different types of failures.
12. What is concurrency control ?

P.T.O.

SECTION – B

Answer **any 5** of the following. **Each** question carries **10** marks : **(5×10=50)**

13. a) Explain the advantages of DBMS. **5**

    b) Explain three schema architecture. **5**

14. a) Define different types of keys. **5**

    b) Explain different Hashing Techniques. **5**

15. Draw an ER diagram for STUDENT DATABASE SYSTEM. **10**

16. a) Explain generalization and specialization with examples. **6**

    b) Explain trivial dependency. **4**

17. a) Explain Relational Algebra in detail. **5**

    b) Explain 1 NF, 2 NF, 3 NF. **5**

18. a) Explain different aggregate functions in SQL with syntax and examples. **5**

    b) What are JOINS ? Explain INNER JOIN and OUTER JOIN. **5**

19. a) Explain different DDL commands with syntax and example. **5**

    b) Create an EMPLOYEE Database using the following fields : **5**

Field name	**Data type**
EMPNO	NUMBER
ENAME	CHAR
DOB	Date
Dept	String
Salary	Real

    a) Create the table

    b) Enter 5 tuples

    c) Find sum of salaries of all employees

    d) Find highest and least salaries of all employees.

20. a) Explain ACID properties of a Transaction. **5**

    b) Explain different states of transaction. **5**

Q.P. Code : 15222

Second Semester B.C.A. Degree Examination, May/June 2019

(CBCS – Freshers)

Computer Science

Paper BCA 204 — DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours] *[Max. Marks : 70*

Instructions to Candidates : Answers All Sections.

SECTION – A

Answer any **TEN** questions. Each question carries **2** marks : **(10 × 2 = 20)**

1. Define data and information.
2. Define Schema.
3. Define entity and relationship.
4. Define primary key with example.
5. What is the difference between DBMS and RDBMS?
6. What is DDL, DML?
7. Define data independence.
8. What is meant by normalization?
9. What is trigger?
10. What is meant by concurrency control?
11. Write the syntax and example for delete command.
12. What is exception? Mention its types.

SECTION – B

Answer any **FIVE** questions. Each question carries **10** marks : **(5 × 10 = 50)**

13. (a) Explain any five functions of DBMS. **(5)**

    (b) Explain the roles and responsibilities of DBA. **(5)**

14. (a) Write short notes on hierarchical and Network data model. **(5)**

    (b) Explain the architecture of DBMS. **(5)**

15. (a) Explain the different types of relationships used in DBMS. **(5)**

    (b) Explain about any two secondary storage devices with example. **(5)**

16. (a) Explain any two types of normalization with an example. **(5)**

    (b) What is join? Explain its types. **(5)**

17. (a) Write an SQL Query for student database :

    (i) Create a table with following fields.

    Regno (Primary key)

    name (text)

    m1 (number)

    m2 (number)

    (ii) Add the column college to the existing table.

    (iii) Delete the column m2 from the table.

    (iv) Display the details using select command. **(5)**

    (b) Explain the different types of cursors. **(5)**

18. (a) Write a PL/SQL Program to perform the basic arithmetic operations. **(5)**

    (b) Write a PL/SQL Program to find out the given year is leap year or not. **(5)**

19. (a) Explain different types of trigger. **(5)**

    (b) Explain any 5 SQL Queries with an example. **(5)**

20. (a) Explain different types of Lock. **(5)**

    (b) What is meant by time stamp? Explain any two methods with an example. **(5)**
