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

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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

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US – 650

II Semester B.C.A. Examination, May 2017
(Y2K8 Scheme) (Repeaters)
COMPUTER SCIENCE
BCA – 205 : Database Management Systems

Time : 3 Hours

Max. Marks : 70

SECTION – A

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

1. Define data.
2. Give any two examples of database.
3. Define schema.
4. What is data model ?
5. What is ER-model ?
6. Define an entity.
7. How are storage devices classified ?
8. Define primary key.
9. Define a tuple.
10. Mention the purpose of DROP command.
11. Define PL/SQL.
12. Define transaction.

SECTION – B

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

13. What are the functions of DBMS ?
14. Differentiate between centralized and distributed DBMS.
15. Write any three responsibilities of DBA.
16. Explain CREATE command with an example.
17. Define foreign key. Why is the concept used for ?

P.T.O.

18. Explain unary relational operation selection (σ) with an example.

19. Discuss the primary goals of normalization.

20. Define terms :
    a) Track   b) Sector   c) Cylinder

SECTION – C

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

21. Write a short note on users of DBMS.

22. Explain PL/SQL architecture.

23. Explain different types of attributes.

24. Define EQUIJOIN operation. Explain with an example.

25. Define normal forms. Explain 1 NF, 2 NF and 3 NF with an example.

26. Define DML. Explain INSERT and UPDATE statements with an example.

27. Explain three-tier client-server architecture of DBMS.

28. Explain ACID properties of transaction.

SECTION – D

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

29. Draw an ER-diagram for COLLEGE database by taking necessary entities and attributes.

30. A LIBRARY database has a table with the following attributes : LIBRARY (BookId : Number, Title : text, Author : text, Publisher : text, Price : Number, Year : Number)
    a) Create the table LIBRARY
    b) Insert three tuples
    c) Delete/remove a specific tuple
    d) Display all tuples/records.

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 ?

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

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MS – 578

II Semester B.C.A. Examination, May 2016
(Y2K8 Scheme) (Repeaters)
COMPUTER SCIENCE
BCA – 205 : Database Management Systems
(70 Marks – 2011-12 & Onwards
60 Marks – Prior to 2011-12)

Time : 3 Hours

Max. Marks : 70/60

Instructions : 1) *Section A, B, C are common to all. Section D is applicable to 2011-12 batch onwards.*
2) *70 marks for students from 2011-12 batch onwards and 60 marks for repeater students prior to 2011-12.*

SECTION – A

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

1. Define database.

2. What is multivalued attribute ?

3. Define spanned record.

4. What is relationship ?

5. Define scheme diagram.

6. Define primary key.

7. What is cursor ?

8. What is hashing ?

9. Write down any two DML commands.

10. Define a tuple.

11. What is trigger ?

12. What is SQL ?

P.T.O.

SECTION – B

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

13. What is weak entity ? Give an example.

14. What are disadvantages of traditional database ?

15. Write any three responsibilities of DBA.

16. Write a note on buffering of blocks.

17. Explain UPDATE command with an example.

18. Differentiate between centralized and distributed databases.

19. Write a note on database languages.

20. Define the terms :

    i) Cylinder

    ii) Sector

    iii) Track.

SECTION – C

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

21. Explain the advantages of DBMS.

22. What is an ER-diagram ? Mention different notations used in ER-diagram.

23. Explain different types of relationships in E-R Data model.

24. Explain three-schema architecture with a neat diagram.

25. Explain 1NF, 2NF and 3NF in brief.

26. Explain ACID properties of a transaction.

27. Write a note on database users.

28. What is a data model ? Explain different data models.

SECTION – D

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

29. a) Write a note on DBMS interfaces.

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

30. Construct and explain ER-diagram for Company database by taking necessary entities and attributes.

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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

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

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II Semester B.C.A. Degree Examination, April/May 2015
(Y2K8 Scheme) (2008-09 and Onwards)
COMPUTER SCIENCE
(70 Marks – 2011-12 and Onwards/60 Marks – Prior to 2011-12)
BCA-205 : Database Management Systems

Time : 3 Hours 　　　　　　　　　　　　　　　　　　　Max. Marks : 60/70

Instructions : 1) *Section – A, B, C are common to all . Section – D is*
　　　　　　　　　applicable to 2011-12 batch onwards.
　　　　　　　2) *70 marks for students from 2011-12 batch onwards.*
　　　　　　　　60 marks for repeater students prior to 2011-12.

SECTION – A

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

1. Define DBMS.

2. Name different types of data model.

3. What is schema diagram ?

4. Write down any four DDL commands.

5. Define primary key.

6. Define entity.

7. What is hashing ?

8. What is a cursor ?

9. Define transaction.

10. What is SQL ?

11. What is atomic attribute ?

12. Define Lock.

SECTION – B

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

13. What are drawbacks of traditional DBMS ?

14. Define DBA. Write any two responsibilities of DBA.

P.T.O.

15. Discuss the types of Locks in brief.

16. Explain aggregate functions in SQL.

17. Explain CREATE command with an example.

18. Differentiate centralized and distributed DBMS.

19. Explain database languages in brief.

20. Define the terms :
    i) Track
    ii) Cylinder
    iii) Sector.

SECTION – C

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

21. Explain advantages of DBMS.

22. Write a note on DBMS interfaces.

23. Explain client server architecture with a neat diagram.

24. Define functional dependency. What are its properties ?

25. Explain different database users.

26. Explain three schema architecture with a neat diagram.

27. Explain 1st NF, 2nd NF and 3rd NF with example.

28. Explain ACID properties of transaction.

SECTION – D

Note : Section – **D** should be answered by students of **2011-12** batch onwards **only**.

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

29. a) Write a note on DBMS Languages.
    b) Write any five applications of DBMS. **(5+5)**

30. Draw and explain ER diagram for COMPANY database by taking necessary attributes.

SA – 913

II Semester B.C.A. Degree Examination, April/May 2015
(Y2K8 Scheme) (2008-09 and Onwards)
COMPUTER SCIENCE
(70 Marks – 2011-12 and Onwards/60 Marks – Prior to 2011-12)
BCA-205 : Database Management Systems

Time : 3 Hours

Max. Marks : 60/70

Instructions : 1) *Section – A, B, C are common to all . Section – D is*
applicable to 2011-12 batch onwards.
2) *70 marks for students from 2011-12 batch onwards.*
60 marks for repeater students prior to 2011-12.

SECTION – A

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

1. Define DBMS.
2. Name different types of data model.
3. What is schema diagram ?
4. Write down any four DDL commands.
5. Define primary key.
6. Define entity.
7. What is hashing ?
8. What is a cursor ?
9. Define transaction.
10. What is SQL ?
11. What is atomic attribute ?
12. Define Lock.

SECTION – B

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

13. What are drawbacks of traditional DBMS ?
14. Define DBA. Write any two responsibilities of DBA.

P.T.O.

15. Discuss the types of Locks in brief.
16. Explain aggregate functions in SQL.
17. Explain CREATE command with an example.
18. Differentiate centralized and distributed DBMS.
19. Explain database languages in brief.
20. Define the terms :
    i) Track
    ii) Cylinder
    iii) Sector.

SECTION – C

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

21. Explain advantages of DBMS.
22. Write a note on DBMS interfaces.
23. Explain client server architecture with a neat diagram.
24. Define functional dependency. What are its properties ?
25. Explain different database users.
26. Explain three schema architecture with a neat diagram.
27. Explain 1st NF, 2nd NF and 3rd NF with example.
28. Explain ACID properties of transaction.

SECTION – D

Note : Section – D should be answered by students of **2011-12** batch onwards **only**.

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

29. a) Write a note on DBMS Languages.
    b) Write any five applications of DBMS. **(5+5)**

30. Draw and explain ER diagram for COMPANY database by taking necessary attributes.

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