

**KRISTU JAYANTI COLLEGE (AUTONOMOUS) BANGALORE
END SEMESTER THEORY EXAMINATION OCTOBER 2014 [1UOCT14]
13BCA3202: DATABASE MANAGEMENT SYSTEM**

Time: 3 Hours

Max. Marks: 100

SECTION - A

(10 X 2 = 20)

Answer any ten questions. Each question carries two marks.

1. Define DBMS.
2. What is meta data?
3. Explain weak entity.
4. What is a composite attribute?
5. What is the degree of relationship in entity relationship model?
6. Explain double buffering.
7. What is a heap file?
8. Define super key.
9. Explain referential integrity.
10. Define view in SQL.
11. What is the keyword used in SQL to sort the data?
12. Define database transaction.

SECTION - B

(5 X 7 = 35)

Answer any five questions. Each question carries seven marks.

13. Explain the three level DBMS architecture
14. Explain the different types of database users.
15. Explain the extended ER features.
16. Explain how to map the ER Model to relational database.
17. Explain the select, project and join operation of relational algebra with example.
18. Explain ACID properties of transaction.
19. Explain two phase locking protocol.
20. Explain the various transaction states with a neat diagram.

SECTION - C

(3 X 15= 45)

Answer any three questions. Each question carries fifteen marks.

21. What are the advantages of DBMS? Explain when not to use the database.
22. Draw an ER Model for Banking System.
23. What is Normalization? Explain the process of normalization with an example up to 3NF.
24. Solve the following SQL queries

Database Schema for a Video Library Scenario

Customer (cust_no: integer, cust_name : string)

Membership (mem_no: integer, cust_no: integer)

Cassette (cass_no: integer, cass_name: string, Language: string)

Iss_rec (iss_no: integer, iss_date: date, mem_no: integer, cass_no: integer)

For the above schema, perform the following queries

a. Create the tables with the appropriate integrity constraints.

b. Insert around 5 records in each of the tables.

c. List all the customer names with their membership numbers.

d. List all the issues for the current date with the customer names and cassette names.

25. Explain the operations on files and various types of file organization.

Answer any one question. Question carries ten marks.

17. Discuss the theme of marital life in the play *Lady Windermere's Fan*.

18. "Lady Windermere's Fan is a moral play about immoral people". Explore Wilde's presentation of attitudes in Act One of the play *Lady Windermere's Fan*.

TIT BCA

KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
END SEMESTER UG EXAMINATION NOVEMBER 2015 [1UNOV15]

13BCA3202: DATABASE MANAGEMENT SYSTEM

Time: 3 Hours

Max. Marks: 60

SECTION - A

$(7 \times 2 = 14)$

Answer any seven questions. Each question carries two marks.

1. Write a short note on DBA and casual user.
2. What is a schema and an instance?
3. What is logical data independence?
4. What is a weak entity? Give an example.
5. Define heap file.
6. What is referential integrity?
7. What are domain constraints?
8. What is an index? Write the Syntax to create an index in SQL.
9. What is the use of **distinct** keyword in SQL? Give an example.
10. What is log based recovery?

SECTION - B

$(4 \times 4 = 16)$

Answer any four questions. Each question carries four marks.

11. Explain in detail the characteristics of the database approach.
12. Explain the three-schema architecture with a neat diagram.
13. Explain the different types of attributes. Give example for each.
14. What is functional dependency? Explain with suitable example.
15. Explain unary relational operations with examples.
16. What is a view in SQL? Write the syntax and example to create a view in SQL.
17. What is the need to control the concurrency? Explain binary, shared and exclusive locks.

SECTION - C

$(3 \times 10 = 30)$

Answer any three questions. Each question carries ten marks.

18. Define data model? Explain the different categories of data models.
19. Explain internal, external and extendible hashing techniques.
20. Define Normalization? Explain 1NF, 2NF and 3NF with examples.
21. Explain with syntax and examples the DDL and DML commands in SQL.
- 22.a) Explain the ACID properties of a transaction. (4)
- b) Explain the different states of a transaction with a neat diagram. (6)

**KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
END SEMESTER UG EXAMINATION NOVEMBER 2016 [1UNOV16]
13BCA3202 / BCA153202: DATABASE MANAGEMENT SYSTEM**

Max. Marks: 70

Time: 3 Hours

SECTION - A

(7 X 2 = 14)

Answer any *seven* questions. Each question carries *two* marks.

1. List the functions of DBMS.
2. What is database schema and instances?
3. What is a composite attribute? Give an example.
4. What are the methods adopted to overcome collision in hashing?
5. Define functional dependency.
6. Write the general form of select operation in relational algebra and give an example.
7. Give the complete syntax of GROUP BY clause in SQL.
8. List the aggregate functions supported by SQL.
9. Write any two uses of ALTER statement in SQL.
10. What is transaction processing system? Give an example.

SECTION - B

(4X 5 = 20)

Answer any *four* questions. Each question carries *five* marks.

11. Describe the disadvantages of traditional file approach.
12. Write a note on three level DBMS architecture with a neat diagram.
13. Explain cardinality ratio constraint of relationships.
14. Explain insertion and deletion operations in ordered file with examples.
15. Briefly write about first and second normal form each with an example.
16. With a neat state transition diagram, discuss the different states of transaction.
17. Describe the hardware description of a disk.

SECTION - C

(3 X 12= 36)

Answer any *three* questions. Each question carries *twelve* marks.

- 18.a) Explain about the people behind DBMS. (07)
b) Write a note on DBMS interfaces. (05)
- 19.a) Explain the ER notations used for various constructs in database schema with an example. (07)
b) Explain about various file operations. (05)
- 20.a) Describe about informal design guidelines for relation schema. (06)
b) Explain relational algebra operations from set theory with examples. (06)
21. Consider the following relational schema:
EMP (empname, empno, hiredate, address, sex, salary, deptno)
DEPT (dname, dnumber, mgrssn, mgrstartdate). (12)

Write the query for creating and inserting records into the above mentioned tables with proper constraints.

Write the SQL query for the following

- a. Display the names of all the employees who are working in department number 10.
- b. Display the names of the employees who are working in the company for the past 5 years.
- c. Display the maximum salary in each department.
- d. Display employee names who are working in IT dept. (04)
- 22.a) Explain the ACID properties of database transaction. (08)
b) Describe concurrency control based on timestamp ordering.

III BCA

KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
END SEMESTER UG EXAMINATION OCTOBER / NOVEMBER 2017 [1UOCT17]
13BCA3202 / BCA153202: DATABASE MANAGEMENT SYSTEM

Time: 3 Hours

Max. Marks: 70

SECTION - A

(7 X 2 = 14)

Answer any *seven* questions. Each question carries *two* marks.

1. Define DBMS.
2. What is a Data Model?
3. Differentiate between weak entity and strong entity.
4. What is functional dependency?
5. What is the purpose of join operations in relational algebra?
6. What is the difference between DELETE and DROP in SQL?
7. Define view. Give the syntax for creating a view in SQL.
8. What is pattern matching in SQL?
9. What is a super key?
10. Define Transaction.

SECTION - B

(4X 5 = 20)

Answer any *four* questions. Each question carries *five* marks.

11. Explain the characteristics of database.
12. What is an attribute? Explain the types of attributes with examples for each.
13. Write a short note on the file operations.
14. Explain the set operations with examples.
15. Explain the informal design guidelines for relational database schema.
16. Explain relational operators in SQL with examples.
17. Write a short note on optimistic concurrency control techniques.

SECTION - C

(3 X 12 = 36)

Answer any *three* questions. Each question carries *twelve* marks.

- 18.A) Explain the various classifications of DBMS. (6)
B) Explain the three schema DBMS architecture with a diagram. (6)
- 19.A) What is Hashing? Explain briefly the different types of hashing. (8)
B) Write short note on the various secondary storage devices. (4)
20. Define Normalization. Explain 1NF, 2NF, 3NF with example for each.
- 21.A) What is an assertion? Explain with an example. (5)
B) Explain different types of joins with syntax and example. (7)
- 22.A) Explain the properties of a transaction. (4)
B) Explain shared/exclusive lock technique for controlling concurrency. (5)
C) Explain the different states of a transaction with a neat diagram. (3)

III BCA

**KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
UG END SEMESTER EXAMINATION OCTOBER 2018 [1UOCT18]**

13BCA3202 / BCA153202: DATABASE MANAGEMENT SYSTEM

Time: 3 Hours

Max. Marks: 70

SECTION - A

(7 X 2 = 14)

Answer any *seven* questions. Each question carries *two* marks.

1. Define DBMS.
2. Write any two advantages of DBMS.
3. What is primary storage?
4. What is a heap file?
5. Define functional dependency.
6. Define normalization.
7. Write the difference between primary key and foreign key.
8. What is the difference between DELETE and TRUNCATE?
9. What is the purpose of Like operator in SQL?
10. Define Transaction.

SECTION - B

(4X 5 = 20)

Answer any *four* questions. Each question carries *five* marks.

11. Explain the three levels of DBMS architecture with a neat diagram.
12. What is Hashing? Explain its types.
13. What is a block? Explain the various techniques for allocating blocks of a file on disk.
14. Explain the informal guidelines for relation schemas.
15. Explain briefly the various SET operations in DBMS.
16. Write a short note on embedded SQL in DBMS,
17. Briefly explain the problems caused by LOCKS.

SECTION - C

(3 X 12= 36)

Answer any *three* questions. Each question carries *twelve* marks.

- 18.a. Write short note on DBMS interfaces. (6)
b. Explain the different types of database users. (6)
- 19.a .Explain the various operations performed on files. (6)
b. Explain the types of attributes with examples. (6)
- 20.a. Explain the various JOIN operations in relational database. (6)
b. Explain 1NF, 2NF and 3NF with examples. (6)
- 21.a. Explain the different data types in SQL. (4)
b. Explain the DDL and DML commands with examples. (8)
- 22.a. Write the algorithm for Read Lock, Write Lock and Unlock. (6)
b. Explain briefly the ACID properties of a transaction. (6)

**KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
END SEMESTER UG EXAMINATION OCT-NOV 2019 [1UOCT19]**

BCA153202 / BCA204A32: DATABASE MANAGEMENT SYSTEM

Time: 3 Hours

Max. Marks: 70

SECTION - A

(7 X 2 = 14)

Answer any *seven* questions. Each question carries *two* marks.

1. Define a Data Model.
2. Define Data Independence.
3. Give any four functions of DBA.
4. What is Entity and Relationship?
5. Write a syntax and example of update query.
6. Mention the different categories of SQL statements.
7. What is the use of **distinct** keyword in SQL? Give an example.
8. What are database anomalies? Mention the types.
9. Define transaction.
10. What is Concurrency control technique?

SECTION - B

(4X 5 = 20)

Answer any *four* questions. Each question carries *five* marks.

11. Explain different people behind the DBMS.
12. Briefly describe the three schema architecture with a neat diagram.
13. Explain the characteristics of the database approach in detail.
14. With a neat diagram describe the structure of a Hard Disk.
15. Explain the various methods of allocating file blocks on disk.
16. What is a view in SQL? Write the syntax and give an example to create a view in SQL.
17. Explain briefly the ACID properties of a transaction.

SECTION - C

(3 X 12= 36)

Answer any *three* questions. Each question carries *twelve* marks.

- 18.(a) Explain the functions of DBMS. (06)
 (b) Explain the ER notations used in database schema design (06)
19. Define Hashing. Explain briefly the different types of hashing techniques. (12)
- 20.(a) Explain the various JOIN operations in relational database. (06)
 (b) Explain 1NF, 2NF and 3NF with examples. (06)
21. (a) Explain schedules and recoverability in transaction processing system. (06)
 (b) Explain deadlock and starvation in Concurrency control technique. (06)
22. Explain different DDL and DML commands with syntax and example. (12)

KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
UG END SEMESTER THEORY EXAMINATION DEC 2021 [1UDEC21]
BCA III SEMESTER

BCA204A32: DATABASE MANAGEMENT SYSTEM

MAX. MARKS: 70

TIME: 3 HOURS

[$7 \times 2 = 14$]

SECTION - A (Answer any Seven questions. Each question carries Two marks.)

1. What is a data model?
2. Write any two advantages of dbms.
3. Differentiate between an entity and an attribute.
4. Define hashing.
5. State the difference between primary and secondary storage device.
6. Write the difference between DELETE and DROP commands in SQL.
7. State the purpose of Like operator in SQL.
8. Define functional dependency.
9. Write the difference between Primary key and Foreign key in DBMS.
10. Define Transaction.

[$4 \times 5 = 20$]

SECTION - B (Answer any Four questions. Each question carries Five marks.)

11. Explain briefly on three schema architecture of a database with a diagram.
12. Demonstrate the various operations performed on files.
13. Classify hashing with its types.
14. Briefly explain on any five attribute types. Give example for each.
15. Describe briefly about the various SET operations in relational algebra.
16. Outline about aggregate functions in SQL.
17. Summarize about the different types of locking techniques used for concurrency control.

SECTION - C (Answer any Three questions. Each question carries Twelve marks.)

[$3 \times 12 = 36$]

18. Discuss about the different types of users in database management system.
19. Illustrate the structure of the harddisk and its components with neat diagram
20. Define Normalization. Elaborate 1NF, 2NF and 3NF with Example.
21. Classify DDL and DML commands in SQL with an example.
22. A. Explain briefly on the ACID properties of a transaction. (6 marks)
- B. Demonstrate the different states of a transaction with a diagram. (6 marks)

KRISTU JAYANTI COLLEGE (AUTONOMOUS) BENGALURU
UG END SEMESTER THEORY EXAMINATION NOV/DEC 2022 [1UNOV22]

BCA III SEMESTER

21BCA2T331: DATABASE MANAGEMENT SYSTEM

TIME: 2 HOURS

MAX. MARKS: 45

Section – A (Answer any FIVE questions. Each question carries TWO marks.) [5 x 2 = 10]

1. What is the role of a database administrator?
2. Differentiate data and information.
3. Define Entity.
4. What is normalization?
5. List out any two advantages of DBMS.
6. What is the purpose of a VIEW in SQL?
7. Define transaction.
8. What is a schedule in transaction?

Section – B (Answer any THREE questions. Each question carries FIVE marks.) [3 x 5 = 15]

9. Explain the three-schema architecture with a neat diagram.
10. Illustrate the different types of attributes with examples.
11. List the operations of relational algebra with examples.
12. Explain the different types of keys in DBMS with example.
13. Discuss various aggregate functions in SQL. Give example for each.
14. Briefly explain the ACID properties of Transaction.

Section – C (Answer any TWO questions. Each question carries TEN marks.) [2 x 10 = 20]

15. Discuss about various users involved in DBMS.
- 16.A. Briefly explain on any five file operations. (5)
B. Write short note on DDL and DML. (5)
- 17.Explain 1NF, 2NF, 3NF with examples
- 18.A. Explain shared/exclusive lock technique for controlling concurrency. (5)
B. Illustrate the different states of a transaction with a neat diagram (5)
