N

(21216) Roll No. .....

BCA- V Sem.

18021

B. C. A. Examination, Dec. 2016

Introduction to DBMS

(BCA-501)

(New Course)

Time : Three Hours] *[Maximum Marks : 75*

Note: Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Answer all the *five* questions. Each question carries 3 marks. Very short answer is required. 3×5=15

1. Explain the various categories of data model.

2. What is the difference between subclass and super-class in object model?

3. What are the anomalies in 1NF?

4. Explain in detail about indexed sequential access file.

5. What are the different relational algebraic constraints?

(34)

Section-B
(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries 7½ marks. Short answer is required. 7½×2=15

6. How are the anomalies of 1NF are rectified? Explain with the help of example.

7. What are integrity rules? Explain with example.

8. What do you understand by mapping? Explain the different types of mapping.

Section-C
(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 15×3=45

9. What is the difference between file system approach and database approach? Also explain component of database system.

10. How are EER diagrams for specialization, generalization and aggregation drawn?

11. Explain the ACID property of a transaction and the usefulness of each with example.

12. Define normalization. Why do we need to normalize the database? Also differentiate 3NF and BCNF in detail.

13. What do you understand by E-R diagrams? Draw the E-R diagram for college management system with E-R functionalities.

13. Given the following tables:

DIRECTOR

DIR_NUM	DIR_NAME	DIR_DOB
100	Arvind Gaur	30/6/43
101	Faizal Alkazi	12/8/50
102	Anuradha Kapoor	21/9/62

PLAY

PLAY_CODE	PLAY-NAME	DIR-NUM
1001	Jivit ya Mrit	102
1002	Bade Bhai Saab	101
1003	Galib in Delhi	102
1004	Safarnama	100
1005	Aadhe Adhure	101
1006	Konark	101
1007	Adhoori Kahani	NULL

(i) Identify the Primary and Foreign keys of both the tables.

(ii) Do the tables exhibit Entity and Referential Integrity Constraints? Explain.

(iii) Draw the entity relationship diagram to show the relationship between director and play.
Specify the cardinality and participation constraints also.

N (Printed Pages 4)

(201217) Roll No. .....

BCA- V Sem.

18021

BCA Examination, Dec- 2017

Introduction to DBMS

(BCA-501)

(New)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt **all** questions as per the Instructions.

Section-A

Note : Attempt all **five** questions. Each question carries **three** marks. 5×3=15

1. Differentiate between DDL and DML.
2. List three main advantages of database approach.
3. What is relational algebra? Explain.
4. Briefly describe B tree.
5. Explain ER diagram.

42

Section-B

Note : Attempt any **two** questions out of following 3 questions. Each question carries equal marks. 2×7.5=15

6. Discuss the three level architecture of DBMS.
7. Explain different collision resolution approaches in hashing.
8. What is strong and weak entity? Explain with example.

Section-C

Note : Attempt any **three** questions out of following 5 questions. Each question carries equal marks. 3×15=45

9. With respect to the relational data model, define and relate with example: primary key, foreign key, super key, candidate key and prime attribute.
10. Consider the following relations with underlined primary keys.

    PRODUCT (Pcode, Description, Stocking Date, QtyOnHand, MinQty, Price, Discount, VCode)

VENDOR (VCode, Name, Address, Phone)

Here a vendor can supply more than one product but a product is supplied by only one vendor.

Write SQL queries for the following:

(i) List the names of all the vendors who supply more than one product.

(ii) List the details of the products whose prices exceed the average product price.

(iii) List the Name, Address and Phone of the vendors who are currently not supplying any product.

11. List advantages and disadvantages of Indexed sequential, B tree and B+ tree file organization.
12. Write short notes on:
    (i) Functional dependency
    (ii) Types of SQL queries
    (iii) Transaction processing

41

13. A hospital maintains data about the following entities :

(i) PATIENTS (SSNo, LastName, FirstName, HomePhone, Sex, DateofBirth, Age, Street, City, State, Zip)

(ii) DOCTORS (SSNo, LastName, FirstName, OfficePhone, Pager, Specialty)

(iii) BEDS (RoomNumber, BedNumber, Type, Status, PricePerHour)

(iv) ACCOUNTS (DateIn, DateOut, Amount)

Construct an E-R diagram for the hospital management; specify keys, mapping cardinalities, participation constraints (if necessary).

G

(21218) Roll No. .....

BCA-V Sem.

18021

B. C. A. Examination, Dec. 2018

Introduction to DBMS

(BCA-501)

(New)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required.

3×5=15

1. Define super keys, candidate keys and primary keys.

2. Explain the term – data independence.

50

3. What is hashing ? Explain.

4. What do you mean by relational database ? Describe.

5. Briefly explain the terms – security and authorization.

Section-B

(Short Answer Questions)

Attempt any *two* questions out of the following three questions. Each question carries 7½ marks. Short answer is required. 7½×2=15

6. What is a referential integrity constraint ? Why do we need it ? Explain with the help of suitable example.

7. List four significant differences between a file-processing system and a DBMS.

8. Explain third normal form with example.

Section-C

(Detailed Answer Questions

Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 15×3=45

9. Explain the different locking techniques with example for concurrency control.

10. Explain indexed sequential, B tree and B+ tree file organization with example.

11. Explain super class, inheritance and generalization with example.

12. Write short notes on the following :

    (i) Strong and weak entity

    (ii) Different levels of data abstraction

    (iii) Database recovery techniques.

49

A Printed Pages : 3

(21119) Roll No. .....

B.C.A.-V Sem.

18021

B.C.A. Examination, November–2019

INTRODUCTION TO DBMS

(BCA-501)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt questions from **all** sections as per instructions.

Section–A

(Very Short Answer Questions)

Note : Attempt all the **five** questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words. 5×3=15

1. What do you mean by D.B.M.S. ?

2. Give example of a simple composite attributes of an entity.

3. What do you mean by referential integrity ?

4. What do you mean by DML and DDL ?

5. Distinguish between functional dependency and multivalued dependency.

Section–B

(Short Answer Questions)

Note : Answer any ***two*** questions out of the following three questions. Each question carries 7½ marks. Short answer is required. 2×7½=15

6. What are the various anomalies associated with RDBMS.

7. What is union compatibility ? Explain.

8. What are the pit falls of lock based protocol ?

Section–C

(Detailed Answer Questions)

Note : Answer any ***three*** questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. 3×15=45

9. Define the normal forms. Explain the BCNF in detail.

10. Explain the superkey, primary key and candidate key with example in detail.

11. What are the various characteristics of SQL ? Discuss five aggregate functions with suitable examples.

12. Discuss the selection, projection and join operator of relational algebra with suitable example.

13. What do you mean by Query and sub-query ? Discuss cursor in SQL also.

2. Give example of a simple, composite attributes of an entity.
3. What do you mean by referential integrity?
4. What do you mean by DML and DDL?
5. What are anomalies in 1NF?

Section - B

Note : Answer any **Two** questions out of the following **Three** questions. Each question carries 7½ marks. Short answer is required. 7½×2=15

6. What do you mean by a key to retation? Explain the difference between super key, candidate key and primary key.
7. Define functional dependency. What do mean by loss-less decomposition?
8. Define Normal forms. List the definition of first, second and third normal forms.

Section - C

Note : Answer any **Three** questions out of the following **five** questions. Each carries 15 marks. Answer is required in detail. 15×3=45

9. What is transactions? Draw a state diagram of transactions showing its states.
10. Explain ACID properties of a transaction with suitable example.
11. What are schedules? What are difference between conflict serializability and view serializability?
12. What are distributed database?
13. Describe the major problem associated with concurrent processing with example.

D (Printed Pages 3)

(20221) Roll No. .....

BCA-V Sem.

18021

B.C.A. Examination, Dec.-2020

INTRODUCTION TO DBMS

(BCA-501)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt questions from **all** sections as per instructions.

Section- A

(Very Short Answer Questions)

Note : Answer all the **five** questions. Each question carries 3 marks. Very short answer is required. 3×5=15

1. What are the advantages of file processing system which were removed by DBMS?

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A (Printed Pages 4)

(20222) Roll No. .....

B.C.A.-V Sem.

18021 (CV-III)

B.C.A. Examination, Dec.-2021

INTRODUCTION TO DBMS

(BCA-501)

Time : 1½ Hours] *[Maximum Marks : 75*

Note : Attempt questions from **all** sections as per instructions.

Section-A

(Very Short Questions)

Note : Attempt any **two** questions. Each question carries 7.5 marks. Very Short Answer is required not exceeding 75 words. 2×7.5=15

1. What is Functional dependency? Explain it briefly.
2. What is Transaction? Explain it.

Unique key.

4. Explain Hashing in brief.
5. Explain advantage of database management system over file oriented system.

Section-B

(Short Answer Questions)

Note : Answer any **one** question out of the following three questions. Each question carry 15 marks. 1×15=15

6. Explain specialization and generalization concepts in ER diagram with suitable example.
7. Why should normalization be performed on a table and what are it benefits. Explain 3NF.

8. What are the pitfalls of lock based Protocol?

Section-C

(Long Answer Questions)

Note : Answer any **two** questions out of the following five questions. Each question carry 22.5 marks.

2×22.5=45

9. Write SQL Query for the following table

Employee (ENO, Ename, DOB, Address (City), Salary, Gender, D Number)

Dept (DNumber, Dname, MEmpNo, M-Start date)

1. Display the age of 'male' employee.
2. Display the name of highest salary paid 'Female' employee.
3. Display the name of dept. of Employee 'XYZ'.

4. Display all employee belong to same address (city).
5. Which employee is oldest manager in Company.

10. (a) Why the concurrency control is needed? Explain it.

(b) Describe different method of Indexes?

11. What are the characteristics of SQL. Discuss the five aggregate function with suitable example.
12. Define E-R Diagram. Draw on E-R Diagram for library management system, take relevant entities and attributes for the library management system.
13. Explain three level architecture of DBMS.