

**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.  $5 \times 3 = 15$

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.

P.T.O.

**Section-B**

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

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.  $3 \times 15 = 45$

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)

18021\2

**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

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.