L IV

8. Differentiate tuple ä omain relational calculus. What is meant by expression in relational calculus? Give an exa ?

9. What is query optim n? Discuss the significance and different ste followed during query optimization.





*Roll No. .....*

# 97671

## BCA 3rd Semester (New) Examination – November, 2017

### INTRODUCTION TO DATABASE SYSTEM

**Paper : BCA-203**

*Time : Three Hours ]* *[ Maximum Marks : 80*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

*Note :* Attempt ***five*** questions in all. Question No. 1 is ***compulsory***. In addition to ***compulsory*** question, attempt ***four*** more questions selecting ***one*** question from each Unit.

1. ***Compulsory question :***

   (a) Differentiate file system and DBMS.

   (b) Name the ***five*** components of DBMS environment and how they relate to each other ?

(c) What is mapping? ' t is necessary in DBMS architecture ?

(d) Differentiate record and object-based data models.

(e) What is the degree c ionship ? Give example also.

(f) Discuss the properti relation.

(g) Show that if a relatic tabase is in BCNF, then it is also in 3NF.

(h) What is query proc ? What are the typical phases of query proc ?

**UNI**

**2.** (a) What does defini nanipulating, sharing, maintaining and prc ; of a database means ?

(b) Discuss different la es used in DBMS for storage, manipulatic querying of data.





**3.** (a) Discuss the capabilities that should be provided by a DBMS.

(b) What are different types of database end users ? Discuss the main activities of each.

## UNIT – II

**4.** Differentiate two-tier and three-tier client-server architecture with diagram and how three-tier architecture is appropriate for web applications ?

**5.** What are the different ways of classifying a DBMS ?

## UNIT – III

**6.** Explain alternatives for specifying structural constraints on relationship types. What are the advantages and disadvantages of each ?

**7.** (a) Discuss entity integrity and referential integrity constraints. Why is each considered important ?

(b) What are the reasons that lead to the occurrence of null values in relation ?