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14. Explain Boyce Codd Normal Form (BCNF).  
(20)
15. Explain in detail cursor management in PL-SQL.  
(20)

Register Number :

Name of the Candidate :

**5 2 8 5**

**B.Sc. DEGREE EXAMINATION, 2010**

**( COMPUTER SCIENCE )**

**( SECOND YEAR )**

**( PART - III )**

**( PAPER - XII )**

**240. RELATIONAL DATABASE  
MANAGEMENT SYSTEM**

*( Revised Regulations )*

*( Including Lateral Entry )*

*( Common with B.C.A. Revised Regulations &  
Double Degree )*

December ]

[ Time : 3 Hours

Maximum : 100 Marks

**Turn Over**

**SECTION - A** (8 × 5 = 40)

*Answer any EIGHT questions.*

*ALL questions carry equal marks.*

1. What are object based logical models ?
2. What are integrity constraints ?
3. Explain physical schema.
4. What are the features of ER model ?
5. What are the several aspects of SQL?
6. What is QBE ?
7. What are the problems caused by redundancy?
8. Explain closure property.
9. What is Anonymous Block in PL-SQL ?
10. Write the syntax of *while loop* in PL-SQL.

**PART - B** (3 × 20 = 60)

*Answer any THREE questions.*

*ALL questions carry equal marks.*

11. Explain with a neat diagram, the architecture of a database system.

12. Design and draw an ER diagram for a University project

- \* Professors have SSN, name and age and research speciality.
- \* Projects have project number, sponsor name, starting date and ending date.
- \* Graduate students have SSN, name, age and degree program.
- \* Each project is managed by one professor.
- \* Professors can manage multiple projects.
- \* Each project is worked on by more than one graduate student.

13. Write short notes on :

- (a) Equi join. (5)
- (b) Cross join. (5)
- (c) Other join. (5)
- (d) Self join. (5)

**Turn Over**

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**240. RELATIONAL DATABASE  
MANAGEMENT SYSTEM**

( *Revised Regulations* )

[ ( *Common with B.C.A. (Revised Regulations)* ) ]

( *Including Lateral Entry* )

May ]

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**PART - A** ( 8 × 5 = 40 )

*Answer any EIGHT questions.*

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1. Explain various queries in DBMS.

**Turn Over**

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2. Define the foreign keys and domain with examples.
3. What are the various relationship defined in ER- diagram ? Explain with examples.
4. Define the various relational calculus used in DBMS.
5. With neat diagram, explain the database commands.
6. Explain the following with examples :
  - (a) Union.
  - (b) Inersect.
7. What do you understand by normal form ? Explain any one of normal forms.
8. What are the different kinds of dependency ? Explain any one type of dependency.
9. Define the PL / SQL commands.
10. What are the various type of manipulation in PL / SQL ?

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**PART - B** ( 3 × 20 = 60)*Answer any THREE questions.**All questions carry equal marks.*

11. (a) Explain various entity relationship model with examples. (10)
  - (b) Define the various data model defined in DBMS. (10)
12. (a) Define difference between relational algebra and relational calculus. (10)
  - (b) Write a detailed notes on E-R diagram with examples. (10)
13. Explain with example the DLL and DML commands work in SQL. (20)
14. Explain the various features in QBE. (20)
15. Explain the advantage of PL / SQL and process of declaring variables in PL / SQL.(20)

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- (c) List the total number of employees in each department with more than 10 employees.
- (d) List the project number, project name and no. of employees who work on that project.
13. Explain about Boyce Cod normal form in detail.
14. With neat diagram, explain the database management system architecture.
15. What is database model ? Explain any two type of data model with example.

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**1 3 3 4****B.Sc. DEGREE EXAMINATION, 2011****( COMPUTER SCIENCE )****( SECOND YEAR )****( PART - III )****( PAPER -XII )****240. RELATIONAL DATABASE  
MANAGEMENT SYSTEM***( Common with B.C.A. &  
Double Degree, Including Lateral Entry. )*

May ]

[ Time : 3 Hours

Maximum : 100 Marks

**SECTION - A** ( 8× 5=40)*Answer any EIGHT questions.**All questions carry equal marks.*

1. What is the role of a DBA ?

**Turn Over**

2. Compare primary key with foreign key.
3. What is a composite key ?
4. What is generalization in ER diagram ?
5. Write the syntax of SELECT statement with example.
6. Explain about INTERSECT statement with example.
7. What is functional dependance ? Explain.
8. Explain about the anomalies in third normal form.
9. Write the syntax of EXIT WHEN statement in PL-SQL.
10. Explain about the block structure in PL-SQL.

**SECTION - B** ( 3×20 = 60)

*Answer any THREE questions.*

*All questions carry equal marks.*

11. Design an ER diagram for an IT training group. The company has 12 instructors and can handle upto 100 trainees for each training section. The company offers 5 advanced technology courses, each of which is taught by a team of 2 or more

instructors. Each instructor is assigned to a maximum of two teaching teams or may be assigned to do research. Each trainee undertakes one advanced technology course per training session.

12. Consider the following relations :

Employee ( empID), First Name, Last name, address, DOB, sex, position, dept. no.)

Department (dpt.no, dept.name, mgr, empID)

Project ( Proj.no, proj name, dept.no)

Work on (empID, proj no, hours worked)

Write the SQL statement for the following :

- (a) List the name and addresses of all the employees of IT dept.
- (b) List the total hours worked by each employee, arranged in order of department number, and within department, alphabetically by surname.

**Turn Over**