

**336203**

May, 2019

**B.Sc. II SEMESTER****Introduction to Database System (OCSC-201)**

Time : 3 Hours]

[Max. Marks : 75

*Instructions :*

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

**PART-A**

1. (a) Explain the importance of data independence in a database environment. (1.5)
- (b) What is degree of cardinality? (1.5)
- (c) Define 1NF. (1.5)
- (d) Why do we need a database? (1.5)
- (e) What are the commands for sorting data in a table with example? (1.5)

- (f) Define foreign key constraint. (1.5)
- (g) Explain data dictionary. (1.5)
- (h) Discuss the purpose of normalizing data. (1.5)
- (i) How we can create Views using SQL commands? (1.5)
- (j) What are relation types? Explain. (1.5)

**PART-B**

- 2. (a) Describe the three-level architecture of DBMS? Also give the objectives of this architecture. (5)
- (b) What are the responsibilities of Database administrator? (10)
- 3. (a) What do you mean by an entity? What is an entity set? What are different entity types? (10)
- (b) Draw an E-R diagram for a customer and account with an attribute attached to a relationship set. (5)
- 4. (a) What is the importance of functional dependencies in database design? (10)
- (b) A University has many departments. Each Department may have full-time and part-time students. Each department may float multiple courses for its own students. Each department has staff members who may be full time and part time.  
Design a generalization, specialization hierarchy for the University. (5)

- 5. (a) Describe the features of PL/SQL. (10)
- (b) Discuss the various types of keys used in relational model. (5)
- 6. (a) What is Structured Query language? What are its advantages and disadvantages? (10)
- (b) Describe the SELECT operation. What does it accomplish? (5)
- 7. What do you understand by the term normalization? Describe the data normalization process. Discuss the three normal forms 1NF, 2NF and 3NF. (15)