(i) **Printed Pages: 2**   Roll No. ....

(ii) **Questions : 9**   **Sub. Code :** | 1 | 7 | 9 | 4 | 1 |

          Exam. Code : | 0 | 0 | 3 | 0 |

Bachelor of Computer Applications 4th Semester

(2055)

DATABASE MANAGEMENT SYSTEM

Paper : BCA-16-405

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :—The students are required to attempt **ONE** question from each Section (A to D) and the compulsory question.

SECTION—A

1. Discuss characteristics of Database approach. What are its advantages over File Systems ?   13

2. (a) Explain DBMS Architecture in detail along with concept of data independence.   7

   (b) What are ER-models ? Design an ER-diagram for a university database.   6

SECTION—B

3. What are data models ? Discuss various types of data models in detail.   13

4. (a) Explain Relational Algebra along with its operations.   7

   (b) Discuss Codd's rules for RDBMS.   6

SECTION—C

5. (a) Discuss DDL commands in SQL along with its syntax and examples. 7

   (b) What are aggregate functions ? Also discuss Date functions with examples. 6

6. How to query a database ? Discuss its complete syntax along with examples. 13

SECTION—D

7. (a) What are Set Operations in SQL ? Explain with examples. 6

   (b) Discuss conditional control statements in PL/SQL. Write a program to find greatest of three numbers. 7

8. (a) What are triggers ? Explain its types with examples. 7

   (b) How exceptions are handled in PL/SQL ? Explain by an example. 6

(Compulsory Question)

9. (a) Compare Truncate command with Delete command. 2

   (b) Functional Dependencies. 2

   (c) Views. 2

   (d) System and Object Privileges. 2

   (e) Implicit/Explicit cursors. 2

   (f) Normalisation. 3