(i) Printed Pages : 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 3 6 1 4

Exam. Code : 0 4 6 0

M.Sc. Information Technology 2nd Semester

(2042)

ADVANCED DATABASE PROGRAMMING AND MySQL

Paper—MS-60

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

Note :— Attempt *one* question each from Units I, II, III and IV and Compulsory Question No. 9.

UNIT—I

1. (a) Define DBMS. Explain which are the relative advantages of using DBMS over simple databases. 8

   (b) How are various relationships represented in Entity-Relationship model ? Exemplify. 8

2. (a) Define Data-Model. Explain through example its various types along with Database schema and instance. 8

   (b) What is dependency ? Explain its various types with examples. 8

UNIT—II

3. (a) Define relational calculus. Explain its types along with various operations. 8

   (b) What is deadlock ? Explain various ways to recover it. 8

4. (a) Explain the various operations of Projection, Selection and Cartesian Product. 8

(b) Define concurrency. Explain various techniques to control it. 8

UNIT—III

5. (a) Why MySQL was introduced ? Explain its various features. 8

(b) What is the importance of Keys for making queries and subqueries ? Explain various keys also. 8

6. (a) How are the tables Altered and Indexed ? Justify through examples. 8

(b) Explain and exemplify various MySQL data-types. 8

UNIT—IV

7. (a) Draw comparison between Datawarehouse and DBMS Metadata after defining the importance of datawarehouses. 8

(b) How is A priori algorithm implemented for Association rule mining ? Explain. 8

8. (a) Explain various features of datawarehouses. Also explain how are datawarehouses built ? 8

(b) What is classification ? Explain decision tree induction in this context. 8

(Compulsory)

9. Explain :

(a) Data mining Applications

(b) Metadata

(c) Sequences

(d) Views

(e) Granularity

(f) BCNF

(g) Relational Algebra

(h) E-R Model. 8×2