2015

M B A

4th Semester Examination

Subject : DATABASE MANAGEMENT SYSTEM (DBMS)
AND STRUCTURED QUERY LANGUAGE (SQL)

(Specialization : Operations and Systems Management)

PAPER—OS-402

Full Marks : 100

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Write the answers to Questions of each Half in separate books.

(First Half)

(Marks : 50)

1. Answer any *four* questions :   4×5

    (a) State the advantages of DBMS over traditional file management system.

(b) Explain the following with examples:

(i) Primary Key.

(ii) Candidate Key.

(iii) Super Key.

(c) Differentiate between sequential and indexed sequential file organisation citing suitable examples.

(d) Explain the advantages of using XML in database design.

(e) Discuss the main functions of a database administrator.

(f) What is physical and logical data independence ?

2. Answer any *two* of the following :   2×10

(a) Write short notes on the following:

(i) Distributed Database.

(ii) Object Oriented Database.

(iii) Aggregation.

(b) Compare and state the advantaes and disadvantgaes

of Relational, Network and Hierarchical data models.

(c) Construct an E-R diagram for Hospital Management System.

[Internal Assessment : 10 Marks]

(Second Half)

(Marks : 50)

3. Answer any *four* questions : 4×5

(a) Describe the Normalization techniques.

(b) Explain DDL and DML with example.

(c) Write a short note on two-phase locking protocol.

(d) Explain the Database Security Authorization process.

(e) Briefly discuss the major aggregate fucntions in SQL.

(f) Define full and partial functional dependency with example.

(Turn Over)

4. Answer any *two* questions :   2×10

(a) Explain the different query optimization techniques with example.

(b) (i) Explain 'ACID' property at transaction.

(ii) Explain Race Condition.

(c) What is meant by Granularity of Locking ? Briefly discuss different Deadlock avoidance techniques in Concurrent transactions.

[Internal Assessment : 10 Marks]

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