No. of Printed Pages—2

86 (DMS)

[20-HKPGDEO-M4S(O)21J]

MCA 4th Semester (Old) Exam., 2020

DATABASE MANAGEMENT SYSTEM

[MCA (S4) 13]

(Theory)

Full Marks : 50

Time : 2 hours

The figures in the margin indicate full marks for the questions

1. Answer any *five* from the following questions : 2×5=10

(a) List the various types of three-tier system.

(b) Define entity, entity set and weak entity.

(c) Define the term 'cardinality'.

(d) What is normalization? When is relation schema said to be in 2NF?

(e) Define the term 'logical data independence'.

(f) Give the definitions of composite and multi-valued attributes with examples.

2. Answer any *two* from the following questions : 4×2=8

(a) Write the ACID properties of transaction.

(b) Explain referential integrity constraints in brief.

(c) Briefly describe the components of relational data model.

3. Answer any *two* from the following questions : 6×2=12

(a) Write about the different levels of security provided by DBMS.

(b) Describe briefly the two-phase locking technique. Write any two advantages of this technique.

(c) Explain the various types of functional dependencies with the help of examples.

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(Turn Over)

4. Answer any *two* from the following questions : 10×2=20

(a) What is the importance of data model? Explain the different types of data model in brief.

(b) Write short notes on any *two* of the following : 5×2=10

(i) Aggregation

(ii) Need for normalization

(iii) Database keys

(c) *(i)* Write about the various types of database user with their roles. 6

(ii) What is view? Write the benefits of using views. 4

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