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1 (Sem-2) COA

2024

COMPUTER APPLICATION

Paper : COA0200404

(Database Management System)

Full Marks : 45

Time : Two hours

**The figures in the margin indicate
full marks for the questions.**

1. Answer the following questions as directed :

1×5=5

(a) Rows in a table are _____ in a relation.
(Fill in the blank)

(b) The various kinds of data that describe
an entity, are known as its _____.
(Fill in the blank)

(c) A _____ is always established between
two entities. (Fill in the blank)

Contd.

(d) An E-R model uses double outlined rectangled to represent _____ entity set. (Fill in the blank)

(e) A functional-dependency is a relationship between _____. (Fill in the blank)

2. Answer **any five** questions from the following: $2 \times 5 = 10$

(a) Define the term Database.

(b) What is a file-processing system ?

(c) What is SQL? What are the characteristics of SQL ?

(d) What is an E-R model ? What are its advantages ?

(e) Define the term entity. What is the difference between tangible and non-tangible entity ?

(f) Explain the difference between strong and weak entity type.

(g) Define Normalization.

(h) Define the term degree. What do you mean by the term cardinality ?

- (i) Give *two* characteristics of relation.
- (j) Explain briefly about integrity constraints.
3. Answer **any four** questions from the following : 5×4=20
- (a) Define the term data integrity and explain its types.
- (b) What is a file-processing system ? What are the disadvantages of a file-processing system that led to the development of the database system ?
- (c) Define the term data-model. Explain different types of data-models.
- (d) What are the advantages of using E-R model ?
- (e) What is full-functional dependency ? Explain.
- (f) Explain partial dependency with an example.
- (g) What is BCNF in normalization ?
- (h) What is DDL ? Explain.

4. Answer **any one** questions from the following : 10×1=10

(a) Who is a database administration (DBA)? What are the various responsibilities of a DBA ?

(b) What is a database schema ? Explain with the help of an example. Explain the different types of data models.

(c) Define Normalization and why is it done. Explain 1NF, 2NF, 3NF and 4NF with suitable examples.

(d) What is data type ? What are the various data types supported by standard SQL ?