

8/5 3/4
12
11
32
IV/BCA/402

2017

(4th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA-402

(Database Management Systems)

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

1. Choose the correct answer by putting a Tick (✓) mark in the brackets provided : 1×10=10

(a) A collection of data to be used by different people is called

(i) DBMS ()

(ii) RDBMS ()

(iii) Database (✓)

(iv) All of the above ()

(b) Which database level is the one closest to the physical storage?

(i) External (✓)

(ii) Internal ()

(iii) Conceptual ()

(iv) All of the above ()

(c) Which model combines the connectivity and cardinality information in a single symbol?

- (i) Crow's foot ()
- (ii) Rein85 (✓)
- (iii) INDEFIX ()
- (iv) IDEF1 ()

(d) Which of the following is a bottom-up approach?

- (i) Specialization ()
- (ii) Categorization ()
- (iii) Participation ()
- (iv) Generalization (✓)

(e) The tuple relational calculus is based on specific number of

- (i) existential quantifier ()
- (ii) universal quantifier ()
- (iii) domain variables ()
- (iv) tuple variables (✓)

(f) Degree of a table means the number of _____ in a table.

- (i) rows ()
- (ii) columns (✓)
- (iii) domain ()
- (iv) table ()

(g) Primary key and foreign key specification can be added to or removed from a table using the _____ statement.

(i) SELECT ()

(ii) UPDATE ()

(iii) ALTER TABLE ()

(iv) DROP ()

(h) Which of the following is not a data definition language statement?

(i) ALTER ()

(ii) DELETE (✓)

(iii) DROP ()

(iv) CREATE ()

(i) Which of the following is not a transaction management SQL command?

(i) SELECT (✓)

(ii) COMMIT ()

(iii) ROLLBACK ()

(iv) SAVEPOINT ()

(j) Which of the following is a volatile storage media?

(i) Magnetic disk ()

(ii) Optical disk ()

(iii) Magnetic tape ()

(iv) Main memory (✓)

(4)

2. State whether the following are True (T) or False (F) by putting a Tick (✓) mark : $1 \times 5 = 5$

(a) The primary key value of each row in a table need not be unique.

(T / F) ✓

(b) The GROUP BY clause is usually used with aggregate functions like SUM, AVG, MAX, MIN, etc.

(T / F) ✓

(c) Relational algebra is not a procedural language.

(T / F) ✓

(d) Simple attributes can be further subdivided.

(T / F) ✓

X (e) The conceptual model is dependent on both software and hardware.

(T / F) ✓

(5)

3. Answer the following questions : $2 \times 5 = 10$

(a) Differentiate between IN and BETWEEN clauses.

e (T) or
 $1 \times 5 = 5$

in a table

(T / F)

used with
MAX, MIN,

(T / F)

al language.

(T / F)

subdivided.

(T / F)

ndent on both

(T / F)

(6)

(b) What is project operation? Give an example.

IV/BCA/402/467

IV/BCA/402/467

(7)

(c) Why are backups important?

example.

IV/BCA/402/467

(8)

(d) What is entity integrity?

IV/BCA/402/467

GT-200/467

(9)

(e) What are the advantages of Database Management Systems?

G7-200/467

IV/BCA/402

IV/BCA/402

2017

(4th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA-402

(Database Management Systems)

Full Marks : 75

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 50)

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

1. (a) Describe the relational database model
with the advantages and disadvantages. 10

Or

- (b) Explain logical and physical data
independence and their importance in
the database design. 6

- (c) Differentiate between type constraint and
range constraint. 4

G7/467a

(Turn Over)

(2)

2. (a) What is generalization? Explain superclass and subclass entities with the help of diagram. 2+8=10

Or

- 3-6 (b) Explain the entity relationship diagram conventions with the help of a neat sketch. 5

- (c) With the help of diagram, explain different concepts of a relationship. 5

- 3-6 3. (a) Define normal form. Discuss different types of normalization in DBMS. 2+8=10

Or

- (b) What are the main characteristics of functional dependencies? 6

- (c) Why is denormalization needed? 4

4. (a) What are different arithmetic operators in SQL? Explain with examples. 2+8=10

Or

- 4-6 (b) Explain how views are created using an example. 6

- 2-4 (c) Give the syntax of the UPDATE statement. Explain with an example. 4

(3)

5. (a) What is shadow paging? Explain how it is performed. 5-8
2+8=10

Or

- (b) What is the syntax of the GRANT command? Explain with some examples. 5
- (c) How are roles and privileges granted and revoked? 5
