CB

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BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)
SPECIALIZATION IN CYBER SECURITY (CS)
EXAMINATION : DECEMBER - 2023
SEMESTER – III
Sub: Database Management System (DBMS)
(BCA –341-18/BCA-341-20/BCA-CS-341-20)

Date : 20/12/2023 **Total Marks : 60** **Time: 10.00 am to 12.30 pm**

Instructions:
1. *All questions are compulsory unless and otherwise stated.*
2. *Bold figures to the right of every question are the maximum marks for that question.*
3. *Candidates are advised to attempt questions in order.*
4. *Answers written illegibly are likely to be marked zero.*
5. *Use of scientific calculators, Log tables, Mollier Charts is allowed.*
6. *Draw neat and labelled diagrams wherever necessary.*

Q.1. Fill in the blanks. **(5)**

1. A -------- is a collection of programs that enables users to create and maintain a database.
   a) Database b) DBMS
   c) Code d) Data
2. Deadlock -------- protocols ensure that the system will never enter into deadlock state.
   a) Attention b) Prevention
   c) Declaration d) Detection
3. Various types of authorizations are called --------.
   a) Privileges b) Writes
   c) Restrictions d) Grants
4. A relational database is made up of a number of --------.
   a) Relations b) Rows
   c) Columns d) Data
5. Entity integrity rule is concerned with -------- key values.
   a) Foreign b) Joint
   c) Primary d) Candidate

Q.2. State True/False. **(5)**

1. Database is collection of interrelated data.
2. Shadow page table is modified during execution.
3. Delete command is used to remove a table.
4. Shadow page table scheme is useful if transactions execute serially.
5. Throughput means the number of transactions executed in a given amount of time.

Q.3. Answer the following. (Solve any 5) **(10)**

1. What is data mining & data cleansing ?
2. What is integrity constraints ?
3. What is transaction & concurrency ?
4. State the applications of database.
5. State the syntax and example of create view statement.
6. What is denormalization ?

Q. 4. Answer the following in detail. (Solve any 6) **(30)**

1. Explain wait-die and wound-wait scheme.
2. Explain users of DBMS.
3. Explain in detail states of transaction.
4. Explain data types in SQL.
5. Explain in detail data security.
6. State the advantages of normalization.
7. Explain any two problems associated with concurrency in detail.

Q. 5. Answer the following in detail. (Solve any 1) **(10)**

1. Explain any 5 codd's rules.
2. Explain in detail ERD.