

TILAK MAHARASHTRA VIDYAPEETH, PUNE
BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)/BACHELOR
OF SCIENCE/BACHELOR OF SCIENCE (CYBER SECURITY)/
BACHELOR OF COMPUTER APPLICATIONS (CYBER SECURITY)
EXAMINATION : DECEMBER-2025
SEMESTER – III

Sub: Database Management System (DBMS)
(BCA341-20/BCA23-302/BSC24-302/BSCC24-302/BCA-CS341-20/BCAC23-302)

Total Marks : 60

Time: 2.00 pm to 4.30 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. Various types of authorizations are called -----.
a) Privileges
b) Writes
c) Restrictions
d) Grants
3. Entity integrity rule is concerned with ----- key values.
a) Foreign
b) Joint
c) Primary
d) Candidate
4. ----- provides fast access to data items that hold particular values.
a) Sequence
b) Indices
c) Key
d) Table
5. ----- is useful if you have started a transaction that you cannot complete.
a) Commit
b) Rollback
c) Update
d) Select

Q.2. State True/False

(5)

1. Data independence is of two types, physical and logical data independence.
2. Composite attributes are not further divided into subparts.
3. Database is collection of interrelated data.
4. Delete command is used to remove a table.
5. Shadow page table scheme is useful if transactions execute serially.

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

1. What is integrity constraints ?
2. What is transaction & concurrency ?
3. State the applications of database.
4. State the definition of database administrator.
5. What is deadlock ?
6. What is denormalization ?

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

1. What are the advantages of normalization ?
2. Explain wait-die and wound-wait scheme.
3. Explain undesirable properties of bad database design.
4. Explain in detail states of transaction.
5. Explain architecture of DBMS.
6. Explain in detail data security.
7. Explain any two problems occur due to concurrency.

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

1. Explain in detail ERD.
 2. Explain in detail advantages of DBMS (any 5).
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