

**Third Year B.C.A (Semester - I) Examination**  
**Paper - 15BCA304**

**Advanced Database Management System**

Time : Three hours]

[Full Marks - 60

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- N.B. :**
- i) All questions carry equal marks
  - ii) Due credit will be given to neatness & adequate dimensions.
  - iii) Assume suitable data wherever necessary.
  - iv) Illustrate your answer necessary with the help of neat sketches.
  - v) Use Blue/Black ink/refill only for writing the answer book.

Q.1 Select correct alternative and rewrite the following statements.

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- a) A data warehouse is which of the following.
  - i) Can be update by end users.
  - ii) Contains numerous naming conventions and formats.
  - iii) Organised around important subject areas.
  - iv) Contains only current data.
- b) In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy.
  - i) Trigger
  - ii) Pointer
  - iii) Locks
  - iv) Cursors
- c) What are the correct features of distributed database ?
  - i) Is always connected to the internet
  - ii) Always require more than three machines
  - iii) Users see the data in one global schema
  - iv) None of the above

- d) In the \_\_\_\_\_ normal form, a composite attributes is converted to individual attributes.
- i) First                                      ii) Second  
iii) Third                                      iv) Fourth
- e) Checkpoints are a part of
- i) Recovery measures  
ii) Security measures  
ii) Concurrency measures  
iv) Authorication measures
- Q.2 a) Enlist & explain various guidlines for index selection. 5  
b) Explain tuning the conceptual schema using setting for weaker normal form and denormalization. 6

OR

- Q.3 a) Explain choice in tuning queries and views. 6  
b) Explain Decomposition into BCNF. 5
- Q.4 a) What is Log ? List the actions on which log is recorded. 6  
b) Explain Lock management in detail. 5

OR

- Q.5 a) Explain recovering from system crash in detail. 6  
b) Explain concurrency control in B+ trees. 5
- Q.6 a) Draw & explain architecture for parallel databases. 5  
b) Explain various distributed database architectures. 6

OR

- Q.7 a) Explain parallel query optimitation. 5  
b) Explain fragmentation and replication. 6

- Q.8 a) Explain storage and access methods of data in ORDBMS. 6  
b) Compare OODBMS with ORDBMS. 5

OR

- Q.9 a) Explain ORDBMS database design. 6  
b) Explain inheritance in the contract of object database system. 5
- Q.10 a) Explain metadata management in data warehouse. 6  
b) What is data mining ? Explain its different application areas. 5

OR

- Q.11 a) Explain datawarehouse environment in detail. 6  
b) What is OLTP ? Explain. 5

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