

Tribhuwan University
Institute of Science and Technology
Model

Bachelor Level / seventh-semester / Science

Computer Science and Information Technology(O-CSC401)

(Advanced Database Management System(old syllabus))

Time: 3 hours

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Full marks: 60

Pass marks: 24

Attempt all Questions.

1. Explain the following terms:

- a. Spatial database
- b. ECA model
- c. Federated DBMS
- d. Well-formed and valid XML document
- e. GIS
- f. Classification and clustering

2. How does a category differ from a regular shared subclass? What is a category used for? Illustrate your answer with suitable examples.

OR

Describe the steps of the algorithm for object database design by EER-to-OO mapping.

3. What is the difference between persistent and transient objects? How persistence is handled in typical OO database systems?

4. Describe different implementation issues with object relational database system.

5. Discuss the different technique for executing an equijoin of two files located at different sites. What main factors affect the cost of data transfer?

OR

What are the main difference between designing a relational database and an object database?

6. Differentiate between attributes and elements in XML? List some of the important attributes used in specifying elements in XML schema.

OR

What is the difference between structured and unstructured complex object? Differentiate identical versus equal objects with examples.

7. Explain mobile computing architecture with suitable diagram.

8. What are the difference and similarities between objects and literals in the ODMG Object Model?

9. What is a data warehouse? How does it differ from a database?

OR

Describe multimedia database and what are the different types of multimedia data that are available in current systems?

10. Describe the main reasons for and potential advantages for distributed database. What additional functions does it have over centralized DBMS?