

**Tribhuvan University**  
**Institute of Science and Technology**

**2071**

Bachelor Level/ Fourth Year/ Seven Semester/ Science  
Computer Science and Information Technology (CSc. 401)  
(Advanced Database Management System)

Full Marks: 60  
Pass Marks: 24  
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.*

**Attempt all questions.**

1. Explain the following terms:
  - a. Data Warehouse
  - b. Distribution Transparency
  - c. X Query
  - d. Distribution transaction
  - e. Knowledge base
  - f. Classification and clustering
2. Distinguish multiple inheritance and selective inheritance in OO concepts.
3. Define state of an object. Distinguish between persistent and transient objects.
4. Discuss how time is represented in temporal databases and compare the different time dimensions.
5. What is the difference between structured and unstructured complex object? Differentiate identical versus equal objects with examples.
6. What are the advantages and disadvantages of OODBMS?
7. What are the differences and similarities between objects and literals in the ODMG object model?
8. Describe the main reasons for the potential advantage for distributed database. What additional functions does it have over centralized DBMS?
9. Describe the characteristics of mobile computing environment in detail.
10. Differentiate between XML schema and XML DTD with suitable example.

**IOST, TU**