

**Tribhuwan University**  
**Institute of Science and Technology**  
**2072**

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

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**Attempt all Questions.**

**1) Explain the following terms:**

- a) Database performance tuning
- b) UML
- c) Subclass vs Superclass
- d) X Query
- e) Calendars
- f) Active Database

**2) What are query optimization techniques? Explain.**

**3) Differentiate between specialization and generalization with example.**

**4) How do single inheritance, multiple inheritance and selective inheritance differ?**

**5) What are the differences between structured and unstructured complex objects? Explain.**

**6) What are the object relational features that have been included in SQL-99?**

**7) Discuss how time is represented in temporal database and compare different time dimensions.**

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

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

**10) Explain XML schema and XML DTD.**