

**Tribhuvan University**  
**Institute of Science and Technology**  
**2074**

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 the questions.**

**1. Explain the following terms:**

- a) Data replication
- b) UMI
- c) SOL: 2003
- d) Xpath
- e) SOAP
- f) Clustering

**2. What is mobile computing? Explain its architecture.**

**3. Explain the process of EER to relational mapping with example.**

**4. Discuss the concept of encapsulation, and tell how it is used to create abstract data types.**

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

**6. What is temporal database? Explain the terms date, time, timestamp, interval and period.**

**7.What is data warehouse? Explain the architecture for the functionality of data warehouse.**

**8. What is multimedia database? What are the nature of multimedia database and applications?**

**9. What is data mining? Discuss association rule mining with example.**

**10. What is GIS? What are GIS data operations?**