Tribhuvan University
Institute of Science and Technology
2080
✡

Bachelor Level / Fourth Year/ Eighth Semester/ Science
Computer Science and Information Technology (CSC461)
(Advanced Database)
(NEW COURSE)

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

Candidates are required to give their answers in their own words as for as practicable.
The figures in the margin indicate full marks.

Group A

Long answer questions:
Attempt any Two questions:

(2×10=20)

1. Explain different features of enhanced ER (EER) model. Compare specialization with generalization.
(7 + 3)

2. Compare object-oriented database with object relational database. What are different object database features that have been included in SQL?
(3 + 7)

3. Why distributed database is important? What is transparency? Explain different types of transparencies in distributed databases.
(3 + 2 + 5)

Group B

Short answer questions:
Attempt any Eight questions:

(8×5=40)

4. Why hashing is important to store data in databases? What is primary file organization? (3 + 2)

5. Explain aggregation with suitable example.
(5)

6. What is ODMG object model? What is object definition language (ODL)?
(2.5 + 2.5)

7. Explain different steps in query processing.
(5)

8. Why query optimization is essential in databases? What is heuristic optimization?
(2 + 3)

9. Define fragmentation. Explain horizontal fragmentation with example.
(1 + 4)

10. What are the characteristics of NOSQL systems? Explain.
(5)

11. What is the concept of active database? What are triggers?
(2.5 + 2.5)

12. Write short notes on:
    a. BigData
    b. Information retrieval
(2 × 2.5 = 5)