Tribhuvan University
**Institute of Science and Technology**
2079
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Bachelor Level / Fourth Year/ Seventh Semester/ Science          Full Marks: 60
**Computer Science and Information Technology (CSC414)**          Pass Marks: 24
(Database Administration)          Time: 3 hours.
**(NEW COURSE)**

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

### Section A

**Attempt any TWO questions.**          (2×10=20)

1. What is Multiplexing? Why is it needed? Write the steps of multiplexing the redo log files and control files with oracle commands.          (2+2+6)

2. What is the importance of privileges in databse security? Explain the different system and object privileges used in ORACLE database. Also explain the security guidelines to keep your database more secure.          (2+4+4)

3. Explain the term backup, restore and recovery in oracle database. As a DBA of an organization, explain your backup policy of your database and also explain the different backups and recovery process with example.          (3+7)

### Section B

**Attempt any EIGHT questions.**          (8×5=40)

4. Mention and explain the different startup modes of ORACLE database and types of shutdowns.
          (5)
5. What do you mean by Oracle Instance? Explain about the different data structures used in SGA.
          (1+4)
6. Explain the logical structure of oracle database and relate the logical database with physical database.
          (5)
7. Explain the term Database administrator (DBA) and describe the different roles of DBA.          (5)

8. Explain the oracle multitenant architecture with CDB and PDB concept.          (5)

9. What is user profile? Write the commands to create the user profile and assign it to user.          (1+4)

10. What are data files? How they ate related with tablespaces. Write a command to add a datafile in existing tablespace named 'users.'          (2+3)

11. Explain the steps in database recovery. Explain the difference between crash recovery and media recovery.          (2+3)

12. What is indexing? Why it is important in databsase? Explain the different guidelines to create index in database.          (1+1+3)