Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2024

Bachelor in Computer Applications
Course Title: Distributed System
Code No: CACS 352
Semester: VI

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

Candidates are required to answer the questions in their own words as far as possible.

Group B

Attempt any SIX questions.   [6×5 = 30]

2. Why distributed operating system is needed? Differentiate between network operating system and distributed operating system.   [1+4]

3. How does virtualization contribute to the functionality of distributed system?   [5]

4. What is mutual exclusion and how is it maintained in distributed environments?   [5]

5. What code migration? Explain the migration models.   [1+4]

6. Define name, address and identifier. Explain the types of communication in distributed system.   [2+3]

7. Explain different aspects of distribution transparency in brief.   [5]

8. Write short notes on (any two)   [2.5+ 2.5]
   a. Public key cryptography
   b. Security Management
   c. RPC

Group C

Attempt any TWO questions.   [2×10 = 20]

9. What is clock synchronization? Why clock synchronization is needed in distributed system? Explain physical clock synchronization algorithm in detail.   [2+2+6]

10. What are the types of failure that may occur in distributed system? Explain the methods used to recover from the crash? Explain one phase commit and two phase commit protocol detail.   [2.5+2.5+5]

11. What is replication? Explain data-centric consistency models with suitable example. Explain the types of name resolution algorithm used in distributes system.   [1+5+4]