

1. Discuss the concept behind the fixed point number representation. What can be the fixed point representation of a signed number 8? Convert  $(14.14)_{10}$  into binary and octal. *Circuit* (3+3+4)
2. What is switching? How can you differentiate packet switching from packet switching? What are the advantages of using optical fibers? (2+4+4)
3. Why system software is needed in computers? Discuss various types of operating system. (3+7)
- Attempt any two questions:** (2×10=20)
4. What is the role of Control Unit in CPU? How analog computer differs from digital? (2+3)
5. How RISC architecture differs from CISC architecture? (5)
6. What is the purpose of cache memory? How sequential access differs from direct access? (1+4)
7. Explain the working mechanism of a keyboard. (5)
8. Why IP address is used in internet? Mention the significance of domain names in internet. (2.5+2.5)
9. Define computer network. Suppose you have a two story building having 15 computers in each of two floors. Now if you are asked to create a network of these computers, what type of network will you create? Give proper justification to your answer. (2+3)
10. What is malicious software? How virus differs from worms? (1+4)
11. Discuss the characteristics of multimedia. (5)
12. What is database system? How data can be stored using relational model. (2+3)

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

**(NEW COURSE)**

(Introduction to Information Technology)

**Computer Science and Information Technology (Csc. 109)**

Bachelor Level / First Year/ First Semester/ Science

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



2075

**Institute of Science and Technology**

Tribhuvan University