Tribhuvan University
Institute of Science and Technology
2075

Bachelor Level / First Year/ First Semester/ Science
Computer Science and Information Technology (CSc. 109)
(Introduction to Information Technology)
(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.

Attempt any two questions:
(2×10=20)

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. (3+3+4)

2. What is switching? How can you differentiate packet switching from circuit 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 eight questions:
(8×5=40)

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)