Tribhuvan University
Institute of Science and Technology
2075
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Bachelor Level / First Year/ First Semester/ Science   Full Marks: 60
Computer Science and Information Technology (CSc. 109)   Pass Marks: 24
(Introduction to Information Technology)   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.

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 ~~packet~~ *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)