

Tribhuvan University
Institute of Science and Technology
2074
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Bachelor Level / First Year/ First Semester/ Science
Computer Science and Information Technology (CSc. 109)
(Introduction to Information Technology)

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

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

Attempt any two questions:

(2×10=20)

- ✓ 1. What is communication protocol? Discuss the OSI model with its layers. (2+8)
- ✓ 2. What is the objective of using operating system? How operating system performs process, memory and file management activities? (3+7)
3. What is data model? How ER-Model can be used to create conceptual data model? Explain with example. (3+7)

Attempt any eight questions:

(8×5=40)

- ✓ 4. What is computer system? Discuss components of computer system. (1+4)
- ✓ 5. Why bus is used in computer? How control bus differs from data bus? (2+3)
- ✓ 6. How many numbers of bits are equivalent 1 Kilobyte? Discuss the working mechanism of magnetic tape. (2+3)
- ✓ 7. Mention the use of plotter. How quality of printer is determined? (2.5+2.5)
8. What do you mean by Internet of Things (IoT)? As an IT expert, mention the possible applications of IoT that you have observed in Nepal. (2+3)
- ✓ 9. Define each of the terms confidentiality, integrity, and authentication. (5)
- ✓ 10. What is multimedia? Discuss the applications of multimedia. (1+4)
- ✓ 11. What is BigData? How centralized database is different than the distributed database? (1+4)
- ✓ 12. Convert $(10.4)_{10}$ to binary. Add $(10111)_2$ with $(01111)_2$. (2+3)