

Bachelor Level / First Year/ First Semester/ Science  
Computer Science and Information Technology (CSC114)  
(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 far as practicable.*  
The figures in the margin indicate full marks.

### Section A

Attempt any TWO questions.

(2×10 = 20)

1. Explain different types of software with their roles. How do system software and application software interact with each other to provide a seamless computing experience? (7+3)
2. Describe different network topologies along with their advantages and disadvantages. Explain how the networking transformed sectors such as education, business, and healthcare. (6+4)
3. Explain the concept of memory hierarchy. How does the hierarchy affect the performance of a computer system? Explain the difference between hardcopy and softcopy output devices with examples. (3+2+5)

### Section B

Attempt any EIGHT questions.

(8×5 = 40)

4. List out the characteristics of a computer. How do these characteristics make computers efficient for various applications? (1+4)
5. Compare and contrast primary memory and secondary memory. (5)
6. Describe the different phases of the instruction cycle. How does it help in executing a program? (3+2)
7. Convert the binary number 110101.101 to its equivalent octal and hexadecimal representations. (2.5+2.5)
8. Describe the different layers in the internet architecture and how each layer contributes to internet communication. (5)
9. What is database? Explain how databases support operations in business, social media, finance and healthcare. (1+4)
10. Explain how multimedia applications enhance user experience in areas like online learning, gaming, and virtual reality. (5)
11. Why computer security is essential? Explain how are confidentiality and integrity services maintained. (1+4)
12. Write short notes on (2.5+2.5=5)
  - a) Big Data
  - b) E-Commerce

31/10/2021