Midterm Examination - Fall 2023
(CS/AI/DS/CR/GA Programmes)

Max. Time: 90 Minutes

Dated: 27/11/2023

Max. Marks: 20

FUNDAMENTALS OF INFORMATION TECHNOLOGY (CT-174)

Paper - A

Note:
- Attempt all questions in the order they appeared.
- All questions carry equal marks.

Q1. Define two recent technological advancements in Information Technology and their impact on society. How do emerging technologies influence the evolution of IT systems?

[CLO-1: 05 Marks]

Q2. A programmer is writing a code in the C programming language. After the compilation of the program, when he executes it. **Explain**, which specific type of memory is primarily responsible for the actual execution of the program?

[CLO-1: 05 Marks]

Q3. Differentiate between system software and application software with the help of examples. Also, explain the terms Proprietary software, malicious software and open-source software.

[CLO-2: 05 Marks]

Q4. Translate the followings (show all steps):

i) $(572)_8 = (?)_2$ 1 0 111 0 1 0

ii) $(102A)_{16} = (?)_8$ 1 0 ,052

iii) $(1010110111)_2 = (?)_8$ 1 2 6 7

iv) $(2176)_8 = (?)_{16}$ 4 7 E

v) $(11001 1 0100)_2 = (?)_{16}$ 3 3 4

[CLO-2: 05 Marks]

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FUNDAMENTALS OF INFORMATION TECHNOLOGY (CT-174)

Paper - B

Note:
- Attempt all questions in the order they appeared.
- All questions carry equal marks.

Q1. Define two recent technological advancements in Information Technology and their impact on society. How do emerging technologies influence the evolution of IT systems?

[CLO-1: 05 Marks]

Q2. Discuss the primary functions of each type of memory and provide examples of situations where they are applicable in a computer.

[CLO-1: 05 Marks]

Q3. Explain the basic organization of a computer system and explain the functions of an operating system in detail.

[CLO-2: 05 Marks]

Q4. Translate the followings (show all steps):

i) $(617)_8 = (?)_2$

ii) $(A21C)_{16} = (?)_8$

iii) $(10011111)_2 = (?)_8$

iv) $(7122)_8 = (?)_{16}$

v) $(1001100100)_2 = (?)_{16}$

[CLO-2: 05 Marks]