



Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science and Engineering
Mid Semester Examination, Spring-2024

Course Code: CSE112 Course Title: Computer Fundamentals

Level: 1 Term: 1

Exam Duration: 1.5 Hours

Marks: 25

Answer ALL the Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes.]

1.	a)	Draw the block diagram to illustrate the basic organization of a computer system and explain the functions of various units.	[2.5]	CO1
	b)	Which generation of computers introduces Graphical User Interfaces (GUI)? How did the (GUIs) contribute to the evolution of computer interfaces?	[2.5]	
2.	a)	In the realm of data storage, what comparative analysis can be made between magnetic tape and magnetic disk technologies in terms of their suitability for long-term archival storage, data retrieval speeds, scalability, and cost-effectiveness?	[2.5]	
	b)	Imagine that your PC has crashed. Which type of software you have to install to run your PC? What are the primary functions and characteristics of this software in modern computing environments, and how do they differ from other types of software?	[2.5]	
3.	a)	Describe the characteristics and applications of point-and-draw devices in computing. Provide examples of these devices and their functions.	[2.5]	CO1
	b)	Compare and contrast the characteristics of a RISC processor and a CISC processor. Highlight situations where each architecture might be preferred.	[2.5]	
4.	a)	Perform the following number conversion: i. $(11100101.101)_2 = (?)_{10}$ ii. $(4E2CD)_{16} = (?)_8$	[2.5]	CO2
	b)	Perform the subtraction $(1101011)_2$ from $(11001101)_2$ using the additive/complementary approach.	[2.5]	
5.	a)	Perform the following operations: i. $(54765)_8 + (46753)_8 = (?)_8$ ii. $(4E28D)_{16} - (4E2C9)_{16} = (?)_{16}$	[2.5]	
	b)	Represent the decimal number 57.625 in binary 16-bit format, indicating the sign bit, exponent, and mantissa.	[2.5]	