



COMSATS UNIVERSITY ISLAMABAD (CUI)
DEPARTMENT OF COMPUTER SCIENCE
MIDTERM EXAMINATION SPRING -2023
BS (CT)-1 SEMESTER

Course: CSC101-Introduction to ICT
Maximum Marks: 25

Instructor: Mohsin Ahmed
Dated: May 10, 2023 Time Allowed: 90 Minutes

- All questions are self-explanatory and require no further explanations during exam time.
- Make sure that you have signed the attendance sheet before leaving the examination room.
- Return the question paper along with the answer sheet.
- Attempt all questions.
- Calculators are NOT allowed

(CLO – 1: Explain the basic computing models and its related hardware)

- Q.# 1. What is the purpose of a computer's BIOS? How does it work? [2 Marks]
- Q.# 2. Clarify the purpose of clock in a computer hardware system with example [2 Mark]
- Q.# 3. We have studied machine cycle in class. Suppose that each of the four modules of machine cycle is taking 2 seconds. If there are four instructions to be executed, how much time would be taken for the whole process to complete without pipelining? How much time would be taken for the whole process to complete when using pipelining? [3 Marks]

(CLO –2: Work out with different number systems and codes)

- Q.# 4. Suppose you have entered your **FIRST NAME (capital letters)** from keyboard. (The ASCII code for **A** is 65 and **Z** is 90). [4+2+2=8 Marks]
- (a) Convert the ASCII code of your First name into binary and hexadecimal.
 - (b) Add the binary code of first two letters of your name.
 - (c) Subtract the binary code of last letter of your name from the sum obtained above.

(CLO –3: Describe the fundamental concepts of ICT domains)

- Q.# 5. The CEO of a hotel realized their business had become the victim of a fraud when the treasurer office began to receive insufficient fund notifications for regularly recurring bills. A review of the accounting records exposed a serious problem. At some point a few weeks before, the CEO had clicked on a link in an email that they thought was from the FBR but, actually It wasn't. When they clicked the link and entered their credentials, the cyber criminals captured the CEO's login information, giving them full access to intimate business and personal details. The business lost \$1 million. [3 Marks]
- (a) Identify and discuss the attack.
 - (b) How the attack could have been avoided?

Q.# 6. Suppose you are a consultant for a healthcare organization that is looking to improve its information systems. The organization has identified several areas where it needs to improve, including patient record-keeping, inventory management, and billing. Describe the different types of information systems that could be used to address the needs of the healthcare organization. Recommend a specific type of system for each of the areas identified, and explain the reasons behind your recommendation. [2 Marks]

Q.# 7. Define E-commerce, explain how E-commerce differs from E-business? [2 Marks]

Q.# 8. Compare and contrast the following terms with the help example: [3 Marks]

- (a) Multi-tasking
- (b) Multi-threading

*******BEST OF LUCK*******