



বাংলাদেশ আর্মি ইন্টারন্যাশনাল ইউনিভার্সিটি অব সায়েন্স এন্ড টেকনোলজি (বিএআইইউএসটি), কুমিল্লা সেনানিবাস  
Bangladesh Army International University of Science and Technology (BAIUST), Comilla Cantonment

**Department of Computer Science and Engineering  
Level-4 Term-I**

**Term Final Examination, Fall 2020  
Course Code: CSE-405  
Course Title: Computer Interfacing**

**Notes:**

**Time: 75 mins  
Full Marks: 40**

- a. Figure on the right of each question indicate marks for respective question.
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**Part - A**

There are some statements in the following section. If the statement is **true** write “**T**”.  
Otherwise “**F**” and write down the correct answer.

- |       |   |    |
|-------|---|----|
| 1. a) | A portion of the memory system is used as the I/O map which reduces the amount of memory available for applications in the <b>Isolated I/O</b> mapping. | 01 |
| b)    | IC - <b>74ALS138</b> has three Gate input pins.   | 01 |
| c)    | In the <b>PPI</b> , Group <b>A</b> contains <b>Port A</b> (8 pins) and upper half of <b>Port B</b> (4 pins).  | 01 |
| d)    | The <b>16550</b> also known as <i>Universal Asynchronous Receiver/Transmitter</i> .   | 01 |
| e)    | When there are more than one <b>8259A</b> in the system <b>Initialization Command Word 4</b> is used.   | 01 |

Fill in the gaps with appropriate words.

- |       |   |    |
|-------|---|----|
| 2. a) | _____ is used for high current gain.                              | 01 |
| b)    | There are _____ different modes of operations in the <b>PIT</b> . | 01 |

- c) For faster data transfer, we need to use \_\_\_\_\_. 01
- d) \_\_\_\_\_ =  $\frac{\text{External clock}}{16 * \text{Baud Rate}}$  01
- e) **N-key** rollover will recognize \_\_\_\_\_ pressed simultaneously. 01

### **Part - B**

Answer any **six (06)** of the following:

3. What do you mean by bus **Buffering** and **Latching**? Explain why buffer used for input interface and latch used for output interface 05
4. Develop an I/O decoder using **74ALS138** for the address **10H, 12H, 14H, 16H, 18H, 1AH, 1CH, 1EH**. 05
5. Interface an **82C55** connected to the **80386SX** so that it functions at **8-bit** I/O port addresses **D0H (port A), D1H (port B), D2H (port C), and D3H (command register)** using **74ALS138** decoder. 05
6. Describe a **64-bit** keyboard interface to the **8088** microprocessor through the **8279**. 05
7. Write an initialization procedure that programs the **16550** for operation using six data bits, odd parity, two stop bits & a baud rate of **1800** using **18.432** MHZ clock. Assume that I/O ports are numbered **40H** and **42H**. 05
8. What are the differences among **Automatic End of Interrupt (AEIOI)**, **non-specific End of Interrupt (EOI)** & **specific EOI** mode for the **8259A**? 05
9. Draw the basic circuit that generates system control signals in a **DMA** environment and then explain the basic operation of a **DMA**. 05