Hajee Mohammad Danesh Science and Technology University, Dinajpur

Semester Final Examination - 2014 (January-June)

B.Sc in CSE

Level: 4 Semester: I Credit: 2.0

Course Code: CEN 401 Course Title: Computer Interfacing

Time: 2 Hours **Total Marks: 60**

[NB: The figure in the right margin indicates the marks for the respective question. Split answer of any question is unacceptable]

Section-A

Answer any 2 (two) of the followings

1.	a)	Differentiate fixed address and variable address for I/O port.	2
	b)	Show the hardwired connection and describe the operation of a basic input interface.	5
	c)	Define Programmable Interval Timer (PIT). Describe the pin functions of PIT with its internal structure.	5
	d)	Explain the FIFO control register of the 16550 UART.	3
2.	a)	Write some differences between Synchronous and Asynchronous data.	3
	b)	Describe the read operation of PCI with necessary timing diagram.	5
	c)	Sketch the flowchart used to generate USB data.	5
	d)	What advantages does the PCI exhibit over the ISA bus?	2
3.	a)	What is Barcode? How data are represented in a Barcode?	2
	b)	Define Power Supply Unit (PSU) of a digital computer. Write the functions performed by a PSU.	4
	c)	Describe the functionalities of a MIDI system. What data be transmitted through MIDI and how?	6
	d)	Write some applications of sound card.	3

Section-B

Answer any 2 (two) of the followings

1.	a)	Define Data acquisition and Microprocessor based system.	2
	b)	Describe the Mode 1 strobed output operation of PPI with necessary timing diagram.	5
	c)	Show the pin-out diagram and explain the function of the pins of 16550 those are used in DMA transfer and Modem control.	5
	d)	What is Polling? Explain, what would happen if this feature were not available in Computer system?	3
2.	a)	Mention some differences between I/O interface and Bus interface.	3
	b)	Describe the pin out diagram of USB. Explain why +Data and -Data pins are used in USB?	5
	c)	Show the pin-out and explain the 25-pin D-type connection interface of LPT.	5
	d)	If 1100110000110001000 raw data is to be transferred through the USB, draw the digital signal will be passed after encoding through USB.	2
3	a)	Briefly describe the barcode reading principle using a Barcode reader.	2
	b)	Explain the working principle of sound card.	5
	c)	Draw and explain the block diagram of a basic Power Supply Unit with specific functions of its subsystems.	5
	d)	Discuss about MIDI IN, MIDI OUT and MIDI THRU connections.	3