

**B.Sc. (HONS.) IN CSE PART-IV, SEVENTH SEMESTER
EXAMINATION, 2013**

CSE-415

(Peripheral and Interfacing)

Examination Code : 617

Time—3 hours

Full marks—80

[N.B.—The figures in the right margin indicate full marks. Answer any four questions.]

- | | Marks |
|--|-------|
| 1. (a) Define the term peripheral. Why do we need to study Computer Peripherals and Interfacing? | 5 |
| (b) What do you understand by asynchronous transmission? Describe about asynchronous transmission. | 1+4=5 |
| (c) Discuss the salient features of a parallel programmable interface 8255. | 4 |
| (d) What does PPI stand for? Give a brief description of 82C55 PPI. | 6 |
| 2. (a) Draw and describe block diagram of 8255A. | 5 |
| (b) Distinguish between memory mapped I/O and peripheral I/O. | 5 |
| (c) Describe interfacing of 7-segment LED with 8255A. | 5 |
| (d) Explain how DMA controllers operate in a microcomputer system. | 5 |
| 3. (a) Write down the data width and corresponding function of the following instructions :—
IN AL, P8
IN AX, DX
IN SW | 6 |
| (b) What is MICR? Write down the working principles of MICR. | 4 |
| (c) What are the basic ideas of barcode? Explain its function. | 5 |
| (d) Distinguish between impact and non-impact printer. | 5 |

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	Marks
4. (a) Compare RS232C and RS422A standards.	4
(b) Discuss the EISA bus and need of PCI bus.	6
(c) Draw and discuss the timing diagram of read and write cycle of 8085 microprocessor.	6
(d) Discuss the advantages of laser printer over Dot matrix printer.	4
5. (a) Explain a stepper motor interfacing with a microcomputer.	5
(b) Describe magnetic hard disk and controller.	5
(c) Explain the functions of CRT.	5
(d) Describe the conditions of data transfer between microprocessor and peripherals.	5
6. Write short notes (any four) :—	5×4=20
(a) Signal conditioning;	
(b) Raster Scan;	
(c) Digitizer;	
(d) Plotter;	
(e) Null modem;	
(f) PCI.	

**B.Sc (HONS.) IN CSE PART-IV SEVENTH SEMESTER
EXAMINATION, 2012**

PERIPHERAL AND INTERFACING

CSE-415

Examination Code : 617

Time—3 hours

Full marks—80

[N.B.—The figures in the right margin indicate full marks. Answer any four questions.]

	Marks
1. (a) What do you understand by computer peripheral and interfacing? Discuss the basic interfacing unit with proper diagram.	2+4=6
(b) What are the advantages and disadvantages of parallel communication over serial communication?	4
(c) List the major components of 8251A programmable communication interface.	6
(d) What are the differences between synchronous and asynchronous transmission?	4
2. (a) Draw the timing diagram of output control signals of 8255A in handshaking mode and discuss the function of these signals.	6
(b) Draw the block diagram of 8255A.	4
(c) Compare memory-mapped I/O and peripheral I/O.	4
(d) Describe how a DMA controller operate in a microcomputer system with diagram.	6
3. (a) What is encoding? Describe working principle of keyboard encoder.	6
(b) What is transducer? What is active and passive transducer?	4
(c) What is scanner? Describe types of scanner.	6
(d) Write down the differences between OMR and OCR.	4
4. (a) Explain the function of Cathod-Ray-Tube (CRT) with diagram.	6
(b) Write short note on plotter.	4
(c) Explain with diagram, the working principle of Laser Printer.	6
(d) Describe about Hard disk drive controller.	4

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	Marks
5. (a) Explain Asynchronous serial interface with diagram.	6
(b) Describe IEEE 488 bus structure briefly.	6
(c) Describe transmitter section of 8251A.	4
(d) Write short note on HPIB.	4
6. (a) Explain RS-232-C serial bus interface with proper diagram.	6
(b) Design an interfacing circuit to interface an A/D converter using 8255A in mode 0 and BSR mode. Discuss with diagram.	6
(c) Explain the conditions of data transfer between microprocessor and peripherals.	4
(d) Write short note on <u>Digitizer</u> .	4

B.Sc (HONS.) IN CSE PART-IV, SEVENTH SEMESTER EXAMINATION, 2011

Subject Code : CSE-415
(Peripheral & Interfacing)

Time—3 hours

Full marks—80

[N.B.—The figures in the right margin indicate full marks. Answer any four questions of the following.]

Marks

1. (a) What are the differences between parallel and serial interfacing? 4
- (b) List the major components of 8251A programmable communication interface. 6
- (c) Draw the block diagram showing 8259 Priority Interrupt Controller (PIC) connected to 8086. 6
- (d) How a keyboard matrix is formed in keyboard interface using 8279? 4
2. (a) What is DMA? Draw DMA block diagram. 4
- (b) Why does the DMA generally have priority over the CPU for access memory? 4
- (c) Draw the block diagram showing how a DMA controller (8237) operates in a microcomputer. 6
- (d) What are the basic ideas of barcode? Write down its application. 6
3. (a) Write down the data width and corresponding function of the following instruction :— 6
 - (i) XOR AX, AX
 - (ii) MOV CX, 10
 - (iii) POP AX
- (b) Describe the structure of Compact Disk (CD) briefly. 5
- (c) Explain a Optical Motor interfacing with a microcomputer. 5
- (d) Write a shorts note on LCD. 4

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		Marks
4.	(a) Explain the methods of parallel data transfer.	5
	(b) Draw the circuitry for driving single 7-segment LED display with 7447.	6
	(c) Explain a stepper motor interfacing with a microcomputer.	6
	(d) Write a short note on GPIB.	3
5.	(a) What are the purpose of using 8251A?	4
	(b) Draw the block diagram of 8251A.	4
	(c) Draw the flowchart for transmitting message from single board microprocessor using 8251A.	6
	(d) What do you understand by synchronous serial data communication? Explain with example.	6
6.	(a) Explain with diagram, the working principle of Ink-Jet printer.	6
	(b) Explain with diagram of Incremental Encoder and Shaft Encoder.	6
	(c) Write down the concept of NULL modem. How it is configured?	4
	(d) How the RS-232C serial bus is interfaced to TTL logic device?	4

B.Sc (HONS.) IN CSE PART-IV, SEVENTH SEMESTER
EXAMINATION, 2010

CSE-115

(Peripheral & Interfacing)

Time—3 hours

Full marks—80

[N.B.—The figures in the right margin indicate full marks. Answer any four of the following questions.]

- | | Marks |
|---|-------|
| 1. (a) Define the term peripheral. What are the roles of computer peripherals? | 2+3=5 |
| (b) What do you understand by interfacing? Discuss the basic interfacing unit with proper diagram. | 1+6=7 |
| (c) What are the basic requirements for proper interface between a microprocessor and an I/O device? Discuss with diagrams. | 8 |
| 2. (a) Explain any one of the modes of 8255 in detail. | 8 |
| (b) Write a program to communicate between two microprocessors using 8255. | 6 |
| (c) Explain multiplexed LED in detail. | 6 |
| 3. (a) Brief about data and disk organization of floppy drive. | 8 |
| (b) What is DMA? Why does the DMA generally has priority over the CPU in the case of accessing memory? | 1+3=4 |
| (c) Draw the block diagram showing how a DMA controller operates in a microcomputer system. | 8 |
| 4. (a) How can you use a CRT as an alphanumeric display? Discuss with diagram using a ROM and a RAM. | 8 |
| (b) Explain the full step operation of a stepper motor. How is it interfaced to a microprocessor? | 4+4=8 |
| (c) Write down the differences between OMR and OCR. | |

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Marks

5. (a) Explain with diagram, the working principle of asynchronous serial interfacing system. 7
- (b) What is the highway? Depict the connection of interface unit to the highway. 1+6=7
- (c) How can several peripheral devices be connected to a single IREQ/IACK pair using daisy chain? 6
6. (a) What is null modem? Why is null modem used in RS-232-C/V.24 standard serial interface? 6
- (b) Describe the IEEE 488 bus structure briefly. 6
- (c) Define DTE & DCE. How will you use IC 8251; USART with a modem for transmission of data over a long range? 2+6=8