Mymensingh Polytechnic Institute

Computer Peripherals and Interfacing (28543)

4th Semester(Computer Science and Technology)

Semester Plan

Week	Content	Remarks
1st	**BASICS OF INTERFACING** 1.1 Define peripheral and interfacing. 1.2 State the functions of interfacing. 1.3 State the necessity of interfacing. 1.4 State the Categories of interface. 1.5 State the function of each category of interface. 1.6 Mention the methods of peripheral interfacing. 1.7 State the steps of analog and digital interfacing in a computer system. 1.8 State the elements of interface. 1.9 Describe the function of a general purpose parallel interface with block diagram.	
2nd	**OPERATION OF SERIAL INTERFACES** 2.1 State the necessity of serial interfacing. 2.2 Mention the asynchronous character and synchronous block data format for a serialinterface. 2.3 Describe the operation of asynchronous serial interface with block diagram (UART). 2.4 Describe the operation of synchronous serial interface with block diagram. 2.5 Distinguish the Characteristics of asynchronous and synchronous serial interface. 2.6 Describe the operation of an USART with block diagram. 2.7Describe the operation of RS 232.C/v.24 standard serial interface with block diagrams.	
3rd	**OPERATION OF KEYBOARD AND MOUSE** 3.1 Mention the types of keyboard switch. 3.2Describe the construction and operation of mechanical, membrane, capacitive and Hall Effect key switches. 3.3 Mention the desirable quality of key switches. 3.4 Describe the operation of keyboard encoder with block diagrams. 3.5 State the terms: bouncing, n-key rollover and n-key lockout. 3.6 Explain the flowchart for scanning the keyboard. 3.7 Describe the principle of hardware de-bouncing. 3.8 Describe the operation of an opt-mechanical mouse. 3.9 Describe the working principle of an optical mouse. 3.10 Describe the operation of wireless keyboard & wireless mouse.	Class Test-1
4th	**OPERATION OF DISPLAYS AND ADAPTERS** 4.1 Classify display devices. 4.2 State pixel, Horizontal and Vertical scanning, interlace and non-interlace scanning, composite video signal, Raster and VRAM. 4.3 Prepare the specification of a LED monitor. 4.4 Describe the operation of a LED. 4.5 Describe the principle of producing color pixel on LED screen. 4.6 Describe the operation of a color monitor using block diagrams. 4.7 Describe the general structure of a modern graphics adapter. 4.8 Describe the principle of producing a character on a LED displays.	
5th &	**CONSTRUCTIONAL AND OPERATIONAL FEATURE OF DOT MATRIX PRINTERS** 5.1 Classify printers. 5.2 State the feature of a dot-matrix printer.	**Quiz Test-1**

6th	5.3 List the Major parts and components of a dot matrix printer. 5.4 Describe the operation of a dot matrix printer. 5.5 Describe the operation of the head driving circuit in a dot matrix printer. 5.6 Mention the advantages and disadvantages of dot matrix printers. 5.7 Prepare the specification of a dot matrix printer.	
7th	**CONSTRUCTIONAL AND OPERATIONAL FEATURE OF PLOTTERS** 6.1 State the features of plotter. 6.2 List the uses of plotter. 6.3 Classify plotters. 6.4 List the Major parts and components of a plotter. 6.5 Describe the operation of a plotter. 6.6 Mention the advantages and disadvantages of plotters. 6.7 Prepare the specification of a plotter.	
8th	Mid Term Examination	

9th	**OPERATION OF INKJET PRINTERS** 7.1 State the principle of inkjet and bubble jet formation for printing. 7.2 Describe the operation of an inkjet printer. 7.3 List the Major parts and components of an inkjet printer. 7.4 Mention the advantages and disadvantages of an inkjet printer. 7.5 Prepare the specification of an inkjet printer.	
10th & 11th	**OPERATION OF LASER PRINTERS** 8.1 State the meaning of LASER. 8.2 Describe the operation of a LASER printer. 8.3 List the Major parts and components of a LASER printer. 8.4 State the function of each part and components of a LASER printer 8.5 Mention the advantages and disadvantages of an LASER printer. 8.6 Prepare the specification of a LASER printer. 8.7 Mention the steps of data exchange via parallel interface.	
12th	**FEATURE AND OPERATIONAL OF POS** 9.1 State the meaning of POS. 9.2 List the uses of POS. 9.3 List the Major parts and components of POS. 9.4 Prepare the specification of a LASER printer.	Class Test-2
13th	**CHARACTERISTICS OF SPECIAL TYPE I/O DEVICES** 10.1 List the special types of I/O devices. 10.2 State the characteristics of joy-stick and digitizer. 10.3 Describe the working principle of light pen. 10.4 Define scanner. 10.5 Classify scanner. 10.5 Describe the operation of a flatbed scanner. 10.6 State the uses of hand held scanner.	
14th	**CHARACTERISTICS OF OPTICAL I/O DEVICES.** 11.1 Define OMR, OCR, ICR and MICR. 11.2 Describe the characteristics of OMR, OCR, ICR and MICR. 11.3 Describe the advantages and limitations of MICR. 11.4 Prepare the specification of a Multimedia Projector. 11.5 Classify Multimedia Projector. 11.6 Describe the operation of a Multimedia Projector. 11.7 List the major parts and components of Multimedia Projector.	**Quiz Test-2**
15th	**OPERATION OF HDD AND SSD DRIVES** 12.1 Mention the data storage layout of a disk. 12.2 Describe the operation of a hard disk controller with block diagram. 12.3 Describe the operation hard disk drive. 12.4 Describe the recording principle in a hard disk.	

	12.5 Describe the operation of a SSD drives. 12.6 State the features of a SSD drives.	
16th	**OPERATION OF SPECIAL STORAGE DEVICES.** 13.1 State the methods of data recording (punch card/paper tape, magnetic tape,magnetic disk and optical) for Micro-Computer systems with example. 13.2 State the features of a flash memory as a secondary storage device. 13.3 Mention the data storage layout of a disk. 13.4 Describe the recording principle in a CD and DVD. 13.5 Describe the operation of optical disk drive (CD drive) and DVD drives. 13.6 State the features of a re-writable optical disk. 13.7 Describe the operation of USB devices.	Class Test-3

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Semester Plan (Practical)

Week	Content	Remarks
1st	Prepare the Disassemble and reassemble a LED monitor/display unit.	
2nd	Prepare the Troubleshoot and replace the defective parts of a LED monitor/display unit.	
3rd & 4th	Install and configure printers(Laser, Dot matrix, Inkjet, POS printers)	
5th	Repair and / or replace mechanical assembly unit of laser printer	
6th	Repair and / or replace Fixing unit and scanning/optical unit of laser printer.	
7th	Repair and / or replace power supply unit of printers(Laser, Dot & Inkjet printer)	
8th	Mid Term Examination	
9th	Repair and / or replace the mechanical assembly o f dotmatrix and inkjet printer	
10th & 11th	Repair and / or replace the formatter/motherboard o f dotmatrix and inkjet printer.	
12th	Install and perform operation of OMR and OCR devices.	
13 & 14th	Disassemble, identify the internal parts and reassemble a multimedia projector(DLP & LCD types)	
15th	Disassemble, identify the internal components and repair/replace the defective parts of a flat bed scanner	
16th	Disassemble, identify the internal components and repair/replace the defective parts of a plotter	