

LESSON PLAN

**EVEN SEM
(2021-2022)**

Name of the Assistant Professor- Mr. Palvinder Singh

Department- Electronics & IT

Lesson Plan- 12 Weeks (11.04.2022- 30.06.2022)

Week	Date	B.Sc. III (H) -IT Sem-6th Paper-BSIT- 605 Subject: Embedded Systems and 8051 Microcontroller Days: M-T-W (3 Days)	B.Sc. (Hons.)-IT Sem- IInd Paper: BSIT-401 Subject: Digital Electronics-I Days: M-T-W (3 Days)	B.Sc. II H) -IT Sem- IVth Paper: BSIT-403 Subject: Telecommunication & Networking-II Days: M-T-W (3 Days)	B.Sc. -I (Hons.)-IT Sem-2rd Paper: BSIT-404 Subject: Electronic Communication-II Days: TH-F-S (3 Days)	B.Sc. -I (Hons.)-IT Sem-2rd Paper: BSIT- 205 Subject: Electronic Communication-II Days: TH-F-S (3 Days)	
1	11.04.2022	Introduction to Subject & discussion of Syllabus	Introduction to Subject & discussion of Syllabus	Introduction to Subject & discussion of Syllabus			
	12.04.2022	Introduction to Embedded System	Counters: Asynchronous	<u>Network Devices</u> : NIC, repeaters,			
	13.04.2022	Role of Processor and other hardware units	Counters- Mod-N or divided by N Counter.	hub, bridge,			
	14.04.2022	Holiday					
	15.04.2022				Introduction to Subject & discussion of Syllabus	Digital Modulation Techniques	
	16.04.2022				<u>Interfacing Devices-I</u> : Interfacing an 8-bit DAC with 8085,	FSK,	
2	17.04.2022	Sunday					
	18.04.2022	Embedded Systems on Chip	Synchronous Counter- Modulo Counters,	switch, gateways, router,			

	19.04.2022	Embedded Systems on Chip	Decade Counter. UP-Down Counters,	connectors and transceivers.			
	20.04.2022	Introduction to RISC Architecture	Basic principle of digital clock.	Network Design Issues and Protocols,			
	21.04.2022				8-bit ADC with 8085.	PSK,DPSK	
	22.04.2022				Interfacing General purpose programmable peripheral devices: block diagram of 8255,	BPSK	
	23.04.2022				Modes of operation of 8255-Mode0, BSR	QPSK, ASK	
3	24.04.2022	Sunday					
	25.04.2022	Introduction to CISC Architecture	Assignment-1	connection-oriented and connectionless services.			
	26.04.2022	Comparison of RISC and CISC	Shift Registers, Serial-in serial out (SISO), serial-in-parallel out (SIPO),	<u>Transmission Media:</u> Introduction, Guided Media: Twisted pair,			

	27.04.2022	Structural units of processor	parallel-in-serial-out (PISO) parallel-in-parallel-out (PIPO),	Coaxial cable, Optical fiber.			
	28.04.2022				Mode1, mode2.	Similarity b/w BPSK & BFSK	
	29.04.2022				Assignment-1	Revision	
	30.04.2022				Revision	Assignment-1	
4	01.05.2022	Sunday					
	02.05.2022	Assignment-1	bi-directional shift register, Universal Shift Register	Unguided media: Microwave,			
	03.05.2022	Holiday					
	04.05.2022	Processor selection for Embedded System	Applications of shift register – Ring counter,	Radio frequency propagation, Satellite			
	05.05.2022				<u>Interfacing Devices-II:</u> 8254(8253) Programmable interval timer,	Methods of Controlling Errors	
	06.05.2022				block diagram of 8254,	Sessional	
	07.05.2022				Modes of operation of 8254- Mode0 to Mode5,	Types of Errors	

5	08.05.2022	Sunday				
	09.05.2022	Memory Devices for Embedded Systems	Twisted Ring Counter,	Assignment-1		
	10.05.2022	Microcontrollers-survey, types	Sequence Generator	<u>Evolution and Challenges of Wireless Networks:</u> Cellular Networks: Concept, Call Set up,		
	11.05.2022	processor architecture	Revision	Frequency Reuse, Channel Assignment, Handoff, Mobility Management.		
	12.05.2022				8257 DMA controller.	Types of Codes
	13.05.2022				Sessional	Matrix Description of Linear Block Codes
	14.05.2022				<u>Microprocessor 8086-I:</u> 8086 internal architecture, Introduction to programming the 8086,	Error Detection and Error correction capabilities of Linear Block Codes
	15.05.2022	Sunday				
6	15.05.2022	Sunday				

	16.05.2022	microcontroller memory types	<u>Digital Memories</u> : Memory System Parameters,	GSM and IS-95 architecture, channels, and Call Establishment, Wireless Data Service,		
	17.05.2022	microcontroller features	ROM, PROM, EPROM, EEPROM,	3G and 4G Cellular Systems.		
	18.05.2022	Microcontroller 8051 Architecture :Hardware	RAM (Static and dynamic),	Assignment-2		
	19.05.2022			Program development steps. Addressing Modes of 8086,	Single Error-Correcting Hamming Code	
	20.05.2022			Instruction Set of 8086. Data Copy/Transfer Instruction (MOV, PUSH, POP, IN, OUT).	revision	
	21.05.2022			Arithmetic Instructions (ADD, ADC, INC, DEC, SUB, SBB, CMP, DAA, DAS, MUL, IMUL, DIV, IDIV).	Algebraic Structure of Cyclic Codes	
7	22.05.2022	Sunday				

	23.05.2022	I/O pins, ports and circuits,	Assignment-2	<u>Fiber Optic Communication-I:</u> Light Wave Communication Systems,			
	24.05.2022	external memory, counters and timers	PLA's, Expanding Memory Size.	Fiber Optic System, Applications & Benefits of Fiber Optics,			
	25.05.2022	Sessional	Sessional	Working of Fiber Optic Cables,			
	26.05.2022				Arithmetic Instructions (ADD, ADC, INC, DEC, SUB, SBB, CMP, DAA, DAS, MUL, IMUL, DIV, IDIV).	Encoding Using an (n-k) Bit Shift Register	
	27.05.2022				Logical Instructions (AND, OR, NOT, XOR).	Assignment-2	
	28.05.2022				Assignment-2	Syndrome Calculation	
8	29.05.2022	Sunday					

	30.05.2022	Serial data Input/output	<u>D/A and A/D converters</u> : Digital and Analog representation,	Sessional		
	31.05.2022	Interrupts 8051 instruction set: data Move Instructions	D/A Converters: Weighted Resistor DAC	Construction of Fiber Optic Cables.		
	01.06.2022	Logical operations, Arithmetic operations,	R-2R Ladder Type DAC,			
	02.06.2022	Holiday				
	03.06.2022	Holiday				
	04.06.2022				Revision	Error Detection and Error Correction
9	05.06.2022	Sunday				
	06.06.2022	Jump and call Instructions	Specification of DAC.	<u>Fiber Optic Communication-II</u> : Types of Cables:		
	07.06.2022	Assignment-2	A/D converters: Single slope A/D converter,	Cable Variations, Cable Attenuation,		
	08.06.2022	An 8051 Microcontroller design	Dual slope A/D converter,	Optical Transmitter & Receivers,		

	09.06.2022				<u>Microprocessor 8086-II:</u> Constructing the machine codes for 8086 instructions,.	Discrete messages
	10.06.2022				Simple sequence program, Jumps,	The concept of amount of information
	11.06.2022				flags and conditional jumps,	average information
10	12.06.2022	Sunday				
	13.06.2022	Specifications, a microcontroller design,	Successive approximation A/D converter,	Fiber Optic Data Communication Systems.		
	14.06.2022	Holiday				
	15.06.2022		Specification of ADC.	Revision		
	16.06.2022				if-then, if -then -else and	Entropy ,information rate
	17.06.2022				multiple if-then-else program,	Shanon-Fano
	18.06.2022				while-do programs,	coding, shanon's theorem
11	19.06.2022	Sunday				
	20.06.2022	testing the design,	Revision	Class test ch-1		

	21.06.2022	timing subroutines, lookup tables,	Doubt Session	Doubt Session			
	22.06.2022	Serial data transmission	Doubt Session	Class test ch-2			
	23.06.2022				Repeat –Until programs	comparison of error rate in codes and uncoded transmission	
	24.06.2022				Doubt Session & Revision	Huffman coding,	
	25.06.2022				Doubt Session & Revision	Shanon- Hartley theorem, implications	
1	26.06.2022	Sunday					
2	27.06.2022	Revision	Sessional Exam	Class test ch-3			
	28.06.2022	Revision	Doubt Session & Revision	Doubt Session & Revision			
	29.06.2022	Revision	Doubt Session & Revision	Doubt Session & Revision			
	30.06.2022				Doubt Session & Revision	Doubt Session & Revision	