Code No: P18ECT07

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
III B.TECH I SEMESTER END REGULAR EXAMINATIONS, DEC/JAN – 2022/23
PULSE AND DIGITAL CIRCUITS
(EEE Branch)

Time: 3 hours Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

PART-A

Answer all the questions in Part-A (5X2=10M)

Q.No.		Questions	Marks	CO	KL
1.	a)	What is an attenuator?	[2M]	1	L1
	b)	Draw the transfer characteristics of a transistor clipper.	[2M]	2	L3
	c)	Briefly explain how a transistor works as a switch.	[2M]	3	L1
	d)	Mention the general features of a time base signal.	[2M]	4	L2
	e)	Write the operating principle of Sampling Gate.	[2M]	5	L3

PART-B

Answer One Question from each UNIT (5X10=50M)

Q.No.		Questions	Marks	CO	KL
		UNIT-I			
2.	a)	Draw the circuit of Low Pass RC circuit and explain its response for symmetrical square wave as input?	[5M]	1	L2
	b)	Explain the response of High Pass Filter for symmetrical square wave as input?	[5M]	1	L2
		OR			
3.	a)	Explain how RC network acts as integrator?	[5M]	1	L2
	b)	Explain the response of Low Pass Filter for pulse voltage as input?	[5M]	1	L2
		UNIT-II			
4.	a)	Design a diode clamper circuit to clamp the negative peaks of the input signal at zero level. The frequency of the input signal is 1 KHz.	[5M]	2	L4
	b)	What do you mean by sampling? State and prove the clamping circuit theorem.	[5M]	2	L3
		OR			
5.	a)	With the help of circuit diagrams, explain about the clipping at two independent levels.	[5M]	2	L2
	b)	Explain effect of diode characteristics on clamping voltage.	[5M]	2	L3
		UNIT-III			
6.	a)	Explain the different transistor switching times with neat diagram.	[5M]	3	L2
	b)	Draw and Explain the principle of operation of Bistable Multivibrator.	[5M]	3	L2
		OR			
7.	a)	With the help of neat diagram explain the Schmitt trigger circuit using BJT.	[5M]	3	L3
	b)	Draw and Explain the principle of operation of Monostable Multivibrator.	[5M]	3	L2
		UNIT-IV			

8.	a)	Explain the methods of generating time base waveform with relevant diagrams.	[5M]	4	L2
	b)	Draw and explain about the sweep generation by UJT.	[5M]	4	L2
		OR			
9.	a)	Draw and explain the Transistor Bootstrap time base generator.	[5M]	4	L2
	b)	Explain the principle of Exponential Sweep Circuits with neat sketch.	[5M]	4	L3
		UNIT-V			
10.	a)	With the help of neat circuit diagram explain the working of six diode sampling gate.	[5M]	5	L3
	b)	Compare and contrast different digital logic families.	[5M]	5	L2
		OR			
11.	a)	With neat sketch explain Transistor Logic.	[5M]	5	L2
	b)	With the help of neat circuit diagram explain the working of Two-Diode bi-Directional Sampling Gate.	[5M]	5	L3

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