

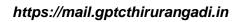
TED (15/19) -3042 (Revision- 2015/19)

A21-09306

Reg.No	
Signature	

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE – APRIL -2021.

		DIGITAL ELECTRONICS					
(Maximum Marks : 75) [Time : 2.15]							
		PART-A	Marks				
	T	Answer any three questions in one or two sentences. Each question carries					
	1.	Answer any times questions in one of two sentences. Each question carries	Z IIIaiks.				
		2. Expand ECL.					
3. Write the methods of eliminating race around condition in JK flipflop.							
		4. Define accuracy in DAC.					
		5. Karnaugh map is used for	3x2=6)				
		PART - B					
 II Answer any four of the following questions . Each question carries 6 marks. 1. Convert (a) 26₁₀ to Binary (b)101101101₂ to Hex (c) 12 AH to Binary. 							
		3. Describe the working of SR flipflop using NAND gates.					
		4. Draw the circuit of mod-10 asynchronous counter and its timing diagram	n.				
		5. Draw the symbols and truth tables of AND, OR, and EX:OR gates.					
		6. Describe the operation of 4x1 Multiplexer.					
		7. Explain the working of a 4 bit ring counter.					
			[4x6 = 24]				
		PART - C					
	(A	answer any of the three units from the following. Each full question carries	15 marks)				
		UNIT I					
Ш	(:	a) Subtract 101101 from 110011 by using 2's complement addition method.	(5)				
	(t	b) Simplify by using Boolean Algebra and implement.					
		Y=AB+A(B+C)+B(B+C)	(5)				
	(0	Draw the circuit and truth table of the function $F(A,B,C) = \sum (1,4,6,7)$	(5)				





OR

IV	(a) Write any four application of Gray code.					
	(b) Simplify by using K-Map and implement.					
	$Y(A,B,C,D) - \sum (0,1,3,4,5,8,10,15) + d(6,7,11,)$					
				IT- II		
\mathbf{V}						
VI	OR VI (a) Explain the working of 3 bit encoder.					
	(b)	Define:	(i)Noise Immunity	(ii) Propagation Delay		
			(iii)Fan-out	(iv) Fan-in	(8)	
			UNI	T- III		
VII	VII (a) Describe the working of Serial In Serial Out Shift Register.				(8)	
	(b) Describe the working of Master Slave JK Flipflop.					
			C	OR .		
VII	VIII (a) Describe sequential logic circuits.					
	(b) Describe about Parallel In/Serial Out Shift Registers.					
			UN	IIT – IV		
IX	(a)	Explain	abuout mod-8 synchron	ous counter.	(8)	
	(b)	Describ	e flash type ADC.		(7)	
				OR		
X	(a)	Explain	the working of R-2R lac	lder type DAC.	(7)	
	(b)	Describe	e the working of 3 bit asy	nchronous up-down counter.	(8)	
			****	*****		