G.T.N. ARTS COLLEGE SELF FINANCE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University || Accredited with 'B' Grade by NAAC)

END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Physics	**Date : 17.02.2022**
Course Code : 20PPHC14	**Time : 10:00 AM - 1:00 PM**
Course Title : Digital Electronics	**Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	Four adjacent '1's in a Karnaugh map forms a_____.	CO1	K1
	1.octet	2.singlet		
	3.pair	4.quad		
2.	The one input NOR and NAND gate behaves like a_____.	CO1	K2
	1.reflector	2.converter		
	3.inverter	4.differentiator		
3.	Numbers of 2 x1 multiplexers are required to implement 64 x 1 multiplexers _____.	CO2	K1
	1.60	2.61		
	3.62	4.63		
4.	The device shown here is most likely a _____.	CO2	K2

	1.Comparator	2.Multiplexer	
	3.Inverter	4.Demultiplexer	

Q. No.		CO(s)	K - Level
5.	The state of the flip-flop can be switched by changing its_____.	CO3	K1
	1.Input signal	2.Output signal		
	3.Momentary signal	4.All signal		
6.	Why latches are called memory devices?	CO3	K2
	1.It has capability to stare 8 bits of data	2.It can store one bit of data		
	3.It has internal memory of 4 bit	4.It can store infinite amount of data		
7.	A memory that is called a read-write memory is_____.	CO4	K1
	1.ROM	2.EPROM		
	3.RAM	4.Registers		

8. What is a shift register that will accept a parallel input, or a bidirectional serial load and internal shift features called? — CO4 — K2

    1.tristate   2.end around

    3.universal   4.conversion

9. To tune a parallel resonant circuit to a higher frequency, the capacitance should be_____. — CO5 — K1

    1.increases   2.decreases

    3.decreases and increases   4.disappears

10. In electronics and telecommunication, _____is the desirable or undesirable transfer of energy from one medium, such as a metallic wire or an optical fiber, to another medium. — CO5 — K2

    1.Radiated coupling   2.Diffusive coupling

    3.coupling   4.DC coupling

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Write the Boolean expression for F(A,B)= Σm(1,2,3).	CO1	K1
	[OR]		
(b)	Explain the universal logic gate and draw the symbol.	CO1	K1
12. (a)	Difference between half-adder and full-adder?	CO2	K2
	[OR]		
(b)	What is multiplexing? What is the function of the enable input in a multiplexer?	CO2	K2
13. (a)	Explain the flip-flops with circuit diagram and draw the truth table.	CO3	K2
	[OR]		
(b)	Mention the advantages of flip-flop.	CO3	K2
14. (a)	Mention the advantage of asynchronous counter.	CO4	K3
	[OR]		
(b)	List out the application of shift registers.	CO4	K3
15. (a)	Explain the chus's diode.	CO5	K4
	[OR]		
(b)	Mention the advantages of coupling.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Explain the truth table and draw the symbol of the logic gates including AND, OR, NOT, NAND and EX-OR.	CO1	K1
17.	Define the four rules of binary addition, subtraction and multiplication.	CO2	K2
18.	Explain in detail the flip-flop with truth table and draw the circuit diagram.	CO3	K3
19.	Briefly explain about different types of counter.	CO4	K4
20.	Explain in details about the linear and nonlinear circuit element.	CO5	K4

****