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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI - 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2023 and later)

PROGRAMME AND BRANCH: B.Sc., ELECTRONICS

SI	ЕМ	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
	II	PART - III	CORE-3	U23EL202	DIGITAL ELECTRONICS

Date & Session: 05.11.2024/AN Time: 3 hours Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – A (</u> 10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.			
CO1	K1	1.	Convert binary to octal: (1101100 a) (5512) ₈ c) (4532) ₈	001010) ₂ =? b) (6612) ₈ d) (6745) ₈		
CO1	K2	2.	2's complement of 11001011 is a) 01010111 c) 00110101	b)11010100 d)11100010		
CO2	K1	3.	The expression for Absorption lav a) A + AB = A c) A + AB = B	w is given by b) AB + AA' = A d) A + B = B + A		
CO2	K2	4.	The gate which is used to reverse a) NOR c) EXOR	e the output obtained is b) NAND d) NOT		
CO3	K1	5.	A combinational circuit that select a) Encoder c) Demultiplexer	cts one from many inputs are b) Decoder d) Multiplexer		
CO3	K2	6.	The basic building blocks of the a a) Subtractors c) Multiplexer	arithmetic unit in digital computers are b) Adders d) Comparator		
CO4	K1	7.	In S-R flip-flop, if Q = 0 the output a) Set c) Previous state	ut is said to be b) Reset d) Current state		
CO4	K2	8.	Ripple counters are also called _ a) SSI counters c) SSI counters	b) Asynchronous counters d) VLSI counters		
CO5	K1	9.	Main memories of a computer, us a) Registers c) Counters	sually made up of b) Semiconductors d) PLDs		
CO5	K2	10.	PLA contains a) AND and OR arrays c) NOT and AND arrays	b) NAND and OR arrays d) NOR and OR arrays		

Course Outcome	Bloom's K-level	Q. No.	$\frac{\text{SECTION} - B \text{ (5 X 5 = 25 Marks)}}{\text{Answer } \frac{\text{ALL}}{\text{Questions choosing either (a) or (b)}}$
CO1	К3	11a.	Illustrate the floating point representation. (OR)
CO1	КЗ	11b.	Determine the ASCII code for alphabets in capital and small.
CO2	КЗ	12a.	State Boolean laws and theorems. (OR)
CO2	КЗ	12b.	Discover the function of OR gate and its truth table.
CO3	K4	13a.	Describe the working of half-adder with neat logic circuit. (OR)
CO3	K4	13b.	Design a 1-to-4 demultiplexer and explain its operation.
CO4	K4	14a.	Describe the 4 bit serial-in-serial out shift register with neat logic diagram. (OR)
CO4	K4	14b.	Compare asynchronous counter with synchronous counter.
CO5	K5	15a.	Explain the difference between RAM and ROM. (OR)
CO5	K5	15b.	Discuss programmable logic array (PLA) and its applications.

Course Outcome	Bloom's K-level	Q. No.	$\frac{\text{SECTION} - C}{\text{Answer } \underline{\text{ALL }}} \text{Questions choosing either (a) or (b)}$		
CO1	КЗ	16a.	Perform the following conversion		
			(i). (A6F) ₁₆ = () ₈ ? (ii). (127) ₁₀ = () ₂ ?		
			(iii). $(3764)_8 = ()_{16}$? (iv). $(11101)_2 = ()_{10}$? (OR)		
CO1	КЗ	16b.	Describe two types of Non-weighted codes.		
CO2	K4	17a.	Illustrate the Sum of Product and Product of Sum method in detail. (OR)		
CO2	K4	17b.	Show that NOR and NAND gates are universal gates.		
CO3	K4	18a.	With neat logic circuit, explain the operation of full adder circuit with its truth table. (OR)		
CO3	K4	18b.	Examine the function of parity generator /checker with neat logic circuit.		
CO4	K5	19a.	Explain the operation of J-K flip-flop and master-slave J-K flip-flop. (OR)		
CO4	K5	19b.	Explain the working of 4-bit ring counter with neat logic circuit.		
CO5	K5	20a.	Classify the different types of ROM and explain in detail. (OR)		
CO5	K5	20b.	Discuss in detail about field programmable logic array.		