JUNE RE-EXAM

~~MAY~~ 2018 / ~~ENDSEM~~

F. Y. B. TECH. (COMMON) (SEMESTER - II)

COURSE NAME: Basic Electronics Engineering

(2017 PATTERN)

Paper Code - U127 - 104A (RE-F4F5)

Q.NO	Sub Q.NO	Marking Scheme	Marks	Difficulty Level	Cognitive level	CO Mapped
Q1	a)	Construct basic gates such as NOT, OR and AND gate using only NOR gate: 2M each gate.	[6]	M	Knowledge/ Comprehension	CO4
	b)	Explanation of S-R flip flop using NAND gate :4M Its truth table:2M	[6]	M	Comprehension	CO4
	c)	Identify the Boolean laws and rules $A\overline{B} + A\overline{B}C = A\overline{B}$ M $(A + B)(A + C) = A + BC$ 2M	[4]	L	Comprehension	CO4
		OR				
Q2	a)	Explanation of 4:1 MUX with block diagram and truth table: 3M Explanation 1:4 De-MUX with block diagram and truth table.:3M	[6]	M	Comprehension	CO4
	b)	Conversion of binary number 01101101.0101 to decimal number 109.31: 3M Conversion of decimal number 145.3 to binary number is 10010001.00000111; 3M	[6]	H	Comprehension /Application	CO4
	c)	Diagram of half adder using logical gates : 2M Truth table: 2M	[4]	L	Comprehension	CO4
Q3	a)	Schematic of turbine flow meter :4M List any two applications :2 M	[6]	M	Knowledge	CO5
	b)	What is transducer:2M Classification based on principle used:2M	[4]	L	Knowledge	CO5
	c)	What are active transducers:2M How they are different from passive transducers: 2M	[4]	L	Knowledge	CO5

		OR				
Q4	a)	Block diagram of basic instrumentation system:2M Explanation:2M	[6]	M	Knowledge and Comprehension	CO5
	b)	Explanation of working of ultrasonic flow meter: 4M	[4]	L	Knowledge	CO5
	c)	List advantages of thermister : 2M List disadvantages of thermister:2M	[4]	L	Comprehension	CO5

Q.5

1.	The peak value of the input to a half-wave rectifier is 10 V. The approximate peak value of the output voltage is a) 10 V b) 3.18 V c) 10.7 V d) 9.3 V Ans:d	[1]
2.	A certain regulator provides a regulation of 0.5% ,with no load voltage of 12 V, the full load voltage will be a) 11.3 V b) 12.5 V c) 11.5 V d) 11.94 V Ans: d	[1]
3.	Three different Q points are shown on a dc load line. The lower Q point represents the: a) minimum current gain b) intermediate current gain c) cutoff point d) maximum current gain Ans: c	[1]
4.	The total power dissipated by the transistor is equal to a) product of collector current and supply voltage b) product of V_{CE} and I_C c) product of I_C^2 and R_C d) none of the above Ans: b	[1]
5.	For n channel E-MOSFET, if $k=50mA/V^2$, $V_{th}=2V$ and $V_{GS}=3V$ then the value of drain current is a) 50mA b) 125 mA c) 40 mA d) 0 mA Ans: a	[1]

6.	Ideal op-amp has -------- slew rate and ---------input offset voltage a) infinity, zero b) infinity, infinity c) zero, zero d) zero, infinity Ans: a	[1]
7.	In inverting comparator, the output of comparator will be at --------, when it's input voltage is greater than reference voltage i.e V_{ref} =1V. a) positive saturation b) negative saturation c) zero volt d) 1 volt Ans: b	[1]
8.	A certain p channel E-MOSFET has V_{th}=-2V.If V_{GS}=0V ,the drain current is a) 0 A b) $I_{D(on)}$ c) maximum d) I_{DSS} Ans: a	[1]
9.	An averaging amplifier has five inputs. The ratio R_f/R_i must be a) 5 b) 0.2 c) 1 d) 10 Ans: b	[1]
10.	In inverting amplifier R_F=100KΩ and R_1=1KΩ then the close loop gain of amplifier is a) -100 b) -101 c) 1 d) 100 Ans: a	[1]