UII7-104A (RE-FS&F)

1

DECEMBER 2017 / ~~ENDSEM~~ RE-EXAM

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

COURSE NAME: Basic Electronics Engineering

(2017 PATTERN)

Q.NO	Sub Q.NO	Marking Scheme	Marks	Difficulty Level	Cognitive level	CO Mapped
Q1	a)	Construction of NOT gate using NOR gate:2M Construction of OR gate using NOR gate:2M Construction of AND gate using NOR gate:2M	[6]	M	Comprehension	CO4
	b)	State Demorgan's theorems,: 2M prove Demorgan's theorems,: 2M Draw the logical diagrams.: 2M	[6]	M	Comprehension	CO4
	c)	S-R flip flop block diagram :2M Explanation of S-R flip flop working with truth table:2M	[4]	L	Comprehension	CO4
		OR				
Q2	a)	With correct truth table: 4:1 MUX block diagram and working: 3M 1:4 De-MUX block diagram and working:3M	[6]	M	Comprehension	CO4
	b)	Convert binary number 110110.1011 to decimal number 109.6875: 3M convert decimal number 69.625 to binary number 1000101.101 : 3 M	[6]	H	Comprehension /Application	CO4

	c)	State Commutative and Associative laws:2M Prove Commutative and Associative laws:2M	[4]	L	Knowledge	CO4
Q3	a)	Working of LVDT using circuit diagram:3M Explanation of LVDT to measure air pressure.:3M	[6]	M	Knowledge	CO5
	b)	Transducer explanation: 2M Classification based on principle used: 2M	[4]	L	Knowledge	CO5
	c)	Definition of linearity :1M Accuracy:1M, Sensitivity:1M Repeatability:1M	[4]	L	Knowledge	CO5
		OR				
Q4	a)	Block diagram of basic instrumentation system: 3M Explanation of the block diagram of basic instrumentation system: 3M	[6]	M	Knowledge and Comprehension	CO5
	b)	Four selection criteria of transducer: 4M	[4]	L	Knowledge	CO5
	c)	Compare active and passive transducer. Minimum four points: 4M	[4]	L	Comprehension	CO5

Q.5

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1.	When forward biased, the voltage drop across Ge diode is _____. a) 0.7 V b) 0.6 V c) 0.3 V d) 1 V Ans : **c**	[1]
2.	If the ac supply is 60 Hz, what will be the ripple frequency out of the full-wave rectifier? a) 50 Hz b) 60 Hz c) 120 Hz d)100 Hz Ans : **c**	[1]
3.	The voltage across Zener diode remains constant when operated a) Below Iz_{min} b) between Iz_{min} and Iz_{max} c) in forward biasedd) None of the above Ans : **b**	[1]
4.	The no load output voltage of half wave rectifier is a) 0.318 V_{peak} b)2 V_{peak} c) 0.636 V_{peak} d) 0.5 V_{peak} Ans : **a**	[1]
5.	Which of the following, when added as an impurity, into the silicon, produces p-type semi-conductor a) Aluminium b) Phosphorous c) Antimony d) both 'a' and 'c' Ans : **a**	[1]
6.	A ratio of collector current to base current in BJT is usually denoted as a) beta b) alpha c) theta d) omega Ans : **a**	[1]
7.	If I_E=5.34mA , I_B= 475 μA, current gain beta of BJT will be a) 10.24 b) 9.24 c) 10.48 d) 11.24 Ans : **a**	[1]

8.	The voltage gain of the common emitter BJT amplifier depends on a) Current gain b) Base and Collector resistance c) V_{CE} and V_{BE} d) Collector resistance and dynamic ac emitter resistance Ans : **d**	[1]
9.	V_{CE} approximately equals _____ when a transistor is in saturation state. a) V_B b) V_{CC} c) 0.2 V d) 0.7 V Ans : **c**	[1]
10.	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]
11.	Which of the following devices does not have a cathode terminal? a) SCR b) PN Junction Diode c) Triac d) Zener diode Ans : **c**	[1]
12.	The material used to insulate GATE from channel in E MOSFET is ___ a) SiO_2 b) GaAs c) SiO d) HCl Ans : **a**	[1]
13.	In an E-MOSFET, there is no drain current until V_{GS} a) reaches V_{GS}(th) b) is positive c) is negative d) equals 0 V Ans : **a**	[1]

14.	In full controlled rectifier using SCR, output voltage is a) changed by varying anode current b) by varying load resistance c) by varying input voltage d) by varying firing angle Ans : **d**	[1]
15.	Which of the following applies to MOSFETs? a) Current controlled device b) Device with low input impedance c) Voltage controlled device d) None of the above Ans : **c**	[1]
16.	An non inverting operational amplifier with gain of 101 is applied with 1V input voltage, the output voltage will be a) +Vcc b) -Vcc c) 101 V d) -101 V Ans : **a**	[1]
17.	A 741 OPAMP has a) 10 pins b) 8 pins c) 6 pins d) 3 pins Ans : **b**	[1]
18.	The use of negative feedback a) reduces the voltage gain of an op-amp b) decreases input impedance c) decreases bandwidth d) increases output impedance Ans : **a**	[1]
19.	The CMRR of ideal OPAMP is a) zero	[1]

	b) 90 dB c) 70 dB d) infinite Ans : **d**	
20.	The 7805 regulator IC provides _____ . a) 5 V b)-5V c) 12V d) -12V Ans : **a**	[1]