

DEC. 2018 / ENDSEM U118-104A(BE-FF)

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

COURSE NAME: Basic Electronics Engineering ET10174A
(2017 PATTERN)

Q.NO	Sub Q.NO	Marking Scheme	Marks	Difficulty Level	Cognitive level	CO Mapped
Q1	a)	Block diagram of half adder [2M] Explanation with proper expression along with sum and carry [2M]	[6]	M	Knowledge / Comprehension	CO4
	b)	Explain working of D flip flop [2M] Block diagram [2M] It's truth table [2M]	[6]	M	Comprehension	CO4
	c)	Each expression 2M	[4]	L	Comprehension	CO4

OR

Q2	a)	Construct basic gates such as NOT, OR and AND gate using only NOR gate	[6]	M	Comprehension	CO4
	b)	With correct truth table: 4:1 MUX block diagram and working: 3M 1:4 De-MUX block diagram and working: 3M	[6]	H	Comprehension / Application	CO4
	c)	Define and draw AND gate and OR gate: 2M For both gates develop the truth table for logical expression :2M	[4]	L	Knowledge	CO4

OR

Q3	a)	Explain the working of LVDT using circuit diagram :4M State any two advantages and disadvantages of LVDT :2M	[6]	M	Knowledge	CO5
	b)	Different types of pressure transducer:2M Draw construction diagram of any two pressure transducer: 2M	[4]	L	Knowledge	CO5
	c)	Explanation of four characteristics of transducer: 4M	[4]	L	Knowledge	CO5

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Q4	a)	Draw the construction diagram of strain gauge :2M Explanation :4M	[6]	M	Knowledge and Comprehension	CO5
	b)	working of ultrasonic flow meter:4M	[4]	L	Knowledge	CO5
	c)	What is transducer [2M] Its classification based on its output quantity measured [2M]	[4]	L	Comprehension	CO5

Q.5

1.	When voltage applied to a diode is more than PIV, it is likely to result in a) More distortion on output side b) Poor regulation b) Conduction in both direction d) Breakdown at the junction. Ans: d	[2]
2.	In photodiode ----- current is proportional to light incident.. a) forward current b) reverse current c) reverse leakage current d) dark current. Ans: c	[2]
3.	A transistor has a β_{dc} of 250 and a base current, I_B of 20mA. The collector current, I_C equals: (a) 500 mA b) 5 A c) 50 mA d) 5 mA Ans: d	[2]
4.	The phase difference between the input and output ac voltage signals of a common-emitter amplifier is _____. a) 0° b) 180° c) 80° d) 360° Ans: b	[2]
5.	V_{CE} approximately equals _____ when a transistor switch is saturation region. a) V_B b) V_{CC} c) 0.2 V d) 5 V Ans: c	[2]
6.	A BJT is a _____-controlled device. The MOSFET is a _____ - controlled device. a. voltage, voltage b. voltage, current c. current, voltage d. current, current Ans: c	[2]
7.	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	[2]

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	Ans: a	
8.	The 7912 regulator IC provides _____ a. 5 V b. -12 V c. 12 V d. -5 V Ans: b	[2]
9.	For an op-amp with negative feedback, the output is (a) equal to the input (b) increased (c) fed back to the non-inverting input (d) fed back to the inverting input Ans: d	[2]
10.	The maximum slew rate of IC 741 is . a) 0.1 V/ns b) 0.8 V/ns c) 1 V/ns d) 0.5 V/ns Ans: d	[2]