

[B19EC1101]

I B. Tech I Semester (R19) Regular Examinations
BASIC ELECTRONICS
 (Electronics and Communication Engineering)
MODEL QUESTION PAPER

TIME: 3Hrs.

Max. Marks: 75 M

Answer **ONE Question** from **EACH UNIT**.

All questions carry equal marks.

			CO	KL	M
		UNIT-I			
1.	a).	Describe intrinsic and extrinsic semiconductors?	1	K2	8
	b).	Derive expressions for mobility in semiconductors?	1	K1	7
		OR			
2.	a).	What is Hall-effect? What are its applications?	1	K1	8
	b).	Explain Phenomenon of Drift and Diffusion in semiconductors?	1	K2	7
		UNIT-II			
3.	a).	What are various types of passive components ? How 3 band and 4 band resistors are decoded?	2	K1	8
	b).	Explain inductance and mutual inductance of an inductor?	2	K2	7
		OR			
4.	a).	With a neat sketch explain basic operation of CRO?	2	K2	8
	b).	What are KVL and KCL? Explain each with an example?	2	K2	7
		UNIT-III			
5.	a).	Explain basic operation and V-I characteristics of semiconductor diode?	3	K2	8
	b).	What is Zener diode? Explain its operation in reverse bias condition along with its applications?	3	K2	7
		OR			
6.	a).	Draw and explain the operation of a full wave rectifier?	3	K2	8
	b).	Explain construction and operation of photo-diode?	3	K2	7
		UNIT-IV			
7.	a).	Plot the input and output characteristics of transistor in CB configuration?	4	K1	8
	b).	List and Explain the fabrication steps of Monolithic ICs?	4	K2	7
		OR			
8.	a).	Explain CC configuration of transistor?	4	K2	8
	b).	What is an IC? Write a short notes on Classification of ICs?	4	K1	7

		UNIT-V			
9.	a).	Convert the Decimal number 867.9 into Binary, Octal, and Hexadecimal?	5	K3	8
	b).	Explain operation and truth table of a) NAND b)NOR c)XOR gates.	5	K2	7
		OR			
10.	a).	Explain operation and State Transition table of J-K flip-flop?	5	K2	8
	b).	Convert following Decimal numbers to Binary a)1101 b)1110.1111 c) 217.67	5	K3	7

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