

Model Question Paper-I/II with effect from 2022-23 (CBCS Scheme)

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First/Second Semester B.E. Degree Examination BASIC ELECTRONICS

(MODEL QP)

TIME: 03 Hours

Max. Marks: 100

Note:

Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			PO	CO	*Bloom's Taxonomy Level	Marks
Q.01	a	Explain the Forward and Reverse Characteristic of Semiconductor Diode.	1,2	1	2	8
	b	Explain Positive Half Wave Rectifier with input and output waveforms.	1,2	1	2	6
	c	Explain Zener Diode as Voltage Regulator with no load.	1,2	1	2	6
OR						
Q.02	a	Explain RC π filter.	1,2	1	2	8
	b	Explain DC load line analysis for Semiconductor Diode.	1,2	1	2	8
	c	Write down the characteristic of Zener Diode.	1,2	1	2	4
Module-2						
Q. 03	a	Explain BJT Current Amplification for increasing and decreasing IB Levels.	1,2	2	2	8
	b	Explain Common Base Input Characteristic of BJT.	1,2	2	2	6
	c	Explain the working of n channel JFET.	1,2	2	2	6
OR						
Q.04	a	Explain the operation of enhancement MOSFET.	1,2	2	2	8
	b	Draw the DC load line for transistor and identify Q points.	1,2	2	2	8
	c	Explain Common Emitter Input Characteristics.	1,2	2	2	4
Module-3						
Q. 05	a	Explain block diagram of Typical OpAmp.	1,2	3	2	6
	b	Explain working of a Differential Amplifier	1,2	3	2	8
	c	Explain OpAmp as an integrator circuit with an input and output waveform using square wave as input.	1,2	3	2	6
OR						
Q. 06	a	Explain basic Differential Amplifier	1,2	3	2	8
	b	Define Op Amp Parameters. Gain, CMRR, Slew rate, input resistance	1,2	3	2	8
	c	Explain Inverting Amplifier.	1,2	3	2	4
Module-4						
Q. 07	a	Convert Decimal to Binary : 1) 41, 2)153, 3) 0.6875,4) 0.513	1,2	4	2	8
	b	Write down Axiomatic Definition of Boolean algebra.	1,2	4	2	6
	c	Simplify the Boolean function to minimum number of literals ($xy + x'y + yz$) ($x'y + x(y+z) + y'z'$)	1,2	4	2	6
OR						
Q. 08	a	Convert Binary to Decimal D) 110111, 2) 10101010, 3) 0110, 4) 100.1010	1,2	4	2	8
	b	Explain SOP & POS with examples.	1,2	4	2	6
	c	Implement Half adder using basic gates.	1,2	4	2	6

Module-5						
Q. 09	a	Explain the working principle of Capacitive Transducer.	1,2	5	2	8
	b	Explain the working principle and applications of Piezoelectric Transducer.	1,2	5	2	8
	c	Write down the applications of Thermal Transducer.	1,2	5	2	4
OR						
Q. 10	a	Explain typical Radio Transmitter with neat block diagram.	1,2	5	2	6
	b	What is modulation? Explain the need for Modulation.	1,2	5	2	8
	c	What is noise? Explain the term Channel Noise and its effects.	1,2	5	2	6

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