

G. H. Raisoni of Engineering and Management, Pune.

(An Autonomous Institution affiliated to Savitribai Phule Pune University, Pune)

F. Y. B .Tech (Term -II) (AI/COMP/DS/IT)

ESE Summer - 2021(2020 Pattern)

Modeling of Digital Circuit (UECL106)

[Time: 2 Hours]

[Max. Marks: 50]

Course Outcome

CO1: Relate operation of diodes, types of diodes and their role in design of simple electronic applications.

CO2: Develop the capability to analyze and design simple circuits containing non-linear elements such as transistors using the concepts of load lines, operating points for various biasing methods. CO3: Classify Power amplifiers, Oscillators & Display Devices.

CO4: Interpret the operation of the Field Effect Transistor (FET), Metal Oxide Semiconductor Field Effect Transistor (MOSFET) and design FET circuits

CO5: Demonstrate familiarity with basic electronic components and use them to design simple electronic circuits

Instructions to the candidates:

- 1) All questions compulsory
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

COs	Sub Question		Marks	BL
CO1	a)	Explain KCL and KVL with proper circuit diagram	[5]	L1
	b)	Draw and Explain the V-I relation in RLC circuit	[5]	L5
CO2	a)	Design the 4:1 Mux using basic logic gates and explain the truth table.	[5]	L4
	b)	Design the circuit by K-map if $f(A,B,C)=\sum(0,2,4,6,7)$	[5]	L4
CO3	a)	Draw and Explains D flipflop in details	[5]	L5

	b)	Suggest any one flipflop which effectively remove the effects of the switch bounce	[5]	L2
CO4	a)	Draw and explain the Full adder circuit with proper truth table	[5]	L4
	b)	Explain the delta delay in details.	[5]	L4
CO5	a)	Explain the different attributes used in VHDL coding.	[5]	L2
	b)	Explain the IEEE standard logic library.	[5]	L6


