G. H. Raisoni of Engineering and Management, Pune.
(An Autonomous Institution)
F. Y. B .Tech (Term- I)
CAE I- 2020(2020 Pattern)
Introduction to Discrete Devices (UECL105)

[Time: 1 Hours]   **[Max. Marks: 15]**

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.

CO1	a)	Define rectifier and Explain the Half wave rectifier with waveform	[3]
	b)	Define the clipper and explain parallel negative clipper in details.	[3]
CO2	a)	What is the necessary AC input power from transformer secondary used in a HWR to deliver 700W of DC power to load? What would be the input AC power for the same load in Full wave rectifier?	[4]

OR

	b)	For Half wave rectifier peak voltage is 32.53V, the diode forward resistance is 15 Ω and resistance secondary winding is10Ω. For a load resistance of 4K Ω, Calculate average, rms values of load current and voltage, rectification efficiency & ripple factor.	[4]
	c)	Explain the working Bridge rectifier with its waveform also explain the efficiency and ripple factor of Bridge rectifier.	[5]

*****************************All the best*****************************