Roll No	

TatyasahebKore Institute of Engineering & Technology, Warananagar
(An Autonomous Institute)
F.Y.B.Tech(Sem-I), In Semester Examination –II, October 2023

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

Day and Date: Saturday, 28 October 2023   **Marks: 30**

Time :9:15 am to 10:15 am

Instructions: i) Use of non programmable calculator is allowed.
ii) Figures to the right indicate full marks.

			Unit No	CO	
Q.1		**Attempt any 3 from the following questions.**			
	a)	Explain operating principle of PN junction diode with neat symbol & V-I characteristics	3	3	**5**
	b)	Explain operating principle of Full wave rectifier with neat circuit diagram & waveform	3	3	**5**
	c)	What is transistor? Explain operation of PNP transistor with neat sketch	3	3	**5**
	d)	A resistance of 22Ω is connected in series with inductance of 43.2mH across 220V, 50Hz supply. Find i) Inductive reactance ii) Impedance iii) Power consumed	3	3	**5**
Q.2		**Attempt any 3 from the following questions.**			
	a)	Determine phase angle relationship between alternating voltage & current in a purely Resistive circuit & also prove that average power consumed in a circuit is P=E*I Watt	4	4	**5**
	b)	Derive an expression for R-L series circuit & draw phasor diagram	4	4	**5**
	c)	A resistance of 15Ω is connected in series with capacitance of 520µf, across 230V, 50Hz single phase AC supply. Find i) Impedance ii) Power factor iii) Power dissipation	4	4	**5**
	d)	A resistance of 12Ω,inductance of 0.14H and capacitance of 150µf are connected in series across 200V, 50Hz supply then Find i) Impedance ii) current iii) Power consumed	4	4	**5**