Roll No	

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

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

Day and Date: Wednesday, 27 September 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 Three from the following questions.**			
a)	Define the following terms & write its unit i) EMF ii) Current iii) Potential difference	1	1	**5**
b)	State & explain Kirchhoff's Current & Voltage laws	1	1	**5**
c)	Two batteries A & B are connected in parallel across a load resistance of 8Ω.The emf & internal resistance of battery A & B are 40V,4Ω and 50V,4Ω respectively, by using Node analysis method, Find. i) Current in battery A, ii) Current in battery B iii) Current in load resistance	1	1	**5**
d)	Two batteries A & B are connected in parallel across a load resistance of 6Ω.The emf & internal resistance of battery A & B are 18V,2Ω and 24V,4Ω respectively, by using Mesh analysis method, Find. i) Current in battery A, ii) Current in battery B iii) Current in load resistance	1	1	**5**
Q.2	**Attempt any Three from the following questions.**			
a)	Define the following terms & write its unit i) MMF ii) Reluctance iii) Magnetic flux density	2	2	**5**
b)	Obtain the mathematical expression for series magnetic circuit, prove that Total MMF=Hili+Hglg	2	2	**5**
c)	Two batteries A & B are connected in parallel across a load resistance of 10Ω.The emf & internal resistance of battery A & B are 34V,6Ω and 46V,6Ω respectively, by using Node/Mesh analysis method, Find. i) Current in battery A, ii) Current in battery B iii) Current in load resistance	2	2	**5**
d)	Two batteries A & B are connected in parallel across a load resistance of 12Ω.The emf & internal resistance of battery A & B are 16V,2Ω and 26V,2Ω respectively, by using Node/Mesh analysis method, Find. i) Current in battery A, ii) Current in battery B iii) Current in load resistance	2	2	**5**