



**Gayatri Vidya Parishad College of Engineering for Women (Autonomous)**

Madhurawada, Visakhapatnam

**Department of Electrical and Electronics Engineering**

**I B.Tech I Semester – Regular Examinations, December / January -2025**

**Fundamentals of Electrical Engineering**

**SCHEME OF VALUATION**

Q.No	Question
1.a)	For Classifying circuit elements like Resistor, Inductor, Capacitor ----->1M Resistor in detail ----->2M Inductor ----->2M Capacitor in detail ----->2M
1.b)	Loop Equation (1) ----->2M Loop Equation (2) ----->2M $I_1 = - 6.51A$ ----- > 1M $I_2 = -6.36A$ ----->1M $I_1-I_2 = - 0.148A$ ----->1M
2.a)	$R_1 = R_C + R_A + \frac{R_C R_A}{R_B}$ ----- >2M $R_2 = R_A + R_B + \frac{R_A R_B}{R_C}$ ----- >2M $R_3 = R_B + R_C + \frac{R_B R_C}{R_A}$ ----- >2M Diagram ----- > 1M
2.b)	Ohms Law Statement ----->2M Equation----->2M Limitations ----->2M VI characteristics (graphs) ----->1M
3. a)	Self-Inductance Concept----->3M Mutual Inductance Concept -----> 3M Diagram ----->1M
3.b)	Maxwell Corkscrew Rule statement ----->3M Explanation -----> 4M
4.a)	Coulombs first law ----->3M Coulombs second law-----> 3M Equation ----->1M
4.b)	Lenz Law ----->2M Biot-Savarts Law -----> 3M Amperes Law ----->2M
5.a)	Difference between Moving coil and Moving Iron Instruments ----->5M Examples -----> 2M
5.b)	Construction of Single-Phase dynamometer type wattmeter ----->3M Principle of Single-Phase dynamometer type wattmeter -----> 2M Diagram ----->2M
6.a)	Construction of Single-Phase Induction type energy meter----->3M Working of Single-Phase Induction type energy meter -----> 2M Diagram ----->2M
6.b)	For Classifying various forces acting on indicating instruments ---->1M Deflection ----->2M Damping ----->2M Controlling ----->2M

<b>7.a)</b>	Dielectric Loss ----->3M Piezoelectric Materials ----->2M Pyroelectric Materials ----->2M
<b>7.b)</b>	Properties of Ferroelectric materials ----->5M Hysteresis Curve for a Ferroelectric material----->2M
<b>8.a)</b>	Spontaneous Magnetization ----->3M Ageing of magnets ----->2M Spontaneous Polarization ----->2M
<b>8.b)</b>	Soft magnetic materials ----->3M Hard magnetic materials ----->3M Examples any two for each ----- > 2M
<b>9.a)</b>	Conductor sizes ----->3M Current Rating ----->2M Service Mains ----->2M
<b>9.b)</b>	Principle of Miniature circuit breaker ----->4M Diagram ----- > 3M
<b>10. a)</b>	Electrical symbols ----- > 3M Distribution Board ----- > 2M Meter Board ----- > 2M
<b>10.b)</b>	LT Panel wiring diagram ----- > 3M List of components ----- > 1M Explanation ----- > 3M

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