ACE
Engineering College
(An Autonomous Institution)

Question Paper Code: EE401ES

ACE-R20

Semester End Examination
II B. Tech- II Semester- AUGUST -2022
Principles of Electrical and Electronics Engineering

Common to CE, MECH

Time: 3 Hours   Max. Marks: 70

H. T. No										

Answer any 5 Questions out of 8 Questions from the following

Q.No	Question	Marks
1. a)	Explain star to delta conversion in a DC circuit.	7
b)	Three resistors: R1=5Ω, R2=10Ω, R3=15Ω are connected in parallel across a DC voltage source: 100V. Determine the currents I1, I2, I3 through R1, R2, R3 and the total current supplied by 100V source.	7
2. a)	With neat diagram explain the construction and working of transformer	7
b)	Derive the Torque equation of DC Motor	7
3. a)	Explain lead acid cell battery with neat diagram	7
b)	Write short note on (I) MCB (ii) MCCB	7
4. a)	Describe the different speed control techniques available for DC shunt motor	7
b)	Explain the different types of three phase transformer connection	7
5. a)	State and Explain Ohms Law, Kirchoff's Voltage Law and Kirchhoff's Current Law	7
b)	Derive the expression for RMS value of an AC voltage Waveform.	7
6. a)	How Zener diode is used as a voltage regulator? Explain	7
b)	Explain the significance of filters in Rectifiers and explain different types of filters?	7
7. a)	Draw the schematic diagram of P-Channel JFET. Explain the drain and transfer characteristics	7
b)	The P-channel FET has a $|I_{DSS}|$=-12mA, $|V_p|$=5V, V_{GS} is 1.6 V. Determine I_D and G_m	7
8. a)	Draw the input, output characteristics of a Common Emitter configuration, and explain in detail.	7
b)	In a common emitter configuration, if I_E = 5mA, I_B = 10 μA then find the values of α, β, γ.	7