M S Ramaiah Institute of Technology
(Autonomous Institute, Affiliated to VTU)
Department of Electrical & Electronics Engineering

Programme UG

Term: May - Aug 2021 **Course: Basic Electrical Engineering** **Course Code:EE25**

CIE: Test 1 **Sem:** 2nd **Sec:** -Group I, II & III

Max Marks: 30 **Time:** 1Hr Date: 29.06.2021

Portions for Test: Unit I & Unit III

Instructions to Candidates: Answer any **TWO** full questions

Sl#	Question	Marks
1a)	Explain any two forms of conventional energy sources	07
b)	List the conditions necessary for the Grid integration	03
c)	Define Tariff and explain any two types of Tariff	05
2a)	What is self-induced and mutually induced EMF	04
b)	Derive the EMF equation of DC Generator	05
c)	There are two coils having coefficient of coupling 0.7. The current in coil A is 4 Amp and the total flux is 0.5 mWb. The voltage induced in coil B is 75 Volts when the current in coil A is reduced to zero in 3 msec. The number of turns in coil A is 300. Determine L_A, L_B, M and N_B	06
3a)	Explain Torque v/s Armature current, Speed V/S Armature current in shunt and Series Motors	06
b)	A 6 pole lap connected armature driven at 450 rpm is required to generate 280 V. The useful flux per pole is about 0.04Wb. If the armature has 120 slots, calculate a suitable number of conductors per slot	04
c)	A D.C. shunt motor runs at 1000 rpm on 200 V supply. The armature resistance is 0.8 ohms and current taken is 40 amps in addition to field current. What resistance do you connect in series with the armature to reduce the speed to 600 rpm, current in the armature remaining the same? Neglect armature reaction	05