

Q.P. Code : 551301



Time Duration: 3 Hrs
Instructions to the candidates if any:-

Total Marks: 80

- N. B. (1) Question No. 1 is compulsory.
(2) Answer any Three out of remaining questions.
(3) Assumptions made should be clearly stated.

Q. No.	Marks
Q.1) Answer the following	20
a) Briefly explain the working principles of DC Generator and DC Motor.	
b) With a neat figure, explain the use of slip rings and brush assembly.	
c) What is Eddy current damping?	
d) Explain the working principle of Induction Motor.	
Q. 2 a) Explain the constructional features of a DC machine with a neat figure	10
b) A 4-pole, 250V DC Shunt Motor takes 4A on no load, running at 1200 r.p.m. The armature resistance is 0.1Ω and shunt field resistance is 125Ω . Total brush drop is 2V. If the motor takes total current of 61A on full load, calculate its Full Load Speed. (Assume that flux gets weakened by 5% on full load condition due to armature reaction)	10
Q. 3 a) Explain in detail the three characteristics of DC Shunt Motor with suitable graphs	10
b) With a neat circuit diagram and phasor diagram, explain in detail Split Phase Induction motor. Also draw the Torque-Speed curve.	10
Q. 4 a) Explain working of single phase motor with the help of double field revolving theory	10
b) Explain why ADC is required? Explain any one method of ADC	10
Q. 5 a) Explain working of Energy meter with neat diagram	10
b) Explain working of Megger for High Resistance measurement	10
Q. 6 a) Explain working of PMMC instrument	10
b) Explain Maxwell's bridge for Inductance measurement	10