

Unit-1
UNIT WISE QUESTION BANK

S.No	Questions	BT	CO	PO
Part -A (Short Answer Questions)				
1	Write Down The Emf Equation For D.C Generator.	BT2	CO1	PO1
2	State the functions of: a) Commutator b) Yoke c) Pole core in DC Generator.	BT1	CO1	PO1
3	Define MNA and GNA	BT2	CO1	PO1
4	Explain the dynamically induced E.M.F	BT2	CO1	PO1
5	Explain the purpose of inter pole in a D.C Generator.	BT3	CO1	PO2
6	A conductor of length 0.5 m, situated in at right angles to a uniform magnetic field of flux density 1.0 wb/m ² moves with a velocity of 4 calculate the emf induced in the conductor. What will be the emf induced if the conductor moves at an angle 60 to the field?	BT3	CO1	PO2
7	List the different types of DC Generator	BT2	CO1	PO1
8	State the Flemming's right hand rule	BT2	CO1	PO1
9	Explain the constructional details of pole coil with a neat sketch	BT2	CO1	PO2
10	What is armature reaction. List different effects of it.	BT3	CO1	PO1

S.No	Questions	BT	CO	PO
Part -B (Long Answer Questions)				
1	Explain the working principle of DC generator using single loop generator.	BT2	CO1	PO1
2	Explain the following terms as applied to a DC armature winding. (i) Front Pitch (ii) Back Pitch (iii) pitch (iv) Commutator Pitch .	BT2	CO1	PO1
3	Explain the effect of armature reaction on the performance of DC generator	BT2	CO1	PO1

4	What do you understand by demagnetizing and cross magnetizing effects of armature reaction in DC machine?	BT2	CO1	PO2
5	A d.c. shunt generator is supplying load connected to a bus - bar voltage of 220 V. It has an armature resistance of 0.025Ω and field resistance of 110Ω . Calculate the value of load current and load power when it generates an emf of 230 V. Neglect the effect of armature reaction. Draw circuit diagram.	BT3	CO1	PO2
6	Derive the expression for generated e.m.f in a DC generator. Discuss the factors affecting the generated e.m.f.?	BT2	CO1	PO2
7	short-shunt dc compound generator supplies 150 A at 100 V. The resistance of armature, series field, shunt field windings are 0.04, 0.03 and 60Ω respectively. Find the e.m.f generated. Also find the e.m.f generated, if same machine is connected as a long shunt machine	BT3	CO1	PO2
8	Sketch and explain the load characteristics of the shunt and series generator.	BT2	CO1	PO2
9	A 4-pole generator has a wave-wound armature with 722 conductors, and it delivers 100 A on full load. If the brush lead is 8° . Calculate the armature demagnetizing and cross magnetizing ampere turns per pole.	BT2	CO1	PO2
10	A 10kW, 6 pole DC Generator develops an e.m.f of 200V at 1500 rpm. The armature has a lap-connected winding. The average flux density over a pole pitch is 0.9T. The length and diameter of the armature are 0.25m and 0.2 respectively. Calculate the flux/pole the torque developed by the machine.	BT2	CO1	PO2
11	What are the possible causes for not building up	BT2	CO1	PO2

	emf in self excited DC Generators? What are the remedial measures to be taken?			
12	Distinguish between external and internal characteristics of DC Generators.	BT2	CO1	PO2