**EM-1**

**Question Bank of Unit-2**

1. Give the construction of DC machine in detail. What type of material we use in construction of dc machine.
2. Give the working principle of DC generator.
3. Explain the different types of DC machine with their circuit diagram.
4. What is armature reaction explain in detail.
5. What is commutation process? Give the type of commutation.
6. Explain the following term

(a)Inter pole winding.

(b)Compensating winding

1. Derive the emf. equation of a DC machine.
2. Explain voltage buildup process in case of DC shunt generator.
3. Explain the performance characteristic of following DC generator

(a)Shunt generator

(b)Series generator

(c) Compound

1. Find the relation between electrical & mechanical degrees.
2. Derive the expression for flux per pole
3. Explain the effect of brush shifting.
4. Explain delayed commutation in brief.
5. What is lap & wave connection?
6. Explain general torque equation in dc machine.
7. The terminal voltage of a 8 pole dc shunt generator with 780 wave connected, armature conductors & running at 500 rpm at terminal voltage 240V .the generator has armature & field circuit resistance .24Ω & 240Ω respectively. Find armature current, generated emf in armature. Also find out the flux per pole if load resistance is 12Ω.
8. A separately excited dc generator has terminal voltage 250V with constant field excitation, if the load changes from 200kw to 225kw find the % change in speed. The armature resistance is .015 Ω & total contact drop at brushes is 2v. Neglect armature reaction .the flux & total no of armature conductor remain constant.