Lecture 69

1.

A 6 pole lap wound DC Generator has 51 slots, each slot has 18 conductors. The useful flux per pole is 35 mwb. Find the generated emf in the armature, if it is driven at a speed of 750 rpm.

2.

A 4 pole lap wound DC Generator has 40 slots. It runs at 1500 rpm. Flux per pole is about 30mWb. Find the conductors per slot, to give a generated EMF of 180V.

3.

A 200V, 4 pole lap wound DC Motor has 800 conductors on its armature. The resistance of the armature winding is 0.5Ω. The motor takes 20A and the useful flux/pole is 30mWb. Find the speed and gross torque developed in the motor.

4.

A 4 pole, 12 KW 240V DC Generator has its armature coils wave connected . If the same machine is lap connected, all other things remaining constant, calculate the voltage, current and power rating of the generator.