



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION



Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai

III Semester

B.E- Mechanical and Mechatronics Engineering (Additive Manufacturing)

23EEB204 – Electrical Machines and Power Systems

Regulations 2023

UNIT I – DC MACHINES

PART A

1. List the application of DC Motors.
2. Summarize the functions of commutator.
3. Define residual emf in DC generator.
4. List the main parts of DC machine.
5. State the functions of yoke in a DC machine.
6. State the importance of Back EMF in DC Motor.
7. List the factors involved in the voltage build up of a shunt generator.
8. Compare NVR and OLR Coils.
9. What is a magnetization characteristic?
10. Sketch the load characteristics of dc shunt generator, dc series generator and dc compound generator.
11. State the applications of various types of dc generators.
12. Define armature reaction.
13. Draw the mechanical characteristics of all types of dc motor.
14. What is the necessity of starter for a dc motor?
15. Why dc series motor is never started on no load?
16. List the various methods of controlling speed of dc shunt motor.
17. List the various methods of controlling speed of dc series motor.

PART B

1. Illustrate with diagram the construction and operation of three point starter. Also mention the limitations of three point starter.
2. List and explain the various technique of speed control employed for DC Shunt Motor with neat sketch.
3. Sketch and explain the mechanical and electrical characteristics of all types of dc motors.
4. With a neat schematic diagram explain the construction and principle of operation of DC Generator. Also derive the emf equation of DC generator.
5. Classify the different characteristics of separately excited DC generator? And explain each of it.
6. Summarize the principle of operation of DC Motor.
7. State the importance of Starters. Design a four point starter and explain the construction and operation of 4 point starter with neat sketch.

8. Discuss the various methods of speed control employed in DC Series Motor.
9. The lap wound armature of a 4-pole generator has 51 slots. each slot contains 20 conductors. what will be the emf generated in machine when driven at 1500 rpm, if useful flux per pole is 0.0 Wb?