

Course Catalogue

# Complete Guide on DC Machines

DC Generator & DC Motor



# What you'll learn?

In this course, you'll learn about DC Machines (DC Generator & DC Motor) in detail and in the easiest way possible. The course language is very easy to understand. This is the only course you'll need to remember DC Machines for long time!

Detailed course content is also given in below.



## Course suitable for

- Diploma Students
- BE or B-tech Students
- ME or M-tech students
- Teachers
- Student's preparing for competitive exams

# What you'll get?



50+ Recorded lectures



Important diagrams



PDFs



200+ MCQs for practice



Lifetime access



View on mobile/laptop/desktop



Chat group for doubts



Offline download option



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Course Language : English

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## Course Instructor

Gaurav J aka TheElectricalGuy, is an Electrical Engineer with years of experience in Transmission sector. He is been creating content for electrical engineers from years now. He also runs a successful YouTube channel with thousands of subscribers & millions of views.



# Course Content

## Part 1 : DC Generator

### **Section 1**

1. Principle of DC Generators
2. Basic Components required to produce voltage
3. Generating an AC voltage
4. Converting AC into DC
5. Improving the wave shape
6. Test 1
7. Important Diagrams

### **Section 2**

1. Induced Voltage / EMF Equation
2. Neutral Zone / Magnetic Neutral axis
3. Armature Reaction
4. Effects of Armature Reaction
5. Test 2
6. Important Diagrams

### **Section 3**

1. Brush Shift - Solution to Armature reaction I
2. Interpoles or Commutating pole - Solution to Armature reaction II
3. Commutation (Ideal Commutation)
4. Practical Commutation
5. Methods to improve commutation
6. Test 3
7. Important Diagrams

### **Section 4**

1. Equivalent circuit of DC generator
2. Types of DC Generator
3. Separately Excited DC generator & it's characteristics
4. Self Excited DC generator & it's characteristics
5. Compound generator & it's characteristics
6. Test 4
7. Important Diagrams

# Course Content

## Part 1 : DC Generator

### Bonus lectures

1. Construction of DC Generator
2. Practical construction of DC generator
3. Specifications of Generator
4. Conclusion

### MCQ Practice Tests

1. Practice Set 1
2. Practice Set 2
3. Practice Set 3



# Course Content

## Part 2 : DC Motor

### **Section 1**

1. Principle of DC motor
2. Construction of DC motor
3. Back EMF or Counter EMF
4. Acceleration of DC Motor
5. Solving a Numerical
6. Mechanical power & torque of DC motor
7. Test 1
8. Important Diagrams

### **Section 2**

1. Equivalent circuit of DC motor
2. Speed of DC Motor
3. Armature speed control
4. Rheostat speed control
5. Field speed control
6. Summary of Speed Control
7. Test 2
8. Important Diagrams

### **Section 3**

1. Type of DC Motor
2. Shunt motor and its characteristics & application
3. Series motor and its characteristics & application
4. Compound motor and its characteristics & application
5. Speed Regulation of DC Motor
6. Summary of Types of DC Motor
7. Test 3
8. Important Diagrams

# Course Content

## Part 2 : DC Motor

### **Section 4**

1. Starting of DC Motor | Why do we need starter?
2. Different types of starters
3. Stopping of DC Motor
4. Dynamic breaking
5. Plugging
6. Test 4
7. Important Diagrams

### **Section 5**

1. Losses in DC Machines
2. Power flow diagram (Power stages)
3. Efficiency of the DC Machine

### **MCQ Practice Tests**

1. Practice Set 1
2. Practice Set 2
3. Practice Set 3

