SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND DESIGN

COURSE NAME : 19EE01 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

I YEAR /II SEMESTER - COMPUTER SCIENCE AND DESIGN

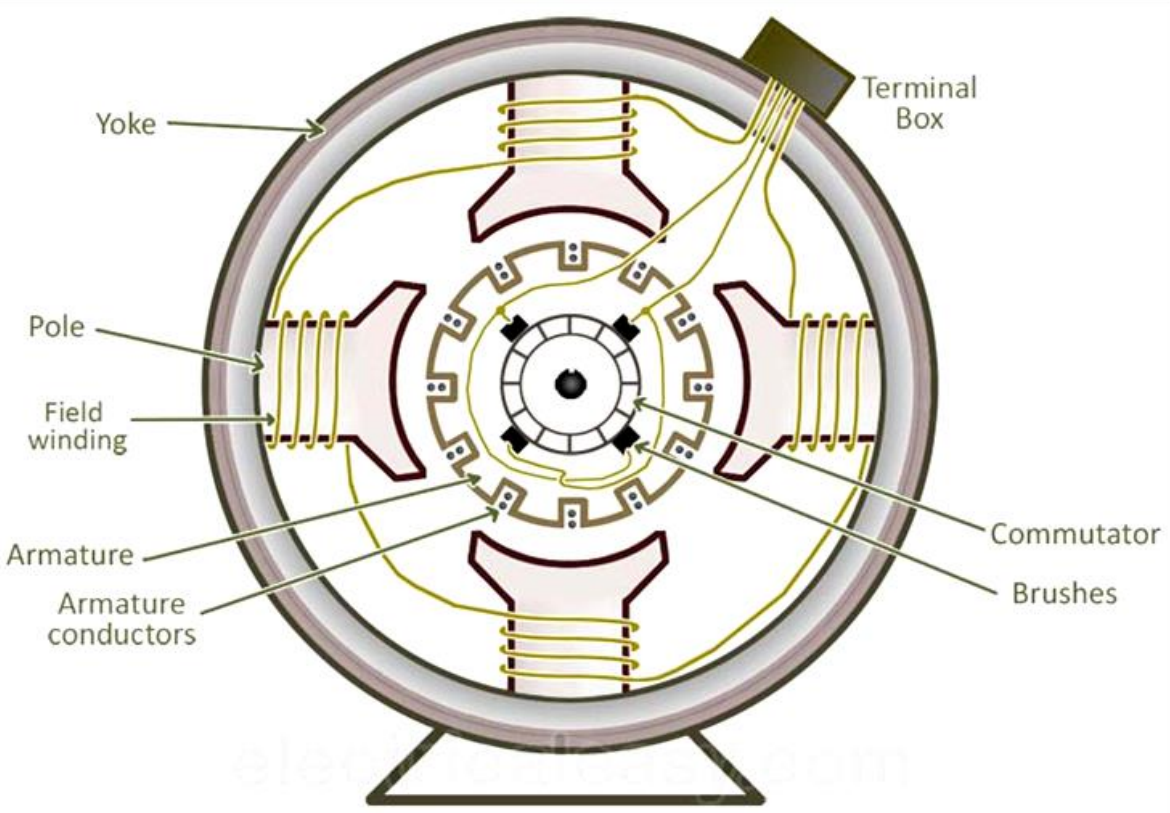
Unit 2 – ELECTRICAL MACHINES

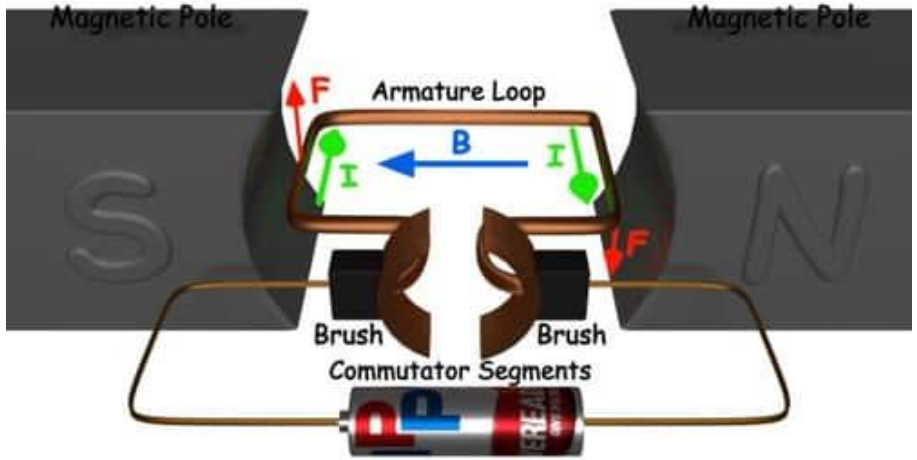
Topic 1 : DC Motor Construction and Working principle

DC MOTORS

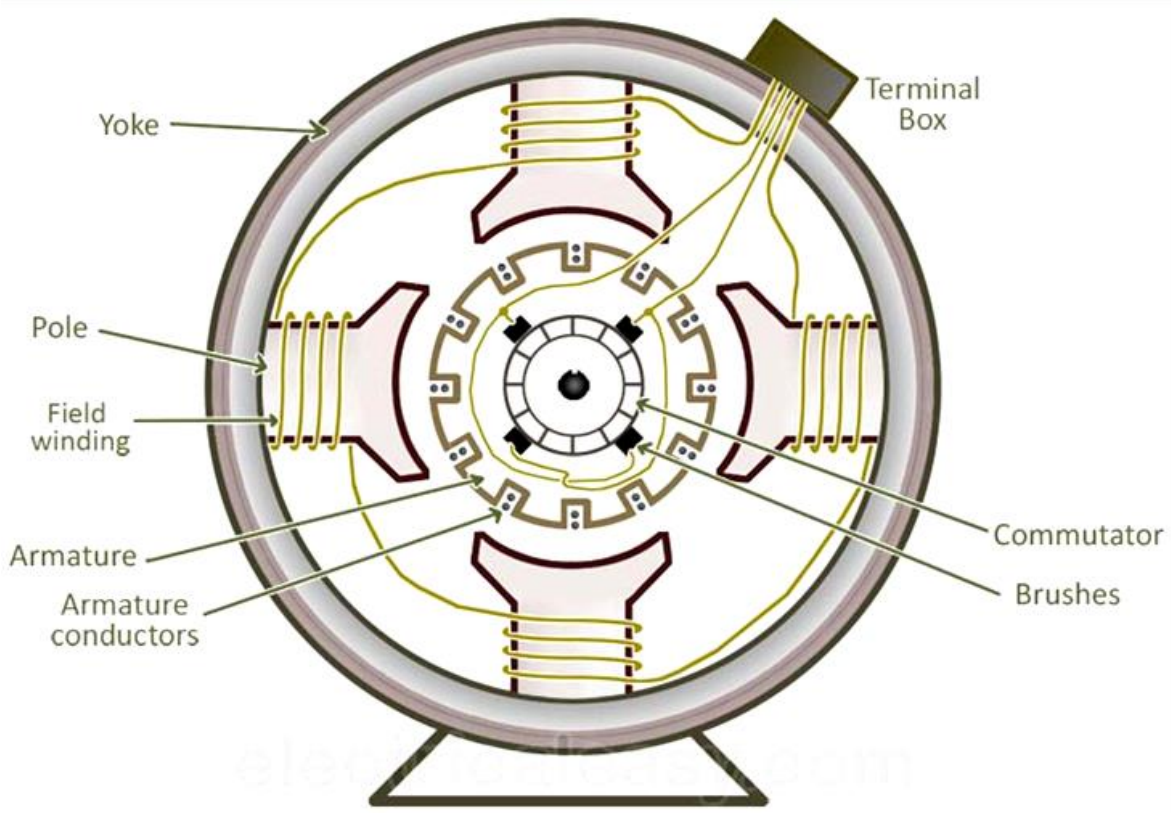
- Why do we need motors?
- What action motor do?
- How can I create the motor?
- Why motor rotates in circular motion?

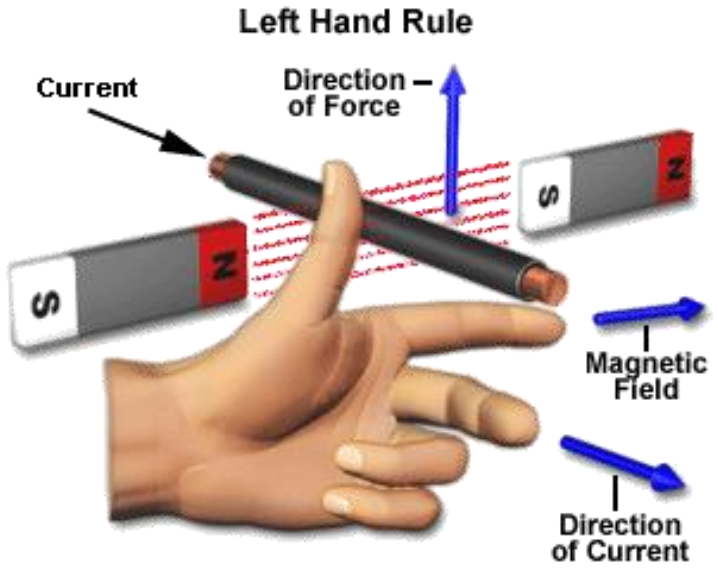
DC MOTOR CONSTRUCTION





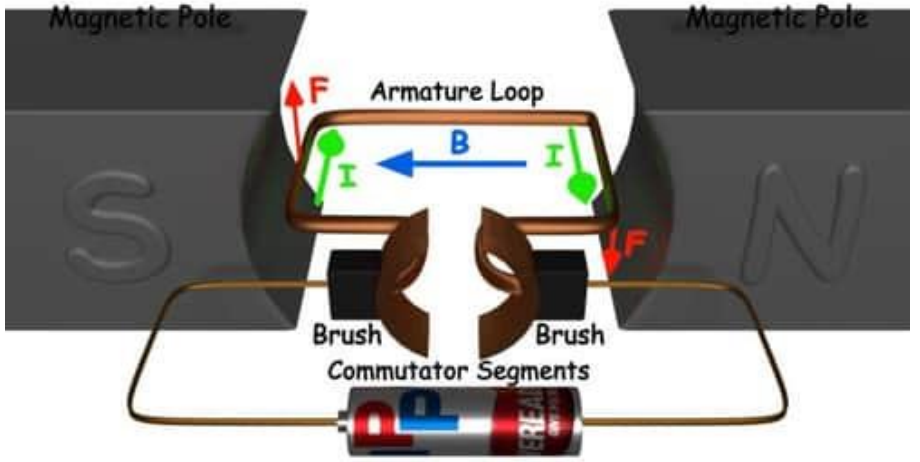
WORKING PRINCIPLE



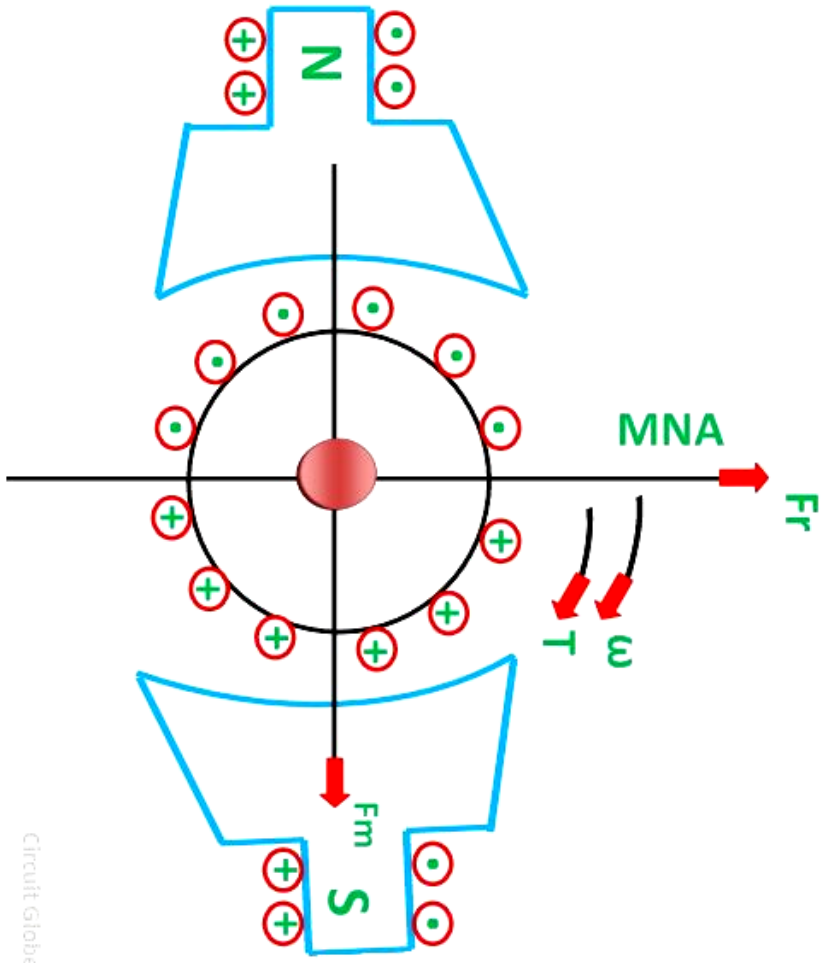


MOTORING ACTION

- If a current carrying conductor is placed in a magnetic field perpendicularly, then the conductor experiences a force in the direction mutually perpendicular to both the direction of field and the current carrying conductor.



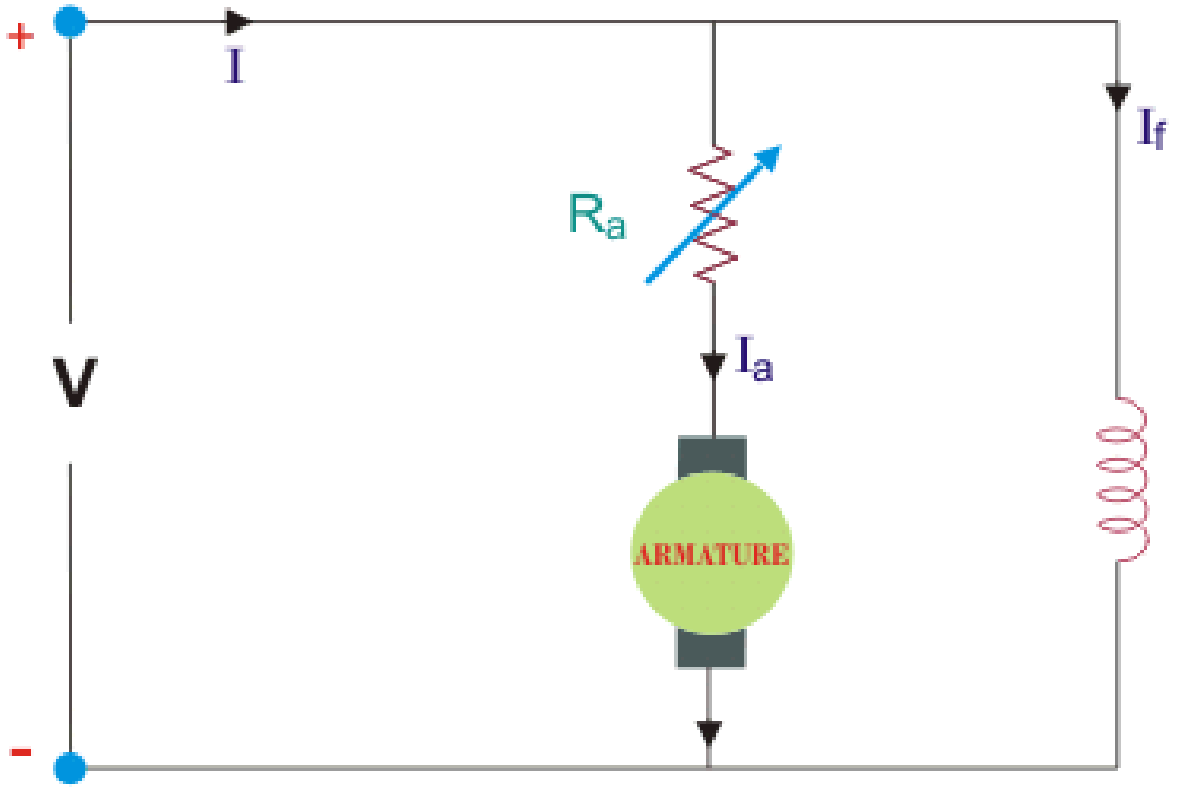
TORQUE PRODUCTION



Two Forces

Supporting & Cancelling

SHUNT MOTOR

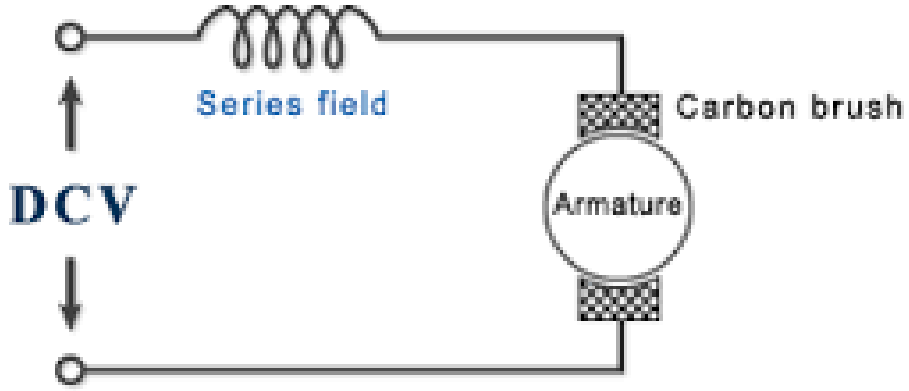


Derive the voltage equation for DC Shunt Motor

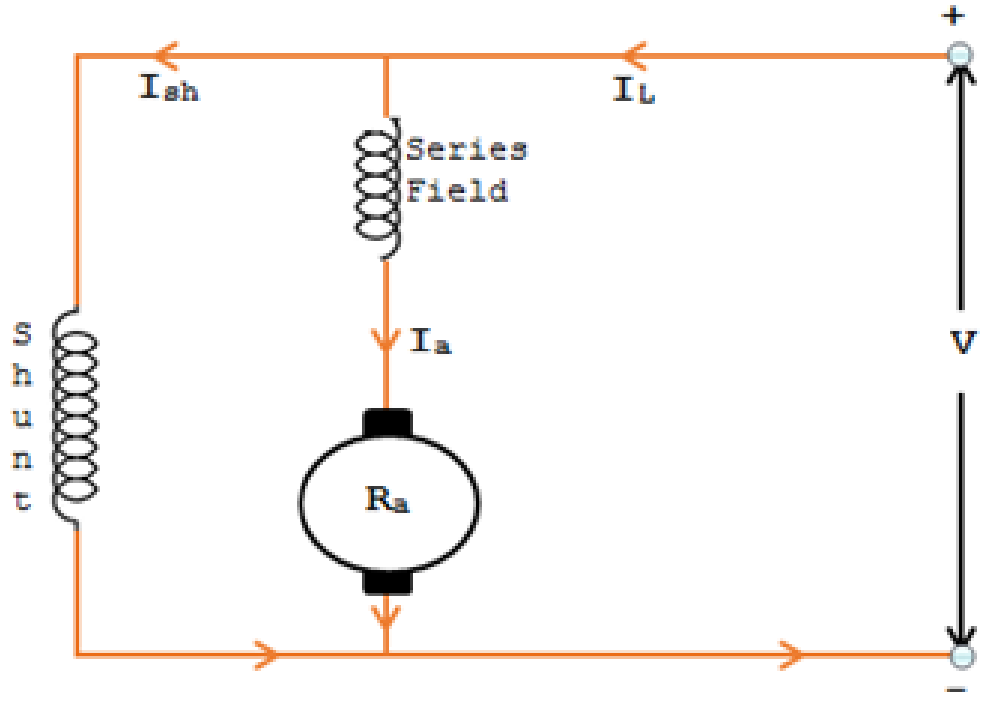
SERIES MOTOR

Derive the voltage equation for DC Series Motor

➢ *Series DC motor*



COMPOUND MOTOR



Derive the voltage equation for DC Compound Motor

Assessment 1

1. Compare DC Shunt Motor and DC Series Motor.

2. State the principle of DC Motor

REFERENCES

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2. Muthu Subramanian R, Salivahanan S,“ Basic Electrical and Electronics Engineering”, Tata McGraw Hill Publishers, (2009)
3. V.Mittle“ Basic Electrical Engineering”, Tata McGraw Hill Publishers, (2017)
4. Nagrath. I.J, “Electronics: Analog and Digital”, Prentice Hall India Pvt. Ltd., (2013)

THANK YOU