**Ch-1 :**

1. What are primary transmission, secondary transmission, primary distribution and secondary distribution?
2. What are feeder, service mains, and distributor?
3. State advantages of dc power transmission over ac power transmission.
4. Draw the typical ac power supply scheme
5. Explain thermal, nuclear and hydro power generation.

**Ch-2: Three Phase Supply**

1. Find the current and voltage relationship in case of star and delta connection with phasor diagram.

**Ch-3: Measuring Instrument**

1. What is deflecting torque, controlling torque and damping torque and explain.
2. What is indicating, recording, integrating instrument with example.
3. Explain the construction and operating principle of PMMC instrument.
4. Explain the construction and operating principle of M.I type instrument.
5. Explain the construction and operating principle of Electrodynamo wattmeter.
6. Explain the construction and operating principle of energy meter.
7. Explain the operating principle of digital multimeter.

**Ch-4: DC Motor**

1. Explain construction and operating principle of DC motor.
2. What is back emf?
3. Derive the emf equation of DC motor.
4. Explain torque-speed characteristics of DC series motor, DC shunt motor.
5. Derive torque equation of DC motor.
6. Uses of DC series motor, shunt motor, compound motor.
7. Necessity of starter used in DC motor.

**Ch-5: Transformer**

1. Explain construction and operating principle of Transformer.
2. Derive the emf equation of Transformer.
3. What is transformation ratio?
4. Explain the open circuit test of transformer.
5. Explain the short circuit test of transformer.
6. What is efficiency and voltage regulation of transformer?
7. What is difference between auto transformer and 2-winding transformer.
8. Give brief idea about 3-phase transformer.

**Ch-6: AC motor**

1. Explain construction and operating principle of 3-phase induction motor.
2. What is slip?
3. Explain speed control of induction motor.
4. Explain the starting of induction motor.
5. Explain the torque and slip characteristics of induction motor.
6. How an induction motor has reversed?
7. Why single phase induction motor is not self starting?
8. Explain about split phase induction motor.
9. Explain about capacitor start and capacitor start and run induction motor.
10. Explain about shaded pole induction motor.
11. Explain about universal motor, steeper motor, servo motor.

**Ch-7: Alternator and synchronous motor**

1. Explain construction and operating principle of alternator.
2. Explain construction and operating principle of synchronous motor.
3. Explain the method of starting of synchronous motor.

**Ch-8: Industrial applications**

1. Write down the various factors for selection of motors for different drives?
2. Classification of drives and explain.

**Ch-9: Electric heating and welding**

1. Discuss the types of electric heating and their operating principle.
2. Discuss the types of electric welding and their operating principle.

**Ch-10: Electrometallurgical and Electro Agro systems**

1. What is electro plating and explain the operation of electroplating.
2. What are the types of motor used in electro agro system?