Assignment Questions

Module-1

DC Circuits and Electromagnetism

1. What do you mean by dc circuit?
2. State and explain the laws of magnetism?
3. What is charge?
4. State and explain Kirchhoff's voltage and current law?
5. Explain ohms law and its limitations?
6. State and explain laws of magnetism
7. Define Emf?
8. State faradays laws of electromagnetism?
9. Explain clearly difference between self inductance and inductance?
10. How energy gets stored in a magnetic field?

Module- 2

Dc Machines and Measuring Instruments

1. Explain the construction of DC machine?
2. What do you mean by lap winding?
3. Differentiate between generator and motor?
4. Why dc motor cannot be started on no load?
5. Explain the principle of working of dc motor?
6. Explain a 3 point starter?
7. What do you mean by back emf?
8. What is the difference between lap and wave winding?
9. With a neat sketch explain the construction and working principle of induction type meter.
10. With a neat sketch explain the construction and working principle of dynamo type meter.

Module- 3

Single Phase AC Circuits and Domestic Wiring.

1. State the advantages of ac supply over DC supply.
2. Derive RL series circuit with neat sketch and vector diagram.
3. Explain the significance of average value?
4. Define form factor and peak factor?
5. What do you men by power factor?
6. Explain the concept of admittance?
7. What do you mean by phase and phase difference?
8. What do you mean by real and reactive power?
9. Explain the operation of RLC circuit?
10. Why current leads in capacitance circuit?

Domestic wiring

1. What do you mean by wiring?
2. Explain types of wiring?
3. What do you mean by ear thing?
4. Explain plate earthling? Also mention the important parts.
5. With neat sketch explain pipe earthing,
6. Discuss the precautions against electrical shock?
7. Discuss with diagram working of wattmeter?
8. Explain with operation energy meter?

Module-4

Three Phase AC Circuits and Alternators

1. What are the advantages of 3 phase over single phase supply?
2. Explain star connection in 3 phase? And derive the relationship b/w line and phase currents.
3. Explain delta connection in 3 phase? And derive the relationship b/w line and phase currents.

4. What do you mean by wattmeter?
5. How to measure power in a wattmeter?
6. Derive relation between phase and line voltages in star connection?
7. .Derive relation between phase and line voltages in Delta connection?
8. Explain the concept of balance load?
9. Explain the generation of 3 phase supply voltage with neat sketch?

Synchronous generators

1. What do you mean by pitch factor?
2. What do you mean by distribution factor?
3. Explain salient and non salient types of rotors with neat sketches?
4. What are the Advantage of rotating field type of alternator?
5. Derive an expression Expression for an induced emf per phase in a 3 phase alternator?
6. Explain the various types of windings used in 3 phase alternator?

Module-5

Transformers and Induction Motors

1. What do mean by a transformer?
2. What do you mean by ideal transformer?
3. What is KVA rating of transformer?
4. Diffrentitae between shell and core type transformers?
5. Explain various losses in transformer?
6. What do you mean by iron losses? And also explain how they are minimized.
7. Derive EMF equation of a transformer.
8. Define Regulatuion? And also explain its importance.
9. What do you mean by efficiency? And also derive an expression for max efficiency.

Three Phase induction motor

1. What is rotating magnetic field? Explain in brief.
2. Explain in brief constructiin of 3 phase induction motor?
3. List the difference between slip ring and squirrel cage rotor?
4. What do you mean by slip? Explain its importance.
5. Explain the working principle of three phase induction motors?
6. Discuss construction and working of star delta starter?
7. List the various applications of 3 phase motor?
8. Why induction motor needs starter to start?