# Study Plan

| Measurement and Instrumentation | | Electrical Machine | | | Power system | | Microprocessor and Microcontroller | | Power electronics and drives | |
|---|---|---|---|---|---|---|---|---|---|---|
| Topic | Timing | Topic | Timing | Topic | Timing | Topic | Timing | Topic | Timing |
| Introduction to Electrical & Electronics Engineering Measurements | Recording-1 | Introduction to Electrical Machines | Recording-1 | Introduction to Power Systems | Recording-1 | Microprocessor-1 | Recording-1 | Power electronics and drives-1 | Recording-1 |
| Error Analysis Part-1 | Recording-2 | Basic Concepts of Magnetic Materials | Recording-2 | Generation (Thermal Power plant, Hydro Power Plant) | Recording-2 | Microprocessor-2 | Recording-2 | Power electronics and drives-2 | Recording-2 |
| Error Analysis Part-2 | Recording-3 | Basic concepts of Rotating Machines | Recording-3 | Generation (Nuclear Power Plant), Renewable & Non renewable power plant | Recording-3 | Microprocessor-3 | Recording-3 | Power electronics and drives-3 | Recording-3 |
| Types of Dampings and torques | Recording-4 | Working of DC Generators | Recording-4 | Economic Load factors (Load factor, capacity factor etc.) | Recording-4 | Microprocessor-4 | Recording-4 | Power electronics and drives-4 | Recording-4 |
| PMMC | Recording-5 | Constrution of DC Machines | Recording-5 | Per unit method Part-1 | Recording-5 | Microprocessor-5 | Recording-5 | Power electronics and drives-5 | Recording-5 |
| Rectifier type instruments | Recording-6 | Commutator & Types of Windings | Recording-6 | Per unit method Part-2 | Recording-6 | Microprocessor-6 | Recording-6 | Power electronics and drives-6 | Recording-6 |
| Moving iron type instruments -1 | Recording-7 | Emf Equation of DC Generators | Recording-7 | Question practice Session | Recording-7 | Microprocessor-7 | Recording-7 | Power electronics and drives-7 | Recording-7 |
| Moving iron type instruments -2 | Recording-8 | Type of DC Generators | Recording-8 | Power factor improvement Part-1 | Recording-8 | Microprocessor-8 | Recording-8 | Power electronics and drives-8 | Recording-8 |
| Power factor meter, flux meter, Frequency meter | Recording-9 | Questions on DC Generators | Recording-9 | Power factor improvement Part-2 | Recording-9 | Microprocessor-9 | Recording-9 | Power electronics and drives-9 | Recording-9 |
| Measurement of Power-1 | Recording-10 | Armature reaction of DC Generators-1 | Recording-10 | Power factor improvement Part-3 | Recording-10 | Microprocessor-10 | Recording-10 | Power electronics and drives-10 | Recording-10 |
| Measurement of Power-2 | Recording-11 | Armature reaction of DC Generators-2 | Recording-11 | Power factor improvement Part - 4 | Recording-11 | | | Power electronics and drives-11 | Recording-11 |
| Energy meter -1 | Recording-12 | Commutation in DC Machines | Recording-12 | Question practice Session | Recording-12 | | | Power electronics and drives-12 | Recording-12 |
| Energy meter -2 | Recording-13 | Methods of improving commutations | Recording-13 | Transmission line parameters Part-1 | Recording-13 | | | Power electronics and drives-13 | Recording-13 |
| Instrument transformers Part-1 | Recording-14 | Characteristics of DC Generators | Recording-14 | Transmission line parameters Part-2 | Recording-14 | | | Power electronics and drives-14 | Recording-14 |
| Instrument transformers Part-2 | Recording-15 | Basic Principle of Motor | Recording-15 | Transmission line parameters Part-3 | Recording-15 | | | Power electronics and drives-15 | Recording-15 |
| CRO - 1 | Recording-16 | Torque Equation of DC Motors | Recording-16 | Short circuit of fault analysis Part -1 | Recording-16 | | | Power electronics and drives-16 | Recording-16 |
| CRO - 2 | Recording-17 | Speed control of DC Motors | Recording-17 | Short circuit of fault analysis Part -2 | Recording-17 | | | Power electronics and drives-17 | Recording-17 |
| AC bridges 1 | Recording-18 | Starting and Braking methods of DC Motors | Recording-18 | Question practice Session | Recording-18 | | | Power electronics and drives-18 | Recording-18 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AC bridges 2 | Recording-19 | Efficiency and testing methods of DC Motors | Recording-19 | Short circuit of fault analysis Part -3 | Recording-19 | | | | Power electronics and drives-19 | Recording-19 |
| | | Basics of Transformers | Recording-20 | Power system stability Part - 1 | Recording-20 | | | | Power electronics and drives-20 | Recording-20 |
| | | Construction of transformers & Emf Equation of transformers, | Recording-21 | Power system stability Part - 2 | Recording-21 | | | | | |
| | | Equivalent circuit, O.C.& S.C. Tests | Recording-22 | Switchgear and protection Part-1 | Recording-22 | | | | | |
| | | Voltage regulation of transformers,Losses and efficiency of transformers | Recording-23 | Switchgear and protection Part-2 | Recording-23 | | | | | |
| | | 3 Phase transformers,Parallel operation of transformers | Recording-24 | Switchgear and protection Part-3 | Recording-24 | | | | | |
| | | Construction & Working of 3-Phase Induction Machines | Recording-25 | Switchgear and protection Part-4 | Recording-25 | | | | | |
| | | Working & Equivalent Circuitof 3-Phase Induction Machines | Recording-26 | Switchgear and protection Part-5 | Recording-26 | | | | | |
| | | Torque Equation of 3-Phase induction Machines | Recording-27 | Question practice Session | Recording-27 | | | | | |
| | | Torque slip characteristics of 3-phase induction Motors | Recording-28 | Cables, insulators Part -1 | Recording-28 | | | | | |
| | | Starters & Braking methods of 3-Phase induction machines | Recording-29 | Cables, insulators Part -2 | Recording-29 | | | | | |
| | | Speed control of 3-Phase induction motors | Recording-30 | Circuit Breakers Part -1 | Recording-30 | | | | | |
| | | Losses, efficiency, Cogging, Crawling of 3-Phase induction Motors | Recording-31 | Circuit Breakers Part -2 | Recording-31 | | | | | |
| | | Consturction and working of 1-Phase induction motors | Recording-32 | Question practice Session | Recording-32 | | | | | |
| | | Split phase Induction Motors, Capacitor start, Capacitor start capacitor run, Shaded pole Induction Motors | Recording-33 | | | | | | | |
| | | Hysteresis, Switched Reluctance motors, stepper motors | Recording-34 | | | | | | | |
| | | Construction & Working of 3-phase Synchronous Machines | Recording-35 | | | | | | | |
| | | Armature reaction of 3-Phase synchronous generators at unity , Lagging pf & Leading pf | Recording-36 | | | | | | | |
| | | Voltage Regulation of 3-Phase Synchronous generators | Recording-37 | | | | | | | |
| | | Power flow,Synchronous condenser & important curves in synchronous machines in Synchronous Machines | Recording-38 | | | | | | | |
| | | Parallel Operation of Synchronous Machines | Recording-39 | | | | | | | |
| | | Working of 3-Phase synchornous motors | Recording-40 | | | | | | | |
| | | Starting methods of synchronous motors, Synchronizing coefficient | Recording-41 | | | | | | | |
| | | Testings in Synchronous Machines | Recording-42 | | | | | | | |