

## STUDY PLAN

| Basic Electronics                        |               | UEE                                                                                 |              | Network Theory                                                                         |              |
|------------------------------------------|---------------|-------------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------|--------------|
| Topic                                    | Timing        |                                                                                     |              | Topic                                                                                  | Timing       |
| Introduction to Basic Electronics        | Recordings-1  |                                                                                     |              | Parallel Resonance                                                                     | Recording-1  |
| Basics of Semiconductor Materials Part-1 | Recordings-2  | Topic                                                                               | Timing       | Performance Parameters of Series and Parallel Resonance                                | Recording-2  |
| Basics of Semiconductor Materials Part-2 | Recordings-3  | Type of Motor and Characteristics                                                   | Recording-1  | Average & RMS values of difference waveforms                                           | Recording-3  |
| Semiconductor Physics Part-1             | Recordings-4  | Type of loads                                                                       | Recording-2  | Two Port Networks & Graph Theory                                                       | Recording-4  |
| Semiconductor Physics Part-2             | Recordings-5  | System of electric traction and track electrification                               | Recording-3  | Graph Theory and Questions                                                             | Recording-5  |
| PN Junction Diode Part-1                 | Recordings-6  | Speed-time curves for different services                                            | Recording-4  | Poly phase Network                                                                     | Recording-6  |
| PN Junction Diode Part-2                 | Recordings-7  | Calculation of various quantities of Electrical Traction                            | Recording-5  | Poly phase Network                                                                     | Recording-7  |
| Zener Diode Part -1                      | Recordings-8  | Methods of Electrical Heating                                                       | Recording-6  | Power Triangle, impedance Triangle, charging and discharging of Inductor and Capacitor | Recording-8  |
| Zener Diode Part -2                      | Recordings-9  | Methods of Electrical Welding                                                       | Recording-7  | Electric Potential                                                                     | Recording-9  |
| Tunnel diode, LED                        | Recordings-10 | Introduction and terms used in Illumination                                         | Recording-8  | Ohms law, Concept of Resistance                                                        | Recording-10 |
| PhotoDiode, Shottcky Diode               | Recordings-11 | Discharge Lamps, MV and SV Lamps                                                    | Recording-9  | Types Of Circuit Elements                                                              | Recording-11 |
| BJT Part-1                               | Recordings-12 | Basic Principle of Light Control , Types and design of lightning and flood lighting | Recording-10 | Concept of Inductor                                                                    | Recording-12 |
| BJT Part-2                               | Recordings-13 |                                                                                     |              | Concept of Capacitance & Laplace transforms                                            | Recording-13 |
| BJT Part-3                               | Recordings-14 |                                                                                     |              | Some Functions & Their Laplace Transforms                                              | Recording-14 |
| BJT Part-4                               | Recordings-15 |                                                                                     |              | Resistance in Series and Parallel & Star Delta conversion                              | Recording-15 |
| BJT Part-5                               | Recordings-16 |                                                                                     |              | Capacitance in Series and Parallel                                                     | Recording-16 |
| BJT Part-6                               | Recordings-17 |                                                                                     |              | KVL and KCL                                                                            | Recording-17 |
| BJT Part-7                               | Recordings-18 |                                                                                     |              | Question Practice Session                                                              | Recording-18 |
| FeedBack Amplifier                       | Recordings-19 |                                                                                     |              | Questions Practice Session                                                             | Recording-19 |
| Power amplifier                          | Recordings-20 |                                                                                     |              | Network Theorem                                                                        | Recording-20 |
| FET introduction and working             | Recordings-21 |                                                                                     |              | (Superposition Theorem)                                                                | Recording-21 |
| MCQs on FET                              | Recordings-22 |                                                                                     |              | Thevenin's, Nortons Theorem                                                            | Recording-22 |
| MOSFET introduction and working          | Recordings-23 |                                                                                     |              | Maximum Power Transfer Theorem                                                         | Recording-23 |
| Op-amp Part-1                            | Recordings-24 |                                                                                     |              | Tellegen's, Milliman's & Reciprocity Theorem                                           | Recording-24 |
| Op-amp Part-2                            | Recordings-25 |                                                                                     |              | AC Fundamentals                                                                        | Recording-25 |
| Op-amp Part-3                            | Recordings-26 |                                                                                     |              | Series Resonance                                                                       | Recording-26 |
| Number system Part-1                     | Recordings-27 |                                                                                     |              |                                                                                        |              |

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|--------------------------------------------|---------------|--|--|--|--|
| Number system Part-2                       | Recordings-28 |  |  |  |  |
| Boolean algebra                            | Recordings-29 |  |  |  |  |
| Logic Gates                                | Recordings-30 |  |  |  |  |
| Basics of Power Electronics Part-1         | Recordings-31 |  |  |  |  |
| Basics of Power Electronics Part-2         | Recordings-32 |  |  |  |  |
| SCR Part-1                                 | Recordings-33 |  |  |  |  |
| SCR Part-2                                 | Recordings-34 |  |  |  |  |
| Types of Switches and their working Part-1 | Recordings-35 |  |  |  |  |
| Types of Switches and their working Part-2 | Recordings-36 |  |  |  |  |
| Types of Switches and their working Part-3 | Recordings-37 |  |  |  |  |
| Miscellaneous                              | Recordings-38 |  |  |  |  |

