**LESSON PLAN**

**Subject Code & Name:16EC1001 &Electronic Devices Branch:E.C.E-B**

**Class / Semester:I/IV-SEM I1 Academic Year:2017-18**

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| **Period** | **Date (Tentative)** | **Topic** | **Unit No.** | **Teaching Methodology** | **Remarks** | **Corrective action upon review** |
|  |  | **Electron Ballistics and Applications** | **I** |  |  |  |
| 1 | 8.1.18 | Introduction |  | CB |  |  |
| 2 | 11.1.18 | Motion of Charged Particles in Electric field |  | CB |  |  |
| 3 | 18.1.18 | Motion of Charged Particles in Magnetic field |  | CB |  |  |
| 4 | 18.1.18 | Motion of Charged Particles in Parallel Electric and Magnetic fields |  | CB |  |  |
| 5 | 19.1.18 | Perpendicular Electric and Magnetic Fields |  | CB |  |  |
| 6 | 20.1.18 | Two Dimensional Motion |  | CB |  |  |
| 7 | 22.1.18 | Electrostatic Deflection in CRT |  | CB |  |  |
| 8,9 | 25.1.18 | Electrostatic Focusing in CRT |  | CB |  |  |
| 10 | 25.1.18 | ; Block diagram of CRT |  | CB |  |  |
| 11 | 27.1.18 | Block diagram of CRO |  | CB |  |  |
| 12, 13 | 29.1.18& 1.2.18 | Measurement of voltage, current, time and phase using CRO |  | CB |  |  |
| 14,  15 | 2.2.18 | Problems |  | CB |  |  |
|  |  | **Review of Semi Conductor Physics** | **II** |  |  |  |
| 16 | 3.2.18 | Insulators, Semi conductors and Metals classification using Energy Band Diagrams |  | CB |  |  |
| 17 | 5.2.18 | Mobility and Conduction |  | CB |  |  |
| 18 | 8.2.18 | Conductivity in an Intrinsic Semi conductors |  | CB |  |  |
| 19 | 9.2.18 | Effective mass, Donor and acceptor impurities (Extrinsic Semi Conductors); Mass action law |  | CB |  |  |
| 20 | 9.2.18 | Charge densities in a semiconductor |  | CB |  |  |
| 21 | 10.2.18 | Electrical properties of Ge and Si |  | CB |  |  |
| 22 | 12.2.18 | Hall effect |  | CB |  |  |
| 23 | 15.2.18 | Generation and Recombination of Charges |  | CB |  |  |
| 24 | 16.2.18 | Einstein Relationship |  | CB |  |  |
| 25 | 16.2.18 | Continuity Equation |  | CB |  |  |
| 26 | 17.2.18 | Injected Minority Carriers |  | CB |  |  |
| 27 | 19.2.18 | Fermi Dirac Function |  | CB |  |  |
| 28 | 22.2.18 | Carrier concentration and Fermi level in conductors |  | CB |  |  |
| 29, 30 | 23.2.18 | Intrinsic and Extrinsic Semiconductors |  | CB |  |  |
|  |  | **Junction Diode Characteristics & Special Diodes** | **III** |  |  |  |
| 31 | 24.2.18 | Open circuited P N Junction |  | CB |  |  |
| 32 | 26.2.18 | Forward and Reverse Bias |  | CB |  |  |
| 33 | 01.3.18 | Energy Band Diagram of PN Diode, Volt-Ampere Characteristic, Current components in PN Diode |  | CB |  |  |
| 34, 35 | 02.3.18 | Law of junction, Total diode current |  | CB |  |  |
| 36 | 3.3.18 | Temperature Dependence of the V/I characteristic |  | CB |  |  |
| 37 | 12.3.18 | Diode Resistance (Static and Dynamic); |  | CB |  |  |
| 38 | 15.3.18 | Space charge or Transition capacitance |  | CB |  |  |
| 39 | 16.3.18 | Diffusion capacitance |  | CB |  |  |
| 40 | 16.3.18 | Avalanche and Zener Break Down |  | CB |  |  |
| 41 | 17.3.18 | VI characteristics |  | CB |  |  |
| 42 | 19.3.18 | applications of Zener diode |  | CB |  |  |
| 43 | 22.3.18 | Tunnel Diode |  | CB |  |  |
| 44 | 23.3.18 | Varactor Diode |  | CB |  |  |
| 45 | 23.3.18 | LED, and Photo Diode. |  | CB |  |  |
|  |  | **Transistors** | **IV** |  |  |  |
| 46 | 24.3.18 | Junction transistor |  | CB |  |  |
| 47 | 26.3.18 | Transistor current components |  | CB |  |  |
| 48 | 29.3.18 | Characteristics of Transistor in Common Base |  | CB |  |  |
| 49 | 30.3.18 | Common Emitter |  | CB |  |  |
| 50 | 30.3.18 | Common Collector configuration |  | CB |  |  |
| 51 | 31.3.18 | Analytical expressions for Transistor Characteristics |  | CB |  |  |
| 52 | 02.4.18 | Punch Through/Reach Through, Transistor as an amplifier |  | CB |  |  |
| 53 | 6.4.18 | V-I characteristics, and applications of Photo Transistor. |  | CB |  |  |
|  |  | **Field Effect Transistors** | **V** |  |  |  |
| 54 | 6.4.18 | Construction of JFET |  | CB & OHP |  |  |
| 55 | 7.4.18 | Comparison between BJT & JFET |  | CB & OHP |  |  |
| 56 | 9.4.18 | JFET characteristics and parameters |  | CB & OHP |  |  |
| 57 | 12.4.18 | Pinch-Off voltage |  | CB & OHP |  |  |
| 58 | 13.4.18 | Construction of MOSFET |  | CB & OHP |  |  |
| 59 | 13.4.18 | MOSFET characteristics Enhancement and |  | CB & OHP |  |  |
| 60 | 16.4.18 | depletion mode |  | CB |  |  |
| 61,62 | 20.4.18 | Introduction to SCR and SCR characteristics |  | CB |  |  |
| 63 | 21.4.18 | UJT |  | CB |  |  |
| 64 | 23.4.18 | UJT characteristics |  | CB |  |  |

**CB: CHALK & BOARD OHP: OVER HEAD PROJECTOR**