Dr. B.R. Ambedkar Govt. College, Palwal
Lesson plan 2021-2022

Name of Extension Lecturer: **Om Prakash**
Class and section: **B.Sc 1st Year (2nd Sem)**
Subject: **Physics paper 2nd(Electromagnetic induction and electronic devices)**

Week 1
Unit 1: Electromagnetic Induction
• Growth of current in circuit withcapacitance and resistance (RC) • Decay of current in circuit withcapacitance and resistance (RC) • Growth of current in circuit with resistance and induction (LR)

Week 2
• Decay of current in circuit with resistance and induction (LR) • Growth of current in circuit with Capacitance and induction (LC) • Decay of current in circuit with Capacitance and induction (LC)

Week 3
• Growth of current in circuit with Capacitance, induction and resistance (LCR • Decay of current in circuit with Capacitance, induction and resistance(LCR) • AC circuit with Capacitance and resistance only • AC circuit with Inductance and resistance only

Week 4
Assignment I
• AC circuit with Inductance and capacitance only • AC circuit with Inductance and capacitance and resistance(LCR) in series resonant circuit • LCR parallel resonance circuit

Week 5
Unit2 : Semiconductor Diodes
• Energy band in solid • Intrinsic and extrinsic semiconductor • Hall effect

Week 6

- PN junction Diode and their V-I characteristic
- Zener and avalanche breakdown, resistance of a diode
- Light emitting diode(LED), Photo conduction in semi-conductors, Solar cell

Week 7

Diode rectifier

- P-N Junction half wave and full wave rectifier
- Type of filter circuits, Zener diode as voltage circuit
- Simple regulated power supply.

Week 8

Transistor

- Junction transistors, Bipolar transistors
- Working of PNP and NPN transistors
- Transistor connection (common base, common emitter and common collector mode)

Week 9

- Constant of transistor
- Transistors characteristics curve
- Advantage of C-B configuration

Week 10

Assignment II

- Cathode ray oscilloscope (C.R.O) principal, construction and working

Unit 3: Transistor Amplifiers

- Transistor Biasing, Method of transistor Biasing and stabilization

Week 11

- DC load line Common base and Common emitter Transistor biasing
- Common base and Common emitter amplifier
- Classification of amplifier

Week 12

- Classification of amplifier: Resistance and capacitance(R-C) Coupled amplifier
- Feedback in amplifier
- 12.3.1 Advantage of negative feedback emitter follower

Week 13
• Oscillators: oscillators, Principle of oscillators • Classification of oscillators • Condition for self sustained oscillation: Barkhousen criterion for oscillation.

Week 14
• Tuned collector common emitter Oscillator • Hartley Oscillator • Colpitt's Oscillators