Name of Faculty: Dr . Nitin Kothari	Subject Code:3EC4-21
Subject: Electronic Device Lab	SEM: III
Department:Department of Electronics and Communication Engineering	
Total No. of Lab Planned:12	

COURSE OUTCOMES

At the end of this course students will be able to:

CO 1 Understand the characteristics of different Electronic Devices.

CO 2 Verify the rectifier circuits using diodes and implement them using hardware.

CO 3 Design various amplifiers like CE, CC, common source amplifiers and implement them using hardware and also observe their frequency responses

CO 4 Understand the construction, operation and characteristics of JFET and MOSFET, which can be used in the design of amplifiers.

CO 5 Understand the need and requirements to obtain frequency response from a transistor so that Design of RF amplifiers and other high frequency amplifiers is Feasible.

Lab No.	Name of Experiment
1	Study the following devices: (a) Analog& digital multimeters (b) Function/ Signal generators (c) Regulated d. c. power supplies (constant voltage and constant current operations) (d) Study of analog and digital CRO, measurement of time period, amplitude, frequency & phase angle using Lissajous figures
2	Plot V-I characteristic of P-N junction diode & calculate cut-in voltage, reverse Saturation current and static & dynamic resistances.
3	Plot the output waveform of half wave rectifier and effect of filters on waveform. Also calculate its ripple factor.

For Techno India NJR Institute of Technology

पंकज पोरवाल

Dr. Pankaj Kumar Porwal

(Principal)

4	Study bridge rectifier and measure the effect of filter network on D.C. voltage output & ripple factor.
5	Plot and verify output waveforms of different clipper and clamper.
6	Plot V-I characteristic of Zener diode
7	Study of Zener diode as voltage regulator. Observe the effect of load changes and determine load limits of the voltage regulator
8	Plot input-output characteristics of BJT in CB, CC and CE configurations. Find their h-parameters
9	Study of different biasing circuits of BJT amplifier and calculate its Qpoint.
10	Plot frequency response of two stage RC coupled amplifier & calculate its bandwidth .
11	Plot input-output characteristics of field effect transistor and measure Idss and Vp.
12	Plot frequency response curve for FET amplifier and calculate its gain bandwidth product.

TEXT/REFERENCE BOOKS

1. Microelectronic Circuits – Theory and Applications, Adel S Sedra, Kenneth C Smith and Arun N Chandorkar, Oxford University Press
2. Electronic Devices and Circuit Theory, Robert L Boylestad and Louis Nashelsky, Pearson India Education Services Pv Ltd.
3. Electronic Devices and Circuits, J.B. Gupta, S.K. Kataria& Sons.

For Techno India NJR Institute of Technology

पंकज पोरवाल

Dr. Pankaj Kumar Porwal
(Principal)