Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
ETL 31	Electronic Devices and Circuits Lab	--	--	2	--	--	1	1

Examination Scheme			
ISE	ESE		Total
	Practical	Oral	
40	10	10	60

Pre-requisite Course Codes		ET 31 (Electronic Devices and Circuits)
After successful completion of the course, student will be able to		
Course Outcomes	CO1	To analyse wave shaping circuits.
	CO2	To demonstrate the working of BJT amplifier.
	CO3	To verify the working, biasing and small signal analysis of JFET amplifiers.
	CO4	To analyze and design single and multistage JFET amplifiers.
	CO5	To analyze current mirror circuits through simulation.
	CO6	To design and simulate feedback amplifiers.

Exp. No.	Experiment Details	Ref	Marks
1	To design, set up & study various shunt and series clipping circuits using diodes.	4	5
2	To design, set up & study various clamping circuits using diodes.	4	5
3	To design a single stage BJT amplifier for a given gain.	1	5
4	Analyze, design and simulate MOSFET biasing circuit for given conditions.	3, 5	5
5	Design of single stage RC coupled CS amplifier and plot its frequency response.	5	5
6	Design of cascade CS-CS amplifier and study of its frequency response.	3	5
7	Implementation of any one current mirror circuit using any circuit simulation software.	3,5	5
8	To design and analyze the voltage-series feedback amplifier and to calculate the following parameters with and without feedback- 1. Mid band gain. 2. Bandwidth and cut-off frequencies. 3. Gain Bandwidth Product.	2	5
		Total Marks	**40**

References:

[1] A.S. Sedra and K.C. Smith, Microelectronic Circuits, Saunder's College Publishing, Edition IV.

[2] B.G. Streetman, Solid State Electronic Devices, Prentice Hall of India, New Delhi, 1995.

[3] D. A. Neamen, Semiconductor Physics and Devices (IRWIN), Times Mirror High Education Group, Chicago) 1997.

[4] Electronics Devices and Circuits by Salivahanan, McGraw Hill Education; 3 edition (23 June 2012).

[5] Mahesh B. Patil, Basic Electronic Devices and Circuits, Prentice Hall India Learning Private Limited (2013).