

**Semester I  
Minor**

**Practical I: ELE-106-VSC (Based on ELE-104-MN)**

**Linear Electronics (VSC) Lab-I**

**Course Objectives:** Students should be able to ...

1. Learn the fundamentals of electronic components.
2. Understand circuit Fundamentals.
3. Study various Semiconductor Devices.
4. Illustrate different Rectifiers and Regulators

Total Credits 2	Semester I Practical I Linear Electronics (VSC) Lab-I		No. of Lectures (60)
	<b>Group A</b>		
	1	Study of Electronics components and tools.	4
	2	Study of Voltage sources in series and parallel	4
	3	Study of Voltage and Current dividers.	4
	4	Study of CRO.	4
	5	To verify Kirchhoff's Voltage Law	4
	6	To verify . Kirchhoff's Current law.	4
	7	To verify Ohms Law.	4
	8	Study and Identification of different Switches .	4
	<b>Group B</b>		
	1	Study of IV Characteristics of Semiconductor Diode	4
	2	Study of IV Characteristics of Photo Diode	4
	3	Study of half wave rectifier	4
	4	Study of full wave rectifier	4
	5	Study of Zener diode as voltage regulator	4
	6	Study of Positive (78XX) voltage regulator	4
	7	Study of Negative (79XX) voltage regulator	4
	8	Study of Adjustable voltage regulator (LM 317)	4

**Course Outcomes:** The students will be able to...

- 1 Identify active and passive components
- 2 Illustrate KCL, KVL and Ohms Law.
- 3 Evaluate different Semiconductor Devices
- 4 Understand different Rectifiers ,Regulators and their Applications

**Reference Books:**

1. R. S. Sedha, Textbook of Applied Electronics, S. Chand Publication, (2003)
2. S. M. Sze, Semiconductor Devices: Physics and Technology, Wiley India edition, 2nd Edition, (2002)
3. Ben G Streetman and S. Banerjee, Solid State Electronic Devices, Pearson Education, 6th Edition, (2006).
4. M. Morris Mano, Digital System Design, Pearson Education Asia, 4th Edition, (2001)
5. W. H. Gothmann, Digital Electronics: An Introduction to Theory and Practice, Prentice Hall of India, (2000).