

Rayat Shikshan Sanstha's  
Yashavantrao Chavan Institute of Science, Satara (Autonomous)

## Department of Electronics

### Capsule Courses

1. Programme offered : UG

2. Structure of Courses:

Duration	Theory Periods	Practical Periods	Total Periods	Credits	No. of Students in batch	Course Fee Rs.	Exam Fee Rs.
1 Month	-	10	10	1	20	100/-	50

3. Evaluation of Capsule Course

Assessments Type	Evaluation Method	Marks	Total Mark	Passing Requirement
Internal	Labwork	50	50	50%

4. Details of courses:

No. of Course	Title of Course	Type of Course	Target Audience	No of Enrolled students	Fee Collection	Details of Faculty		
						Name	Qualification	Designation
I	Modeling and Simulation Software for circuit design	Hand on Training	B.Sc-I	40	NIL	Mr. G.R. Attar	M.Sc., NET	Assistant Professor

5. Tentative Time Table:

Sr. No	Action Plane	Month
1	Counseling of Student	November
2	Enrollment of Student	December
3	Theory Related to Course	December
4	Hands on Training	January-February
5	Assessment	March
6	Certificate Issue	April

## 6. Syllabus:

1. TITLE: Modeling and Simulation Software for circuit design
2. Year of Implementation: 2020
3. Class: B.Sc I

### Syllabus of Capsule Course.

**Contact Hrs: 10**

**Credits: 01**

### Learning Objectives:

1. To enhance and develop scientific, analytical skills about Electronics.
2. To develop ability of designing Electronic circuits through conceptual, analytical stages.

### List of Experiment

**(10)**

1. Study of Basic Electronic components.
2. Study of DipTrace environment.
3. Designing a Circuit Schematic using DipTrace.
4. Study of Simulation and Circuit Schematic using DipTrace.
5. Design schematic of a Half wave Rectifier using DipTrace.
6. Design schematic of a Centre tapped full wave rectifier using DipTrace.
7. Design schematic of a positive clipper circuit using DipTrace.
8. Design schematic of a negative clipper circuit using DipTrace.
9. Design schematic of a 5V power supply with Voltage regulator □ circuit using DipTrace.
10. Design schematic of a Astable Multivibrator □ circuit using DipTrace.

### Learning Outcomes:

1. Design and Simulate Electronics circuit Using DipTrace.
2. Develop PCB for various circuits

### Recommended Books:

1. Essential Electronic Design Automation (EDA), Mark D. Birnbaum, Pearson,2003
2. Introduction to PSpice Using OrCAD for Circuits and Electronics, M. H. Rashid, Pearson/Prentice Hall, 3<sup>rd</sup> Edition, 2004.
3. Printed Circuit Boards: Design-Fabrication Hardcover, R.S Khandpur, Tata Mcgraw Hill Publishing, 1 July 2017.
4. Electronic Devices and circuit theory, Robert Boylestad and Louis Nashelsky, Pearson publication, 9<sup>th</sup> Edition,2005
- 5.** Basic electronics, B.L. Theraja,- S. Chand and Co, 3 rd edition -2012.