

Devrukh Shikshan Prasarak Mandal's

**Nya. TATYASAHEB ATHALYE ARTS, Ved. S.R. SAPRE
COMMERCE & Vid. DADASAHEB PITRE SCIENCE
COLLEGE, DEVRUKH [AUTONOMOUS]**



Syllabus for F.Y. B.Sc.

Program: B.Sc.

Course: Physics

**Credit Based Semester and Grading System with the
Effect from
Academic Year 2019-20**

Syllabus for B.Sc. Physics (Theory & Practical)
As per credit based system
First Year B.Sc. 2019–2020.

The revised syllabus in Physics as per credit based system for the First Year B.Sc. Course will be implemented from the academic year **2019–2020.**

Preamble:

The systematic and planned curricula from these courses shall motivate and encourage learners to understand basic concepts of Physics.

Objectives:

- To develop analytical abilities towards real world problems
- To familiarize with current and recent scientific and technological developments
- To enrich knowledge through problem solving, hands on activities, study visits, projects etc.

Course code	Title	Credits
Semester I		
ASPUSPHY101	Classical Physics, Optics and Thermodynamics	2
ASPUSPHY 102	Modern Physics and Digital Electronics	2
ASPUSPHYP 1	Physics Practical I	2
Total= 06		
Semester II		
ASPUSPHY 201	Mathematical Physics, Optics and Wave Mechanics	2
ASPUSPHY 202	Electronics, Modern Physics and Electrostatics	2
ASPUSPHYP 2	Physics Practical II	2
Total=06		

SEMESTER II : Practical II

Name of the	Duration	Semester	Subject
Programme			
B.Sc. in Physics	Six semesters	II	Physics
Course Code	Title	Credits	
ASPUSPHYP 2	Physics Practical II	2	

Learning Outcome:

- i) To understand and practice the skills while doing physics practical.
- ii) To understand the use of apparatus and their use without fear.
- iii) To correlate their physics theory concepts through practical.
- iv) Understand the concepts of errors and their estimation.

A) Regular experiments:

Sr. No	Name of Experiments
1	Flywheel
2	Torsional Oscillation: To determine modulus of rigidity ζ of a material of wire by torsional oscillations
3	Spectrometer: To determine refractive index μ of the material of prism
4	To study Thermistor characteristic Resistance vs Temperature
5	Wedge Shaped Film
6	LR Circuit: To determine the value of given inductance and phase angle
7	CR Circuit: To determine value of given capacitor and Phase angle
8	Frequency of AC Mains: To determine frequency of AC mains
9	LCR series Resonance: To determine resonance frequency of LCR series circuit.
10	LDR Characteristics: To study the dependence of LDR resistance on intensity of light.
11	Surface Tension/ Angle of contact
12	Constant volume/constant pressure

B) List of Demo-experiments: (Min. four)

1. Angular Momentum conservation (Rotating Platform)
2. Light dependent switch
3. Laser beam divergence, Intensity
4. Use of Oscilloscope
5. Charging and discharging of a capacitor

References:

1. Advanced course in Practical Physics: D. Chattopadhyaya, PC. Rakshit & a. B. Saha (8th Edition) Book & Allied Pvt. Ltd.
2. B Sc. Practical Physics: C. L. Arora (1st Edition) – 2001 S. Chand & Co.Ltd.
3. Text book of Practical Physics: Samir Kumar Ghosh New Central Book Agency (4th edition)

