Academic Council

Item No:_____

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	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	Practical II	2
		Total=06

Semester I: Practical I

Name of the Programme	Duration	Semester	Subject
B.Sc. in Physics	Six semesters	I	Physics
Course Code	Title	Credits	
ASPUSPHYP 1	Practical I	2	

Leaning Outcome:

On successful completion of this course students will be able to:

i) To demonstrate their practical skills.

ii) To understand and practice the skills while doing physics practical.

iii) To understand the use of apparatus and their use without fear.

iv) To correlate their physics theory concepts through practical.

v) Understand the concepts of errors and their estimation.

A. Regular experiments:

Sr. no	Name of the experiment
1	J by Electrical Method: To determine mechanical equivalent of heat (Radiation correction by graph method)
2	Bifilar Pendulum
3	Spectrometer: To determine of angle of Prism.
4	Y by vibrations: To determine Y Young's Modulus of a wire material by method of vibrations- Flat spiral Spring
5	To determine Coefficient of Viscosity (ç) of a given liquid by Poisseuli's Method
6	Combination of Lenses To determine equivalent focal length of a lens system by magnification method.
7	Newton's Rings To determine radius of curvature of a given convex lens using Newton's rings.
8	To study NAND and NOR gates as Universal Building Blocks
9	To study EX-OR Gate, half adder and full adder and verify their truth tables
10	To verify De Morgan's Theorems
11	To study Zener Diode as Regulator
12	To study load regulation of a Bridge Rectifier

B. Skill Experiments:

1. Use of Vernier calipers, Micrometer Screw Gauge, Travelling Microscope
2. Graph Plotting: Experimental, Straight Line with intercept, ResonanceCurve etc.
3. Spectrometer: Schuster's Method
4. Use of DMM
5. 5 Absolute and relative errors calculation

C. References:

1. Advanced course in Practical Physics: D. Chattopadhya, 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)