



**SECOND-YEAR OF BACHELOR OF SCIENCE
Physics (MAJOR AND MINOR) REVISED
SYLLABUS ACCORDING TO CBCS NEP2020**

**COURSE TITLE: Physics Practical-I
SEMESTER-IV
W.E.F. 2024-2025**

**RECOMMENDED BY THE BOARD OF STUDIES IN PHYSICS
AND
APPROVED BY THE ACADEMIC COUNCIL**

Devrukh Shikshan Prasarak Mandal's

Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and
Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal. Sangameshwar, Dist. Ratnagiri-415804, Maharashtra,
India

Academic Council Item No:

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Science
Name of the Department	:	Physics
Name of the Class	:	Second Year
Semester	:	Fourth
No. of Credits	:	02
Title of the Course	:	Physics Practical-I
Course Code	:	S209PHP
Name of the Vertical in adherence to NEP 2020	:	Major and Minor
Eligibility for Admission	:	Any student admitted to Second Year of B.Sc. Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Summative at the end of semester
Level	:	UG
Pattern of Marks Distribution for SEE	:	100 %
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2024-2025
Ordinances /Regulations (if any)		

Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce and Vid. Dadasaheb Pitre Science College, Devrukh (An Autonomous College Affiliated with University of Mumbai)

Syllabus for Second Year of Bachelor of Science in Physics

(With effect from the academic year 2024-2025)

SEMESTER-IV

Paper No.– 1

Course Title: Physics Practical-I

No. of Credits - 02

Type of Vertical: Major and Minor

COURSE CODE: S209PHP

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to...		
Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Understand practical skills while performing experiments
CLO-02	Understand	Understand the use of apparatus and their use without fear & hesitation.
CLO-03	Apply	Correlate the physics theory concepts to practical application
CLO-04	Analyze	Understand the concept of errors and their estimation.

1. Minimum **06** experiments from each group are to be performed and reported in the journal.
2. The certified journal must contain a minimum of **12** experiments in semester-III.
3. A separate index and certificate in journal is must for each semester course.

Syllabus for Second Year of Bachelor of Science in Physics

(With effect from the academic year 2024-2025)

SEMESTER-IV

Paper No.– 1

Course Title: Physics Practical-I

No. of Credits - 02

Type of Vertical: Major and Minor

COURSE CODE: S209PHP

COURSE CONTENT			
Module No.	Content	Credits	No. of Hours
I	<p style="text-align: center;">Group A</p> <ol style="list-style-type: none"> 1. Wavelength of LASER by grating 2. RI of liquid by LASER and grating 3. RP of Telescope 4. ExpEyes Experiment 5. Lissajous figure using CRO 6. Flat Spiral Spring 7. Stephan' s Law –Electrical method 8. Band Pass Filter 9. Visit to research institutes) equivalent to two practical sessions . (01	30
II	<p style="text-align: center;">Group B</p> <ol style="list-style-type: none"> 1. Half /Full Adder 2. MS JK FF 3. Ripple counter using MS–JK FF 4. OPAMP –Comparator 5. OPAMP –Inverting Amplifier 6. OPAMP –Non–Inverting Amplifier and Voltage follower 7. Shift Registers 8. Square wave generator using logic gates 9. LCR oscillatory charging of capacitor 	01	30
	Total	02	60

The course is available for all the students admitted for Second Year Bachelor of Science.

Methods of Assessment

Practical courses, Vocational Skill Courses, Skill Enhancement Courses and the courses having laboratory sessions shall be assessed at the end of each semester.

References:

1. Advanced course in Practical Physics: D. Chattopadhyaya, PC. Rakshit & B. Saha (8th Edition) Book & Allied Pvt. Ltd.
2. BSc Practical Physics: Harnam Singh. S. Chand & Co. Ltd. – 2001.
3. A Text book of Practical Physics: Samir Kumar Ghosh New Central Book Agency (4th edition).
4. B Sc. Practical Physics: C. L. Arora (1st Edition) – 2001 S. Chand & Co. Ltd.
5. Practical Physics: C. L. Squires – (3rd Edition) Cambridge University Press.
6. University Practical Physics: D C Tayal. Himalaya Publication.
7. Advanced Practical Physics: Worsnop & Flint.