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

COURSE TITLE: **Physics Practical-II**

SEMESTER-III

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	:	Third
No. of Credits	:	02
Title of the Course	:	Physics Practical-II
Course Code	:	S204PHP
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)		

Syllabus for Second Year of Bachelor of Science in Physics

(With effect from the academic year 2024-2025)

SEMESTER-III **Paper No.– 1**

Course Title: Physics Practical-II **No. of Credits - 02**

Type of Vertical: Major and Minor **COURSE CODE: S204PHP**

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	Basic component of L,C, R etc.
CLO-02	Understand	Concept of Damped Oscillation, Compound Pendulum
CLO-03	Apply	Solve the problems based on mathematical concept
CLO-04	Analyze	AC analysis and transistor working

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-III **Paper No.– 1**

Course Title: Physics Practical-II **No. of Credits - 02**

Type of Vertical: Major and Minor **COURSE CODE: S204PHP**

COURSE CONTENT			
Module No.	**Content**	**Credits**	**No. of Hours**
I	**Group –A** 1 Double refraction 2 Problems solving skill in Gradient, Divergence and curl 3 Problems solving skill in 1st order Differential Equations 4 Compound pendulum) calculation of g, K (5 Log Decrement 6 Damping coefficient, relaxation time and quality factor using simple pendulum 7 Under damped Oscillation) Relaxation time and Quality factor (8 Resonance Pendulum 9 Data acquisition using EXpeyes	**01**	**30**
II	**Group –B** 1 CE characteristics of transistor . 2 Study of transistor biasing 3 To Study various parameters of CE amplifier) . A_V, $R_{i,,}R_{o,}$ BW (4 LCR series resonance 5 LCR parallel resonance 6 CR AC circuit 7 LR AC circuit 8 Phase shift in AC Circuit To determine Planck Constant	**01**	**30**
	Total	**02**	**60**

Access to the Course

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. Chattopadhya, PC. Rakshit & B. Saha (8^{th} 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 (4^{th} 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.