



Shikshak Sanchalit Shikshan Sanstha's
**DR. SHANTILAL DHANJI DEVSEY ARTS COLLEGE AND
COMMERCE AND SCIENCE COLLEGE, WADA.** TAL- WADA; DIST-
PALGHAR (421303)



(AFFILIATED TO UNIVERSITY OF MUMBAI)

DEPARTMENT OF PHYSICS

Year (2023-2024)

Attainment of Course Outcomes (COs) and Programme Specific Outcomes (PSOs)

The Department of Physics has adopted a systematic outcome-based approach to achieve the Course Outcomes (COs) and Programme Specific Outcomes (PSOs). A combination of innovative teaching practices, laboratory training, continuous assessment, and student mentoring has contributed significantly to improving students' academic performance and practical competencies.

Initiatives for CO and PSO Attainment

- Students' interest and enthusiasm for Physics were enhanced through continuous reinforcement of fundamental concepts during both theory and practical sessions.
- Practical knowledge and technical skills were strengthened through hands-on laboratory training using electronic circuit models, experimental setups, and device demonstrations.
- Regular practice in handling laboratory apparatus, mechanical instruments, and electronic devices enabled students to perform experiments with confidence and precision while reducing hesitation and experimental errors.
- Continuous monitoring, practical assessments, viva-voce examinations, and laboratory record evaluations helped minimize mistakes and improve students' practical performance.
- Consistent academic guidance and remedial support resulted in improved examination scores, higher pass percentages, and enhanced attainment of Course Outcomes.

- Faculty members provided individual mentoring, monitored academic progress, and guided students regarding career opportunities, higher education, internships, and industrial placements, thereby improving employability and exposure to real-world applications.
- The department successfully encouraged students to pursue postgraduate studies, resulting in steady progression to higher education.
- Innovative teaching methodologies using laboratory models, prisms, lenses, spectrometers, electronic circuit boards, and ICT-enabled teaching tools improved conceptual understanding and demonstrated the practical applications of Physics.
- Direct and indirect assessment methods, including internal examinations, practical examinations, departmental tests, assignments, seminars, and course-wise discussions, were effectively implemented to evaluate the attainment of Course Outcomes and Programme Specific Outcomes.
- Educational visits to government research organizations, participation in ISRO outreach programmes, scientific workshops, cultural events, and sports activities enriched students' curricular and co-curricular learning while promoting scientific temper, research aptitude, teamwork, and leadership qualities.
- Regular practice tests focusing on fundamental concepts significantly reduced the failure rate across various courses and increased the overall success rate and attainment levels.

Methods and Tools Used for Course Outcome Attainment

Sr. No.	Method of Course Outcome Attainment	Laboratory Equipment / Teaching Tools Used
1	Hands-on training using electronic models and circuits	Printed Circuit Boards (PCB), Breadboards, Capacitors, Diodes, Transistors, Multivibrator Circuits, Timer Circuits, Electronic Projects, ICT-enabled teaching tools
2	Experimental training in Electronics	Cathode Ray Oscilloscope (CRO), Function Generator, Frequency Meter, Digital Voltmeter, Ammeter, Power Supply Units
3	Laboratory experiments in Mechanics	Kater's Pendulum, Metal Bobs, Vernier Calipers, Meter Scale, Micrometer Screw Gauge, Flywheel Apparatus
4	Experimental training in	Spectrometer, Convex and Concave Lenses, Optical

	Optics	Prisms, Calcite Crystal, Double Refracting Prism, Single Slit, Biprism, Optical Bench
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The department periodically reviews the attainment of Course Outcomes (COs) and Programme Specific Outcomes (PSOs) through analysis of student performance, feedback mechanisms, and assessment data. The findings are utilized to implement corrective measures, strengthen teaching-learning practices, and ensure continuous quality improvement in accordance with Outcome-Based Education (OBE) principles.



(Signature)
 I/C Principal
 Shikshak Sanchalit Shikshan Sanstha's
 Dr. Shantilal Dhanji Devsey Arts College &
 Commerce & Science College, Wada, Dist. Palghar