P. B. SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Vijayawada-10

23PHMAP121: Mechanics and Properties of Matter

Offered to: B.Sc. Honours (Physics) **Major 3(P)** **Semester – II**
Max. Marks: 50 (CIA: 15 + SEE: 35) **60 Hrs** **Credits: 01**

COURSE OBJECTIVE:

To develop practical skills in the use of laboratory equipment and experimental techniques for measuring properties of matter and analyzing mechanical systems

Course outcomes: On successful completion of this course, the students will be able to:

CO 1 Understand the use of verniercalipers, screw gauge, and traveling microscopes.PO6
CO 2 Learn the concept of Moment of Inertia.PO7
CO 3 Understand the usage of basic laws and theories to determine various properties of the materials given.PO6
CO 4 Analyze the application side of the experiments PO7
CO 5 Interpret the difference between theoretical and experimental values. PO5

CO-PO MATRIX								
	CO-PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
23PHMAP121	**CO1**						2	
	CO2							2
	CO3						3	
	CO4							2
	CO5					2		

List of Experiments

1. Viscosity of liquid by the flow method (Poiseuille's method)
2. Young's modulus of the material of a bar (scale) by uniform bending
3. Young's modulus of the material a bar (scale) by non-uniform bending
4. Surface tension of a liquid by capillary rise method
5. Determination of radius of capillary tube by Hg thread method
6. Bifilar suspension - the moment of inertia of a regular rectangular body.
7. Determination of moment of inertia using Fly-wheel
8. Rigidity modulus of the material of a wire-dynamic method (torsional pendulum)

Evaluation Procedure:

The marks distribution for the Semester End practical examination is as follows:

(A) External Lab Evaluation	
Formula/ Principle / Statement with an explanation of symbols	05
Diagram/Circuit Diagram / Tabular Columns	05
Setting up of the experiment and taking readings/Observations	10
Calculations (explicitly shown) + Graph + Result with Units	05
Procedure and Precautions	04
Result	01
Viva-voce	05
(B) Continuous Assessment (Internal)	15
Total Marks:(A+B)	50