

<b>DEPARTMENT OF PHYSICS</b>			<b>CLASS: I B.Sc. Mathematics/Chemistry</b>				
<b>Course type</b>	<b>Course code</b>	<b>Course title</b>	<b>Credits</b>	<b>Contact hours/week</b>	<b>CIA</b>	<b>Ext</b>	<b>Total</b>
Allied Practicals	20U2PAP1 / 20U4PAP1	PRACTICAL - I	2	2	40	60	100

**Ancillary Physics Practicals (Any fourteen only/year)**

**Course Objectives:**

1. To expose the students to experiments in the areas of properties of matter , thermal physics , Electricity & magnetism, optics and electronics.

<b>No.</b>	<b>Experiments</b>
1	Young's modulus – Non– uniform bending –pin & microscope
2	Young's modulus – Uniform bending –scale and telescope
3	Torsional pendulum – Determination of rigidity modulus
4	Comparison of viscosities using Poiseuille's method
5	Poiseuille's flow method – Determination of viscosity
6	Stoke's method – Viscosity of highly viscous liquid
7	Linear expansion of the rod
8	Specific heat capacity – Cooling method
9	Lee's disc – Determination of thermal conductivity of a bad conductor
10	Latent heat of steam
11	Compound pendulum – Determination of 'g'
12	Surface tension of water – Drop weight method
13	Sonometer – Determination of frequency of tuning fork
14	Determination of the radius of curvature of the give lens – Newton's rings.
15	Determination of the thickness of the given material– Air wedge
16	Determination of the refractive index of a given prism – Spectrometer.
17	Determination the wavelength of the prominent line using grating – Spectrometer
18	Determination of the focal length of the given long focus convex lens by different methods
19	Comparison of capacitances – De Sauty's bridge.
20	Calibration of low range voltmeter – Potentiometer
21	Determination of pole strength of the magnet – Tan C position
22	Logic gates using discrete components.
23	Characteristics of Zener diode.
24	Universality of NOR gate.
25	Universality of NAND gate.
26	Verification of de – Morgan's theorem using IC's
27	Half adder and full adder.
28	Any experiment related to general physics

### Books for References

1. M.N.Srinivasan, S.Balasubramanian, R.Ranganathan, A Text Book of Practical Physics, 2007, Sultan Chand & Sons.
2. Indu Prakash & Ramakrishna, A Text Book of Practical Physics, 2008, Kitab Mahal Agencies
3. S.R. GovindaRajan, T. Murugaiyan, S. SundaraRajan, Practical Physics, 2006, Rochoouse& Sons
4. Relevant reference from web Sources.

### Course Designer(s):

1. Mr.V.Meenakshi Sundaram
2. Mr.T.Vivekanandan
3. G.Gowri

### Pedagogy

Demonstration and practical session.

### Course Learning Outcomes (CLOs)

On the successful completion of the course, students will be able to

CLOs	Course Learning Outcomes	Knowledge level
1	Apply the basic laws of physics to determine the various properties of the given materials.	Upto K3
2	Apply knowledge of physics and mathematics to derive solution for various problems.	Upto K3
3	Use the basic laws to study the elastic properties of solids and thermal properties of liquids and solids.	K1
4	Applies logic gates to form simple circuits.	Upto K3
5	Analyse the property of the material by experimenting in different methods.	Upto K4

### Mapping of CLO's with PSOs

#	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
CLO1	3						
CLO2	3						
CLO3	3						
CLO4	3						
CLO5	3						

### Mapping of CLO's with POs

#	PO1	PO2	PO3	PO4	PO5
CLO1	1	3			
CLO2	1	3	2		
CLO3	1	3	1		
CLO4	1	3	2		
CLO5		3	2		

Advance application –3; Intermediate level –2; Basic level –1