

SEMESTER I
PHYSICS PRACTICAL COURSE –USPHP1

INSTRUCTIONS:

- 1) All the measurements and readings should be written with proper units in SI system only.
- 2) After completing all the required number of experiments in the semester and recording them in journal, student will have to get their journal certified and produce the certified journal at the time of practical examination.
- 3) While evaluating practical, weightage should be given to circuit/ray diagram, observations, tabular representation, experimental skills and procedure, graph, calculation and result.
- 4) Skill of doing the experiment and understanding physics concepts should be more important than the accuracy of final result.

Note: Exemption of two experiments from section A and / or B and / or C may be given if student carries out any one of the following activities.

- Collect the information of at least five Physicists with their work or any three events on physics, report that in journal.
- Execute a mini project to the satisfaction of teacher in-charge of practical.
- Participate in a study tour or visit & submit a study tour report.
- For practical examinations, the learner will be examined in ONE experiments (one from any group).
- One Experiment will be of **TWO** lecture hours' duration.
- A Minimum 4 from each group and in all minimum 8 experiments must be reported in journal.
- All the skill experiments are required to be completed compulsorily. Students are required to report all these experiments in the journal. Evaluation in viva voce will be based on regular experiments and skill experiments.

A learner will be allowed to appear for the semester and practical examination only if he submits a certified journal of Physics or a certificate that the learner has completed the practical course of Physics Semester I as per the minimum requirements.

A. Regular Experiment:

Sr No	Name of the Experiment
GROUP A	
1	Torsional Oscillation: To determine modulus of rigidity η of a material of wire by Torsional oscillations
2	Bifilar Pendulum: Determination of moment of inertia of rectangular and cylindrical bar about an axis passing through its centre of gravity
3	Moment of inertial of Flywheel
4	Young's Modulus of a wire material by method of vibrations
5	Bar Pendulum- determination of g
6	LDR Characteristics: To study the dependence of LDR resistance on intensity of light
GROUP B	
7	Frequency of AC Mains: To determine frequency of AC mains (Sonometer wire)
8	To study Thermistor characteristics: Resistance Vs Temperature
9	To determine capacitance in AC circuits using R and C
10	To determine Inductance in AC circuits using L and C
11	To determine the horizontal component of Earth's magnetic field(H) in the laboratory using deflection and vibration magnetometer
12	To determine the self-inductance of a coil with Anderson's Bridge
GROUP C: Skill Experiment	
1	Use of Vernier Callipers, Micrometer Screw Gauge and Travelling Microscope
2	Graph plotting (Plot BE/A verses A graph for 30 atoms, Plot Packing Fraction graph for 30 atoms)
3	Spectrometer: Schuster's Method
4	To determine the Resistance & Capacitance using Color code/Number & verify using Multimeter (Analog/Digital).
5	Use of digital multimeter
6	Absolute and relative error calculation

Note: Minimum **8** experiments (Four From each group) and **4** Skill experiments should be completed and reported in the journal, in the first semester. **Certified Journal is a must**, to be eligible to appear for the semester end practical examination.

Semester End Practical Examination: 30 Marks External & 20 Marks Internal

Scheme of Examination: 30 Marks Duration: TWO Hours

A candidate will be allowed to appear for the semester end practical examination only if the candidate submits a certified journal at the time of practical examination of the semester or a certificate from the Head of the Department /Institute to the effect that the candidate has completed the practical course of that semester of F.Y.B.Sc. Physics as per the minimum requirement. The duration of the practical examination will be two hours. There will be **one** experiment (from any group) through which the candidate will be examined in practical. The questions on slips for the same should be framed in such a way that candidate will be able to complete the task and should be evaluated for its skill and understanding of physics.

F.Y.B. Sc. Physics Evaluation pattern and Question paper pattern for Semester End Practical Examination of Major Course

Internal Continuous Assessment: 40% (20 Marks)	Duration of semester End examination (Internal)
Viva/ assignment/ objective question test (15 Marks), Overall performance (5 Marks) = 20 Marks	1 Hr

External Semester End Examination: 60% (30 Marks)	Duration of semester End examination (External)
As per paper pattern	2 Hr

Continuous Evaluation through: Practical**Format of Question Paper:****Major Practical: 2 credits****Practical of 2 credits, Duration: 60 Hrs , Total marks: 50****(30 Marks for External Practical Exam + 20 Marks for Internal Practical Exam.)****Paper Pattern for 30 marks External Semester End Practical Examination:****Duration** - This examination shall be of **Two hours** duration in laboratory

Sr. No.		Total 30 Marks
1	Experimental performance	20 Marks
2	Journal	05 Marks
3	VIVA	05 Marks

Paper Pattern for 20 marks Internal Semester End Practical Examination:**Duration** - This examination shall be of **One hour** duration in laboratory

Sr. No.		Total 20 Marks
1	Practical/Theoretical/ Combined Performance	15 Marks
2	Overall Performance	05 Marks