

Semester III
PHYSICS PRACTICAL COURSE –USPHP3
Total Credit: 02 (60 Hours)

Passing standards for Practical:

Total Credit: 02 (60 Hours)

Total Marks: 50

- a) 40% Internal Continuous assessment: 20 Marks**
- b) 60% External Semester End Examination: 30 marks**

Note: Individual Passing in Internal and External Examination

Instructions:

- All the measurements and readings should be written with proper units in SI system only.
- 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.
- While evaluating practical, weightage should be given to circuit/ray diagram, observations, tabular representation, experimental skills and procedure, graph, calculation, and result.
- Skill of doing the experiment and understanding physics concepts should be more important than the accuracy of final result.

Learning Outcomes:

On successful completion of this course students will be able to:

1. Understand & practice the skills while performing experiments.
 2. Understand the use of apparatus and their use without fear & hesitation.
 3. Correlate the physics theory concepts to practical application.
 4. Understand the concept of errors and their estimation.
- **Short Skill experiment (Minimum Four Experiment) will be conducted, for example**
 - a. To find least count of different types of optical instruments
 - b. To calculate and measure values of passive components

- c. To find percentage tolerance of different types of passive components
- d. To demonstrate an experiment and explain principles of Physics
- e. To prepare chart for and explain the devices /components used for experiments.
- f. Execute a short experiment which will showcase either innovation and / or different methods to the satisfaction of teacher in-charge of practical.
- g. Any other skill experiment related to syllabus

Note: Teacher should follow the above guidelines to conduct skill experiment

Internal Continuous practical Evaluation pattern for 20 Marks

Sr. No.	Activity	Total 20 Marks
1	One skill experiment	10 Marks
2	viva -voce	05 Marks
3	Overall performance	05 Marks

Semester end Examination (30 Marks)

- For practical examinations, the learner will be examined in one experiment.
- Experiment will be of two hours' duration.
- A Minimum **TEN** experiment must perform and reported in journal.
- Evaluation in viva voce will be based on regular experiments.
- A learner will be allowed to appear for the semester end practical examination only if

he/she submits a certified journal of Physics with a certificate that the learner has completed the practical course of Physics Semester III as per the minimum requirements.

Note: Minimum **TEN** experiments should be completed and reported in the journal. **Certified Journal is a must**, to be eligible to appear for the semester end practical examination.

- **Semester end Practical Examination Evaluation pattern (30 Marks)**
- **Duration of the practical examination: 2 Hours**

Sr. No.	Activity	Total 30 Marks
1	One experiment	20 Marks
2	Certified Journal	05 Marks
3	Viva-Voce	05 Marks

Scheme III SEMESTER III

List of Experiments:

1. To determine modulus of rigidity η using Flat spiral spring
2. To determine wavelength of light using cylindrical obstacle
3. Determination of Dispersive power of prism using spectrometer
4. To determine Young's modulus Y using Flat spiral spring
5. Determination of acceleration due to gravity g using Kater's pendulum
6. Log Decrement using Simple pendulum
7. Figure of merit of a mirror galvanometer
8. Determination of R.I. of liquid by laser
9. LCR series resonance
10. LCR Parallel resonance
11. Thevenin's Theorem: To verify the theorems for DC circuits
12. Norton's Theorem: To verify the theorems for DC circuits
13. Passive (RC) low pass filter
14. Passive (RC) High pass Filter
15. Passive (RC) Band pass

1. Semester End Practical Examination: Scheme of Examination:

There will be internal assessment for practical. 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 this 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 S.Y.B.Sc. Physics as per the minimum requirement. The duration of the practical examination will be two hours. There will be one experiment 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.

References:

1. Advanced course in Practical Physics D. Chattopadhyaya, P. Rakshit & B. Saha. (6th Edition) Book and Allied Pvt. Ltd.
2. B. Sc. PRACTICAL Physics – Harnam Singh S. Chand & Co. Ltd. 2001
3. B. Sc. Practical Physics – CL Arora (1st Edition) – 2001 S. Chand and Co. Ltd.

Additional References:

4. A textbook of advanced practical PHYSICS – SAMIR K. Umar Ghosh, New Central Book Agency (3rd edition)
5. Practical Physics C. L. Squires (3rd Edition) Cambridge University
6. University Practical Physics – DC Tayal. Himalaya Publication
7. Advanced Practical Physics – Worsnop & Flint.