**20SH12P3-APPLIED PHYSICS LABORATORY**

(Common to ECE, ME & CE)

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| **Course Category:** | | Basic Science | **Credits:** | 1.5 |
| **Course Type:** | | Practical | **Lecture-Tutorial-Practical:** | 0-0-3 |
| **Pre-requisite:** | | Fundamental concepts of physics | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |
| **Course Objectives** | To provide student to learn about some important experimental techniques in physics with knowledge in theoretical aspects so that they can excel in that particular field. | | | | |
| **Course Outcomes** | 1. These experiments in the laboratory are helpful in exploring important concepts of physics through involvement in the experiments by applying theoretical knowledge. 2. It helps to recognize where the ideas of the students agree with those accepted by physics and where they do not. | | | | |
| **Course Content** | Minimum of 8 experiments to be conducted out of the following  **LIST OF EXPERIMENTS**  1. Determination of rigidity modulus of a wire material – Torsional pendulum.  2. Melde’s experiment – Transverse & longitudinal modes.  3. Resonance in LCR circuit.  4. Magnetic field along the axis of a coil (Stewart – Gee’s Method).  5. Study of characteristics of LED.  6. Newton rings.  7. Wedge method.  8. Diffraction grating - Wavelength of given source.  9. Dispersive power of prism material using spectrometer.  10. P-N- junction diode characteristics.  11. Evaluation of Numerical Aperture of given optical fiber.  12. Energy gap of a P-N junction diode material.  13. Transistor characteristics.  14. Solar cell characteristics .  15. Logic gates . | | | | |

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| Contribution of Course Outcomes towards achievement of Program Outcomes (3-High, 2-Medium, 1-Low) | | | | | | | | | | | | | | |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
| CO1 | 3 | 3 | 2 | - | 3 | 3 | - | - | - | - | 3 | 3 | - | - |
| CO2 | 3 | 3 | 2 | - | 3 | 3 | - | - | - | - | 3 | 3 | - | - |
| CO3 | 3 | 3 | 3 | - | 3 | 3 | - | - | - | - | 3 | 2 | - | - |
| CO4 | 3 | 3 | 2 | - | 3 | 3 | - | - | - | - | 3 | 3 | - | - |
| CO5 | 3 | 3 | 2 | - | 3 | 3 | - | - | - | - | 2 | 2 | - | - |
| CO6 | 3 | 3 | 2 | - | 2 | 3 | - | - | - | - | 2 | 3 | - | - |