



# EXPERIMENTAL PHYSICS-II

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IIT Kharagpur

**TYPE OF COURSE** : New | Core | UG**COURSE DURATION** : 12 weeks (29 Jul'19 - 18 Oct'19)**EXAM DATE** : 16 Nov 2019**INTENDED AUDIENCE** : Any student of Engineering/ Science stream**INDUSTRIES APPLICABLE TO** : The industries of electronics, telecommunication and instrumentation**COURSE OUTLINE :**

This course is designed in three modules: (I) Experimental Physics-I : Experiments on Mechanics, General properties of matter, Thermal properties of matter, Sound, Electricity and magnetism. (II) Experimental Physics-II : Experiments on Optics and Modern Physics. (III) Experimental Physics-III : Experiments on Solid state physics and Modern Optics.

**ABOUT INSTRUCTOR :**

After completion of B. Sc (Hons) and M. Sc in Physics in 1994, Dr. Amal Kumar Das did his Ph.D on experimental physics and material science from Institute of Physics, Bhubaneswar. After completing post-doctoral research on experimental physics from Paul Drude Institute, Berlin, Germany, he joined as a Faculty in Department of Physics, Indian Institute of Technology Kharagpur in 2004 and taught different subjects to UG and PG students. Prior to joining here, he taught experimental physics laboratory for four years to B. Sc students in Malda College under North Bengal University, West Bengal.

**COURSE PLAN :****Week 1:** Summary of previous course on Experimental Physics-I**Week 2:** Basic apparatus : Spectrometer, light source, prism, lens, mirror, grating etc.**Week 3:** Experiment on reflection, refraction and dispersion**Week 4:** Experiments on Interference**Week 5:** Experiments on interference (contd)**Week 6:** Experiments on Interference (contd)**Week 7:** Experiments on Diffraction**Week 8:** Experiments on Diffraction (contd)**Week 9:** Experiments on Diffraction (contd)**Week 10:** Experiments on Polarization**Week 11:** Experiments on Quantum physics**Week 12:** Experiments on Atomic physics