



Gokaraju Rangaraju Institute of Engineering and Technology (Autonomous)

Report of the Event

Title of the Event: One Week ISTE STTP on Engineering Physics

Organized Date: 8th to 18th Dec 2015

Summary: The course is modeled after the Engineering Physics curriculum recommended by AICTE. The course consists of several basic areas of physics with emphasis on applications of principles of physics. The topics to be covered in this STTP include:

Optics: Interference, Diffraction, polarization, Fiber optics, Lasers and holography.

Electrostatics and Electrodynamics: Maxwell's equations in differential form, concept of vector potential and gauge, wave propagation in free space and dielectric media, Poynting theorem.

Special Theory of Relativity: Inertial frames, Michelson Morley experiment, Lorentz transformation, Mass energy relation.

Quantum Mechanics: Compton effect, Born concept, Postulates of quantum mechanics, particle in a box, potential barrier and tunneling.

Crystallography and Solid State: Crystalline and amorphous solids, Miller indices, Bragg's law and Laue method, Free electron theory, Brillouin zone and reciprocal lattice, Magnetic materials, Superconductivity and applications.

Nuclear Physics: Radioactivity, Nuclear reactions, Fission and Fusion, Liquid drop model, Particle accelerator, Standard model of particle physics.