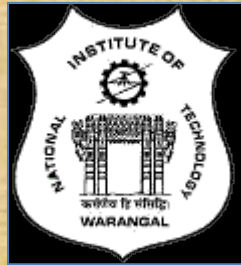


# **National Institute of Technology, Warangal**

(Deemed University)  
Warangal – 506021 (A.P.)



## **DEPARTMENT OF PHYSICS**

- Training and Placement Brochure of Engineering Physics
- A three year Master of Science and Technology program

### **DEPARTMENT PROFILE**

The department of physics was started in the year 1959. This was one of the science departments of Regional Engineering College selected by UNESCO for funding during 1960s. Having qualified faculty the department started a 3-year Industry oriented M.Sc (Tech.) Engineering Physics programme in the year 1970. The main objective of the course is to provide a combined perspective of science and engineering. The admissions are held through a written test conducted by the Institute itself. The candidates are expected to have physics background in their B. Sc. curriculum. The course helps the students from the basic science background to enter into the field of engineering. The students of this course are well received by the industry and R&D establishments. The course includes an eight weeks of industrial training in different organizations (RCI, BEL, ELORIA) and six months project work/dissertation in well reputed R&D organizations and industries.

### **SPECIALIAZATIONS OFFERED:**

- Photonics
- Electronics

A six month project is taken up by each student in their fields of specialization in various **R&D** Organizations. Some of the projects completed by the last batch students are:

- Thermal imager using wavefront coding in LWIR region (IRDE Dehradun)
- Design of Wide field telecentric lens system (ISRO Bangalore)
- Defect detection in civil structures using image processing (CEERI Pilani)
- Single point Diamond turning of aspheric surfaces: Study of effect of processing parameters on surface accuracies and validation (CSIO Chandigarh)
- Design of 15x continuous zoom objective for thermal imaging system using DOES (Bharat Electronics Limited Machlipatnam)
- Broad Band AR Coating on ZnS Substrate At MWIR Region From 3-5 $\mu$ m (RCI Hyderabad)
- Fabrication And Spectroscopic Properties of Interference Filters (CSIO Chandigarh)
- Wireless sensing networks for structural health monitoring (CEERI Pilani)
- Automatic testing of electronic card using Labview (ELOIRA Hyderabad)

### Courses offered

#### Photonics

- Optical System Design
- Optical Materials production and testing
- Optical Fiber Communication
- Non linear Optics
- Laser Applications
- Fourier Optics & Holography
- Biophotonics
- Optical Metrology
- Zemax

#### Electronics

- Digital System Design
- Control Systems
- Computer Organization and Operating Systems
- Transducer Measurement and Techniques
- Data Communication
- Digital Signal Processing
- Microwaves and Wave Propagation
- Matlab

Apart from these the students undergo various courses which are common to both the specializations:

- C Programming & Problem Solving
- Quantum Electronics
- Microprocessors and Microcontrollers
- Communications Systems
- Quantum and Statistical mechanics
- Engineering Graphics
- Workshop Technology

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