

Degree College Teachers Training Program in PHYSICS

25th November to 15th December 2017



Center of Excellence in Science and
Mathematics Education

Indian Institute of Science

at its

Challakere Campus, Chitradurga
under

Pandit Madan Mohan Malaviya National
Mission on Teachers and Teaching
(PMMMNTT, MHRD, Govt. of India)



The IISc at Challakere Campus offers a great opportunity for the degree college Physics teachers. This is a three weeks (21 days)

residential training program equivalent to UGC refresher courses approved and supported by the MHRD, Govt. of India. A unique feature of this training is learning of Physics by doing experiment.

Contact hours of the program will be more than 180 hrs.

- 80 hrs of lectures (8.0 am - 12.0pm).
- 100 hrs of experiments (~1pm- 6.30 pm).
- 3-5 Experiments per day

Lecturers will be delivered by IISc Faculty members. Theory lectures will be based on UGC model curriculum, which includes:

Mathematical Physics; *Classical and Quantum Mechanics*; Electricity and magnetism; Electrodynamics; Nuclear Physics; Thermodynamics; Statistical Mechanics; Solid state Physics; Modern Physics; Electronics and Astrophysics.

Apart from the regular graduate experiments we have designed more than 40 experiments based on graduate Physics syllabus. Teachers will be doing more than 100 experiments in 20days. In addition to standard B.Sc. experiments, teachers will do experiments including:

Low temperature physics- determination of absolute zero, temperature variation electrical and magnetic properties; Vapor pressure measurement; Determination of viscosity of liquids using diffraction; Determination of surface tension using diffraction; Diffraction due to Helical structure and double helical structure; Method of mirror charges; Capacitance of different shape capacitors.

Curie temperature, Eddy current, Critical superconducting temperature.

Quantum mechanics - charge density, *atomic* orbital structure, Atomic spectra, Terms and energy level of atoms and molecules; Complementary colors; Charge transfer spectra; X-ray diffraction-determination of lattice parameters, Structure of metals and semiconductors, Determination of atomic and ionic radii, Gas chromatography, IR, UV and NMR spectroscopy of solids.

Attempt here is to learn theory that is taught in the class room is verified by experiments.

Applications are invited from any Indian who teaches B.Sc. physics. Guest faculty and Contract lecturers also can apply.

Send your application mentioning:

1. Name, Address, E-mail & Phone No.
2. Date of Birth
3. Qualification (with affiliating institution)
4. Place of work; Experience and specialization
5. Endorsement by Principal/Head of Institute.

Last date to receive application: Oct 31, 2017

Send your application to

Dr. K. Jugeshwar Singh

Coordinator of Physics

TDC, IISc Kudapura – 577536

Phone No: 9591187128.

E-mail: jshwar@gmail.com and

gajanan@tdc.iisc.ernet.in

For more details visit

tdc.iisc.ernet.in