

# Centre for Theoretical Physics

*Jamia Millia Islamia* New Delhi



## Lecture Course

# Introduction to Group Theory in Physics

Starting 31st January 2017

(tentatively till April end)

**Afsar Abbas**

Centre for Theoretical Physics, JMI.



*SUITABLE for M.Sc and Ph.D. students and anybody who wishes to learn this important and useful mathematical tool in physics.*

TOPICS to be covered: Basic Symmetry Concepts, Group Theory - Fundamental Concepts, Torsion Group and Betti Number, Matrices and Linear Vector Space, Unitary Symmetry, Permutation Symmetry, Young Diagram, Representation Theory, Space-time Symmetries, Symmetry in Quantum Mechanics, Fractional Quantum Hall Effect, Quantum Chromodynamics, Quark Model, Glashow-Salam-Weinberg Model, Neutrino Oscillation, Dark Matter and Dark Energy, Symmetry in Nuclei, Quark Gluon Plasma, Quantum Groups, Groups in Topology, plus more.

Lecture 1	31 January, 3:30-4:30	Lecture 2	1 February, 3:30-4:30
Lecture 3	7 February, 3:30-4:30	Lecture 4	8 February, 3:30-4:30
Later	every Tuesday, 3:30-4:30	and	every Wednesday, 3:30-4:30

Venue: CTP Seminar Room

Centre for Theoretical Physics

Jamia Millia Islamia

New Delhi, India.

[www.ctp-jamia.res.in](http://www.ctp-jamia.res.in)

All are welcome!

