INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Pedogogical Lectures

Org. by

Theoretical Physics Department

Title	**Grand Unified Theories**			
Speaker	**Joydeep Chakrabortty, Department of Physics, IIT Kanpur**			
Lectures	**Lecture- I & II**	**Lecture-III & IV**	**Lecture-V**	**Lecture-VI**
Date	**May 23 & 25, 2018 (Wednesday & Friday)**	**May 28 & 30, 2018 (Monday & Wednesday)**	**June 01, 2018 (Friday)**	**June 04, 2018 (Monday)**
Abstract	Revisiting the Standard model gauge theory from symmetry principle only. Under standing the assignment of quantum numbers, transformation property, symmetry breaking and so on. natural way of embedding of the SM in the minimal unified framework, e.g. SU(5). I will discuss SU(5) GUT as a toy model.	I will introduce SO(10) as an improvement over SU(5). The fermion, scalar representations. Multiple ways of symmetry breaking to the SM. I will discuss the the gauge coupling unification, beta function computation, and fermion mass generation in brief.	I will extend this construction for E(6).	I will introduce higher dimensional gauge kinetic operator, and will discuss their importance in non-SUSY and SUSY framework.
Time	**11:30 a.m. – 1:00 p.m.**			
Venue	**Theoretical Physics Seminar Room(R.No.-C406), 3rd Floor, Centenary Building**			

All are cordially invited to attend the seminar