

Course Name: Statistical Mechanics

Paper Number: 203A

Section: A

Course Instructor: Dr. Ram Kuntal Hazra (Groups-I&II)

Study Material (name of topic/chapter): Molecular Partition Functions (Indistinguishability incorporates $1/(N!)$) because N particles constituting a system have larger De-Broglie wavelength than mean-separation among them. Representative symbol for molecular partition functions is ' q '. Four kinds- Translational, Rotational, Vibrational and Electronic.

Interrelations among Micro-canonical, Canonical, Grand-Canonical and Isothermal-Isobaric ensembles.

E.g., $Z(V, T, \mu) = \sum_{N=0}^{\infty} Z(N, V, T) / (N!)$

Books: Statistical Mechanics by Donald A. McQuarrie, Statistical Mechanics by Kerson Huang, Statistical Physics by Landau & Lifshitz