

**S. N. BOSE NATIONAL CENTRE FOR BASIC  
SCIENCES**  
**DEPARTMENT OF CHEMICAL, BIOLOGICAL & MACROMOLECULAR  
SCIENCE (CBMS)**  
**POST M.Sc Ph.D PROGRAMME IN CHEMICAL SCIENCES**  
**COURSE STRUCTURE & SYLLABUS**

NOTE: PHY 501 (RESEARCH METHODOLOGY) AND PHY 502 (REVIEW OF THE  
TOPICAL RESEARCH) ARE COMPULSORY AND COMMON PAPERS

**FIRST YEAR**

**[Semester I & II - Fall (August - December) & Spring (January -  
May)]**

[L - Lecture; T - Tutorial; P - Practical; C - Credit]

<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
CB 521	Numerical Methods	3	1	0	4
CB 522	Condensed Matter Theory	3	1	0	4
CB 523	Advanced Equilibrium Statistical Mechanics	3	1	0	4
CB 524	Physical Chemistry: Experiments & Theory	3	1	0	4
CB 525	Instrumental Methods of Analysis	3	1	0	4
CB 526	Fundamentals of Biophysics	3	1	0	4
CB 527	Molecular Physics and Spectroscopy	3	1	0	4
CB 528	Stochastic Processes in Physics and Chemistry	3	1	0	4
CB 529	Dynamics near and far away from Equilibrium Systems	3	1	0	4
CB 530	Mathematical Methods	3	1	0	4
CB 531	Advanced Numerical Methods & Simulation	3	1	0	4
CB 532	Chemical Dynamics	3	1	0	4
CB 533	Liquids	3	1	0	4
CB 534	Quantum Statistical Process in Dynamics	3	1	0	4
CB 535	Non-equilibrium Statistical Mechanics	3	1	0	4
CB 536	Mesoscopic Physics	3	1	0	4
CB 537	Classical & Quantum Stochastic Process	3	1	0	4
CB 538	Nonlinear Spectroscopy	3	1	0	4
CB 539	Radiation Matter Interaction	3	1	0	4
CB 591	Project Research (Semester - I)	8	8	-	-
CB 592	Project Research (Continued in Semester - II)	8	8	-	-
<i>Total hours of contact per week</i>		<i>16</i>			
<i>Total credits</i>		<i>16</i>			