

Core Course**LS 637-RESEARCH METHODOLOGY - THEORY [2 CREDITS]**

S No.	Topic	Faculty	Contact hours
1.	Philosophy of Science and Framing research questions	AKM	1
2.	Research methodology : Strategies, Planning and Analysis	AKM	2
3.	Ethics in Life Science Research	KN	2
4.	Biochemical calculations : quantitative methods	SLP	2
5.	Basic physicochemical principles in the context of Biology	SSK	2
6.	Bioinformatics	NR	4
7.	Basics of Biostatistics and statistical methods	SKJ	4
8.	Computational biology	NR	2
9.	Fundamental Methods in Molecular Biology /Cell biology	PCR	2
10.	Fundamentals of Systems Biology	BNM	2
11.	Basic principles of protein structure determination: modeling, docking etc.	SGN	2
12.	Basic principles of microscopy : theory and application	SS	2
13.	Good laboratory practices : Handling of biohazardous substances, disposal of biohazardous waste; Biosafety issues :- Chemical, radiation, recombinant DNA, biological material	AB	1
14.	Scientific communication	AN	1
15.	Regulatory bodies in research: Institutional Ethics Committee, Institutional Biosafety Committee, Animal Ethics Committee, Review Committee on Genetic Manipulation, Genetic Engineering Approval Committee	DS	1
16.	IPR issues in Research		2

(Total contact hours: = 32)

Teaching Faculty :-

A.S. Kharat*, A.K. Mondal, K. Natarajan, S.N. Panwar, S.S. Komath, S.K. Jha, P.C. Rath, B.N. Mallick, S. Gourinath, S. Saran, A. Bansal, A. Nandi, D. Sharma, K. Kar, N Ramchiary