DEPARTMENT OF BIOTECHNOLOGY				*CLASS: I B.Sc. Biotechnology*				
Sem	**Course Type**	**Course Code**	**Course Title**	**Credits**	**Contact Hours/week**	**CIA**	**Ext**	**Total**
I	Major Practicals	20U1LMP1	Major Practicals-I	3	3	40	60	100

Course Objectives

1.	To introduce students to various analytical experiments
2.	To understand and analyse the Mendelian Inheritance pattern.
3.	To identify problem, Interpret results of bio-analytical techniques.

Lab Experiments

1. Simple Mendelian characters in human.
2. Monohybrid and dihybrid cross using beads – model.
3. Identification of Blood groups by kit method.
4. Observation of mitotic cell stages using onion roots.
5. Identification of Barr Body
6. Isolation of plasmid DNA from bacterial cells
7. Restriction analysis of plasmid DNA
8. Culturing of baker's yeast

Spotters

PolyteneChromosomes, lampbrush Chromosomes, Vector map of pBR322 and pUC18, Pedigree Charts.

Books for Study

1. Rajan&Selvi Christy. 2010. Experimental Procedures in Lifesciences. Anjanaa Book House.
2. Kanika Sharma. 2011. Manual of Microbiology: Tools & Techniques. Ane books Pvt. Ltd
3. Sinha et al., 2011. Advanced Practical Zoology. Books & Allied (P) Ltd.

Books for Reference

1. AbhijitDutta. 2011. Experimental Biology: A laboratory Manual. Narosa.
2. John Vennison. 2009. Laboratory Manual of Genetic Engineering. PHI.

Pedagogy

The teaching methods may include: Demonstrations, hands on experiments and Problem solving

Course Learning Outcomes

On completion of this course the students will be able to

#	CLOs	K - Level
CLO-1	Show hands-on techniques that will supplement and enrich the lecture part	Up to K-2
CLO-2	Correlate the results and develop critical thinking skills	Up to K-4
CLO-3	Examine genetic inheritance pattern in both animals & Plants	Up to K-3
CLO-4	Infer the physiological process in plants and animals	Up to K-3
CLO-5	Categorize various genetic disorders	Up to K-2

Mapping of Course outcomes with Program Outcomes

CO/PO	PO-1	PO-2	PO-3	PO-4	PO-5
CLO-1	2	2	--	--	3
CLO-2	2	1	--	--	3
CLO-3	3	3	1	2	3
CLO-4	1	2	2	2	1
CLO-5	3	2	2	2	3

Advance application-3; Intermediate level-2 &Basic level-1

Mapping of Course outcomes with Program specific Outcomes

CO/PSO	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6	PSO-7
CLO-1	3	3	3	3	2	--	--
CLO-2	3	1	2	1	1	2	--
CLO-3	3	3	1	3	1	1	1
CLO-4	3	3	2	2	2	2	1
CLO-5	3	3	2	3	3	3	3

Advance application-3; Intermediate level-2 &Basic level-1