3. T.A. Brown : Gene cloning -IV ed., Chapman and Hall

4. Becker, Reece and Poenie, Benjamin :World of cell, III ed Cumming Pub.,

5. Benjamin Levine :Gene VII ,Oxford

6. Alberts, Lewis Davis and Watson : Molecular Biology, Garland Publ.

7. Robert Meyers Ed ,Mole. Biol. and Biotech.., VCH Pub.

8. R.W.Old and S.B. Primrose, Principles of gene manipulation.

M.SC. (FINAL) ZOOLOGY - 2006-07

ELECTIVE PAPER GROUP-I
(Molecular Cell Biology stream)

CANCER BIOLOGY, TUMOUR IMMUNOLOGY, NEUROBIOLOGY, GENOME AND GENOMICS

PRACTICAL

Duration : 5 hours per day for two days **M.M. 100**

S.No.	Exercise	Regular
1	I-Major exercise	20
2	II-Major exercise	20
3	Minor exercise	10
4	Slide preparation	10
5	Spots (10)	20
6	Viva-voce	10
7	Record	10
	Total :	**100**

1. Distribution of DNA and RNA in the tumours.
2. Distribution of proteins and lipids in the tumours.
3. Distribution of certain enzymes in the cancer tissues obtained from hospital /or in the

4. Diagnostic cytology using Papanicolaou method.

5. Micronucleus test for screening of mutagens and carcinogens.

6. Salmonella mutagenicity test for detecting mutagens and carcinogens.

7. Immunoassays for carcinoembryonic antigen and a-fetoprotein

8. Study of prepared slides of tumours / cancer

9. DNA and RNA Staining of nerve cells etc.

10. Localization of histones in nerve cells etc.

11. Detection of apoptosis using suitable techniques (Acpase method/Tunnel method)

12. Extraction of genomic DNA from a mammalian tissue/ *Drosophila* flies.

13. Rapid isolation of plasmid DNA

14. Polyacrylamide gel electrophorosis of protein/ DNA etc.

15. Extraction of DNA and RNA in histochemical technique

16. Selection of antibiotic mutants by a disc method in *E. coli*

18. Microdissection of various nuclei in brain or separation using punching technique

19. Cytological staining of nerve cells, glia and processes, lipofuschin, myelin.

20. Separation of different cell types of brain.

21. Use of stereotaxic instrument and stereotaxic atlas.

22. Demonstration and distribution of some enzymes in brain (AChE, DOPA oxidase, SDH, MAO)

23. Effect of CNS stimulants, depressants psychotropic drugs anticonvulsants on various activities of animals.

24. Study of various animal behavior- neuromotor development, pain reflexes, open field behaviour test, reproductive behaviour, learning-different types of maze.

25. Study and evaluation of MRI or CAT patterns of brain.