B.Sc GENETICS II YEAR

III- SEMESTER

MOLECULAR GENETICS

QUESTION BANK FOR PRACTICALS

Duration= 2 hours **Total= 25M**

I. MAJOR PRACTICALS **1x10=10M**

1. Extraction of genomic DNA from plant tissue
2. Extraction of genomic DNA from animal tissue
3. Estimation of DNA by DPA method
4. Estimation of RNA by orcinol method
5. Separation of proteins by SDS-PAGE

II. MINOR PRACTICALS **1x5 = 5M**

1. Quantification of DNA by spectrophotometer
2. Agarose gel electrophoresis of DNA
3. Effect of UV on bacterial growth

III. SPOTTERS / EXHIBITS **5x1 = 5M**

1. Hershey and Chase/Griffith experiment
2. Tobacco Mosaic Virus
3. Forms of DNA
4. DNA replication models (rolling, circular, theta, D-loop)
5. RNA polymerase structure in prokaryotes
6. Transcription and Translation mechanisms in prokaryotes/ eukaryotes
7. Operon (Lactose, Tryptophan)
8. Post-transcriptional modifications
9. Direct repair mechanism
10. Excision Repair mechanism
11. Methyl mediated mismatch Repair mechanism
12. Recombinational repair mechanism
13. DNA recombination-homologous recombination
14. Site specific recombination
15. NHEJ (NonHomologous End Joining)
16. Sickle cell anaemia
17. Cystic Fibrosis

IV. RECORD & VIVA **5M**