

## **MBP-504: MOLECULAR BIOLOGY**

1. Isolation of Genomic DNA from *E.coli* and Yeast
2. Isolation of RNA
3. Qualitative and Quantitative analysis of DNA and RNA
4. Agarose gel Electrophoresis
5. Southern Blotting
6. Northern Blotting
7. Western Blotting
8. *E.coli* gene expression (Lactose Metabolism)
9. *E.coli* cell transformation ( preparation of competent cells and foreign DNA uptake)
10. Gene expression in *S.cerevisiae*
11. Plasmid isolation from *E.coli*
12. Gel documentation studies
13. Polymerase chain reaction
14. *In - vitro* translation

## **MBP-505: ENVIRONMENTAL MICROBIOLOGY & BIostatISTICS**

1. Determination of TDS of water
2. Determination of BOD of water
3. Determination of COD of water
4. Microbial analysis of potable water – MPN method
5. Test for coliforms in water
6. Isolation of indicator algae from polluted water
7. Isolation of oil degrading microbes
8. Air sampling technique
9. Enumeration of lichens
10. Representation of Statistical data by
  - a) Histograms
  - b) Pie diagrams
12. Determination of Statistical averages/ central tendencies.
  - a) Arithmetic mean
  - b) Median
  - c) Mode
13. Determination of measures of Dispersion
  - a) Mean deviation
  - b) Standard deviation and coefficient of variation
14. Tests of Significance-Application of following
  - a) Chi- Square test
  - b) t- test
  - c) Standard error