

Assignment topics

- Investigating the importance of following good lab practices in ensuring safety, accuracy, and reproducibility of experimental results.
- Exploring the principles and techniques involved in the preparation of buffers and reagents for various biological experiments.
- Analyzing the principles of centrifugation and its applications in separating different components of a sample in the laboratory.
- Investigating the principles and methods of spectrophotometry and its significance in quantifying biomolecules in research and diagnostics.
- Understanding the process of bacterial culture growth and the construction of growth curves to study bacterial growth dynamics.
- Investigating the methods and principles for isolating genomic DNA from bacteria and its applications in genetic studies and molecular biology research.
- Exploring the techniques and principles involved in the isolation of plasmid DNA from bacteria and its significance in recombinant DNA technology.
- Understanding the principles and procedures of growing lambda phage and isolating phage DNA for various genetic studies and phage-related research.
- Investigating the methods and principles of isolating DNA from different plant species (e.g., Rice/Moong/Mango/Marigold) and their applications in plant genetics and biotechnology.
- Exploring the principles and techniques of DNA quantification using agarose gel electrophoresis and its applications in molecular biology research.

- Analyzing the principles and methods of DNA quantification using spectrophotometry and its significance in genetic research and DNA analysis.
- Investigating the principles and procedures involved in PCR (Polymerase Chain Reaction) using isolated DNA and its applications in DNA amplification and genetic analysis.
- Exploring the principles and applications of PAGE (Polyacrylamide Gel Electrophoresis) in separating and analyzing DNA or protein molecules.
- Understanding the principles and procedures involved in restriction digestion, ligation, and the construction of recombinant DNA for genetic engineering and cloning purposes.
- Investigating the principles and techniques of E. coli transformation with recombinant DNA and the selection of transformants in molecular biology research and biotechnology.