

Programme	BS Botany	Course Code	BOT-317L	Credit Hours	1
Course Title	Molecular Genetics (Lab)				
Lab Course Contents					
<ul style="list-style-type: none"> • Problems related to the theory, Isolation and separation of DNA and protein on Gel electrophoresis. • Quantitative separation of macromolecules (Plasmid DNA, plant DNA, Protein) using electrophoresis. • DNA Amplification by PCR 					
Textbooks and Reading Material					
<ol style="list-style-type: none"> 1. Gelvin S. B. (2000) <i>Plant Molecular Biology Manual</i>. Kluwer Academic Publishers. 2. Primrose S. B., Twyman R. M., and Old R. W. (2004) <i>Principles of Gene Manipulation</i>, an Introduction to Genetic Engineering, Blackwell Scientific Publications. 3. Dronamraju, K. (2019). <i>A Century of Geneticists: Mutation to Medicine</i>. CRC Press. 4. Brown, T. A. (2020). <i>Gene Cloning and DNA Analysis: An Introduction</i>. John Wiley & Sons. 5. Henkin, T. M., & Peters, J. E. (2020). <i>Snyder and Champness Molecular Genetics of Bacteria</i>. John Wiley & Sons. 6. Griffiths, A. J. (2020). <i>An Introduction to Genetic Analysis</i>. Macmillan learning. 7. Latchman, D. (2015). <i>Gene Control</i>. Garland Science. 8. Grotewold, E., Chappell, J., & Kellogg, E. A. (2015). <i>Plant Genes, Genomes and Genetics</i>. John Wiley & Sons. 9. Brown, T. A. (2012). <i>Introduction to Genetics: A Molecular Approach</i>. Garland Science. 10. Ignacimuthu S. (2005) <i>Basic Bioinformatics</i>, Narosa Publishing House, India. 11. Lwein B. (2004) <i>Gene VIII</i>, Pearson Education Int. 12. Snyder L. and Champnes W. (2003) <i>Molecular Genetics of Bacteria</i>, ASM Press. 13. Wilson J. and Hunt T. (2004) <i>Molecular Biology of the cell – the problems book</i>, Garland publishing Inc. 					
Teaching Learning Strategies					
<ul style="list-style-type: none"> • Lectures • Group Discussion • Laboratory work • Seminar/ Workshop 					
Assignments: Types and Number with Calendar					
<ul style="list-style-type: none"> • Lecture Based Examination (Objective and Subjective) • Assignments • Class discussion • Quiz • Tests 					