



Master of Science (Botany)  
M. Sc Botany Semester I

Course Code	PS01CBOT55	Title of the Course	LAB-II
Total Credits of the Course	04	Hours per Week	08

Course Objectives:	<ol style="list-style-type: none"><li>1. To observe and record various stages of mitosis and meiosis cell division.</li><li>2. To observe various cell organelles using different kinds of microscopes and staining materials.</li><li>3. To demonstrate the principle components and working of different kinds of microscopes.</li><li>4. To train the students for extraction of isolation of inheritance materials.</li></ol>
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**PS01CBOT55 (Lab 1A)**  
(Cell and Molecular Biology)

Sr.No.	Practical Exercises
1	Study of all stages of mitosis from root tips
2	Study of all stages of meiosis from flower buds
3	Study of various organelles such as chloroplast, mitochondria and lysosomes from plant tissue
4	Cytochemical staining for lipids, proteins and nucleic acids in plant cells
5	Demonstration of various microscopes
6	Micrometry
7	Isolation of genomic DNA from plant tissue
8	Estimation of DNA by DPA method
9	Agarose gel electrophoretic separation of nucleic acids
10	Estimation of RNA by Orcinol method





PS01CBOT55 (Lab II-B)

**Practical Exercises will be related to elective papers**

Learning Methodology	<p>Practical exercises will be conducted in the regular M.Sc. Labs or in the Central microscopy and instrumentation labs depending upon the requirement of equipment.</p> <p>Some of the exercises will be performed individually by each student, whereas some other will be done in a group, based on the nature of the experiment.</p> <p>Some exercises may be limited to demonstration.</p>
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Practical Examination (As per CBCS R.6.8.3)	20%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce and Attendance (As per CBCS R.6.8.3)	10%
3.	University Examination	70%

Course Outcomes: Having completed this course, students will be able to:	
1.	Identify and recognise various cell organelles in different tissues.
2.	Operate different kinds of lab instruments and conduct microscopic assays.

<b>References:</b>	
1.	Carp, G., (2013). Cell Biology. 7 <sup>th</sup> Edn. Wiley, United States.

