



(Bachelor Of Sciences) (Biology)
(B.Sc.) (Biology) Semester (II)

Course Code	US01CBIO52	Title of the Course	Practical
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	1. To get hands on training to use various botany laboratory equipment. 2. To do experiment as per the given syllabus through fresh/preserved specimen/slides/models/charts etc
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Course Content		
Unit	Description	Weightage* (%)
1.	Study of Microscope	
2.	To study the structure of plant cell through temporary mounts (with the help of epidermal peel mount of Onion)	
3.	To study the structure of animal cells by temporary mounts-squamous epithelial cell (cheek cell)	
4.	Study of Cell and its organelles with the help of Electron micrographs	
5.	Structure of chromosome, its types. (photographs)	
6.	Study of cell division Mitosis (demo/permanent slides/chart)	
7.	Study of cell division Meiosis. (demo/permanent slides/chart)	
8.	Examples based on Chargaff's rule	
9.	Qualitative tests for carbohydrates – Reducing sugars, Non reducing sugars and Starch	
10.	Qualitative tests for Protein (heat coagulation, Precipitation test, Biuret test, Folin's test)	
11.	Qualitative tests for Lipids	
12.	Effect of temperature on enzyme catalyzed reaction.	
13.	Cytochemical staining of: DNA- Feulgen and cell wall in the epidermal peel of onion using Periodic Schiff's (PAS) staining technique.	
14.	Study the phenomenon of plasmolysis and deplasmolysis.	
15.	Field trip/project/submission	





Teaching-Learning Methodology	Observation of specimen Handling of specimen Using student's microscope Using certain required chemical for test Dissection of specimen Preparing journal though drawing various figures with description Learn through charts/model Field visits for live experience. Preparing field visit note.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Get an insight of the functioning of the cell division and its significance.
2.	Identify various cell organelles through the structural organization.
3.	Know the functioning of various bio molecule through various confirmative tests.
4.	Learn detail structures of DNA and RNA through various models and charts.

Suggested References:	
Sr. No.	References
1.	A text book of Practical Botany(vol I&II) by Bendre and Kumar
2.	Modern Practical Botany(vol I&II)byPandey B.P.





On-line resources to be used if available as reference material

On-line Resources

The virtual library of Botany

https://www.teacheron.com/zoology_practical-tutors

<https://www.wiziq.com/tutorials/practical>

