

**INSTRUCTION DIVISION**  
**Course Handout (Semester I, 2024-2025)**  
**Course No. : BIO F110**  
**Course Title: Biology Laboratory**

**Instructor in Charge: Anasuya Ganguly**

**Instructors:** Prof. Dibakar Chakrabarty, Dr. Tusar Tirtha Saha and Teaching Assistants

**Course Description:**

The spectacular progress over the past two decades in our understanding of biological processes at the molecular level has been made possible by the coming together of physical, chemical, biochemical and genetic approaches and by the availability of a wide range of analytical techniques. This course involves experiments designed to strengthen many theoretical concepts learnt in the General Biology course.

**Course Plan:**

<b>Expt No.</b>	<b>Title*</b>
<b>1</b>	Measurement of total protein content in the given sample.
<b>2</b>	Measurement of glucose concentration in the given sample
<b>3</b>	Measurement of mitotic index and duration of mitosis in the given plant tissue.
<b>4</b>	a. Measurement of Haemoglobin content in human blood b. Determination of ABO-Rh Blood Typing.
<b>5</b>	Quantitation of DNA.
<b>6</b>	Determination of the Km of phosphatase enzyme.
<b>7</b>	Separation of chlorophyll pigments by paper chromatography
<b>8</b>	Study the phenomenon of plasmolysis in onion peel
<b>9</b>	a. Determination of the level of total cholesterol present in serum. b. Determination of Body Mass Index.
<b>10</b>	Measurement of Blood Pressure.
<b>11</b>	Observation of permanent slides and comments.
<b>12</b>	Computational annotation of nucleic acids and proteins.
<b>13</b>	Tissue location of the endogenous enzyme polyphenol oxidase in the given samples

\*For details read "BIOLOGICAL LABORATORY (BIO F110) MANUAL" uploaded on google drive, link for videos is:

<https://drive.google.com/drive/folders/1N8TCHVwYhz3dyFYNX2BDYwhaQZh7CN3w>

**Evaluation components: Total marks: 300**

Components	Duration	Marks	Remarks
Lab experiments	1-2hrs	13X10 =130	Total 10 marks per experiment: Experiment: 8 marks- viva voce Attendance: 2 marks The 8 marks will be awarded after the completion of the experiment.  All doubts should be cleared with the instructors. For some experiments we might give an assignment, which should be submitted on time.
Mid semester Quiz (mcq, short answer types) (syllabus- experiments done till med sem)	20mins	70	Quanta in CC.  28/9/24 (FN) 11am
Comprehensive Quiz (all experiments)	25 mins	100	Quanta in CC. 30/11/24 (AN)

Anasuya Ganguly  
**INSTRUCTOR-IN-CHARGE**  
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