



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.Sc. Sec 1st Semester Examination, 2023

UBOTSEC11001-BOTANY

BASIC LABORATORY TECHNIQUES AND MANAGEMENT

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

1. Answer any **five** questions from the following: 1×5 = 5
- Mention one important application of safety gases in the laboratory.
 - Give one example of laboratory wastes.
 - What is pH scale?
 - Mention the functions of buffer.
 - Name one fluorescent dye used for staining biological materials.
 - What is the purpose of fixation?
 - State one difference between fluorescence and phase contrast microscope.
 - Mention one use of Google Drive.

GROUP-B

2. Answer any **three** questions from the following: 5×3 = 15
- Describe in brief, the working principle of Laminar Air Flow. 5
 - What is stock solution? How will you prepare 1M NaCl solution? 1+4
 - Distinguish between: 2½ × 2 = 5
 - Normality and Molarity
 - Acids and Bases.
 - Write short notes on: 2½ × 2 = 5
 - Fire Extinguisher
 - Uses of PowerPoint Presentation.
 - What is a Spreadsheet? What do you mean by cells in an Excel sheet? Mention the different parts of a light microscope. 1+1+3

GROUP-C

3. Answer any **two** questions from the following: 10×2 = 20
- Distinguish between Metal shadowing and Freeze fractioning. Mention the relationship between molality and normality. Calculate the normality of 10% NaOH solution. 3+2+5
 - Give an account of commonly used biological databases and their functions. 10
 - Illustrate the processes adopted for laboratory waste management and disposal. 10
 - Describe the safety rules in the laboratory. Why is laboratory safety important? 8+2

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