



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 4th Semester Examination, 2022

GE2-P2-BOTANY (PRACTICAL)

Time Allotted: 2 Hours

Full Marks: 20

The figures in the margin indicate full marks.

The question paper contains Paper-GE-1, Paper-GE-2, Paper-GE-3, Paper-GE-4, Paper-GE-5 and Paper-GE-6. Candidates are required to answer any *one* from the *six* papers and they should mention it clearly on the Answer Book.

PAPER-GE-1

BIODIVERSITY

MICROBES, ALGAE, FUNGI AND ARCHEGONIATE

1. Work out the supplied specimen A (algae / fungi / Gram staining) 5
[Marks distribution: Slide preparation = 2, Drawing and labelling = 2, Identification = 1]
2. Work out the supplied specimen B (reproductive part of bryophyte / pteridophyte) 5
[Marks distribution: Slide preparation = 2, Drawing and labelling = 2, Identification = 1]
3. Identification (Specimen C, D and E). 2×3 = 6
[From micrograph, models and permanent slides mentioned in the syllabus, any three to be selected]
4. Submission of laboratory note book 2
5. Viva-voce 2

PAPER-GE-2

PLANT ECOLOGY AND TAXONOMY

1. Determine pH of soil from supplied soil sample A by pH paper method. 5
2. Work out the specimen B with vegetative and floral characteristics. 5
[Marks distribution: Drawing and labelling of floral parts = 2, Floral formula and floral diagram = 1, Identifying characters = 2]

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| 3. | Identify specimen C, D and E. | 2×3 = 6 |
| 4. | Submission of laboratory note book and one herbarium | 1+1 = 2 |
| 5. | Viva-voce | 2 |

PAPER-GE-3

PLANT ANATOMY AND EMBRYOLOGY

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| 1. | Demonstration of dissection of embryo from Maize seed. | 8 |
| 2. | Identify Specimen — A, B, C and D. | 2×4 = 8 |
| 3. | Submission of laboratory note book | 2 |
| 4. | Viva-voce | 2 |

PAPER-GE-4

PLANT PHYSIOLOGY AND METABOLISM

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| 1. | Determine the osmotic potential of plant cell sap by plasmolytic method or effect of bicarbonate on photosynthesis. | 6 |
| 2. | Determine the rate of respiration in flower or germinating seed. | 6 |
| 3. | Give the demonstration of suction due to transpiration. | 4 |
| 4. | Submission of laboratory note book | 2 |
| 5. | Viva-voce | 2 |

PAPER-GE-5

ECONOMIC BOTANY AND PLANT BIOTECHNOLOGY

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| 1. | Dissect embryo from maize seed and demonstrate the technique of embryo culture in solid culture medium. | 10 |
| 2. | Identify the plant specimens (Specimen – A, B, C) with taxonomic characters and also mention their economic importance. | 2×3 = 6 |

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| 3. | Submission of laboratory note book | 2 |
| 4. | Viva-voce | 2 |

PAPER-GE-6

ENVIRONMENTAL BIOTECHNOLOGY

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| 1. | Determine the soil pH (Sample A). | 8 |
| 2. | Determine alkalinity / acidity in water (Sample B). | 8 |
| 3. | Submission of laboratory note book | 2 |
| 4. | Viva-voce | 2 |

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