



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 5th Semester Examination, 2022

DSE-P2-TEA SCIENCE

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

**The question paper contains Paper-I and Paper-II.
The candidates are required to answer any *one* from *two* Papers.
Candidates should mention it clearly on the Answer Book.**

PAPER-I

TEA PHARMACOLOGY

1. Answer any **five** from the following: 1×5 = 5
- (a) Name an alkaloid compound present in tea leaves.
 - (b) What are carotenoids?
 - (c) Name any two volatile flavour components present in tea leaves.
 - (d) What is the role of PPO in black tea manufacturing?
 - (e) What do you mean by 'Antioxidants'?
 - (f) What is the ratio of TF:TR in black tea?
 - (g) Name a polyphenol present in tea leaves.
 - (h) Name the inorganic components present in tea leaves.
2. Answer any **three** from the following: 5×3 = 15
- (a) Write a short note on the bioavailability of antioxidants in tea.
 - (b) What is the role of tea phenolics on cardiovascular diseases?
 - (c) Draw the structures of polyphenols present in tea leaves.
 - (d) What do you mean by the biochemical basis of qualities in black tea?
 - (e) What is an alkaloid? Describe the role of tea alkaloid on human health. 2+3
 - (f) Write a short note on Carotenoids.
3. Answer any **two** from the following: 10×2 = 20
- (a) Give a detailed account on the biochemical constituents of black tea.
 - (b) Describe the biochemical changes during processing of black tea.
 - (c) Describe the role of volatile flavour components on tea quality.
 - (d) Describe in detail about the role of tea phytochemicals as a potent antioxidant.

PAPER-II

NATURAL RESOURCE MANAGEMENT

1. Answer any *five* from the following: 1×5 = 5
- (a) What do you mean by natural resource?
 - (b) Give the full form of NTFP.
 - (c) What do you mean by biodiversity hot-spot?
 - (d) What do you mean by carbon footprint?
 - (e) Mention any two methods of water conservation.
 - (f) Mention any two problems associated with soil resource.
 - (g) What is meant by ‘sustainable agriculture’?
 - (h) What do you mean by endemic species?
2. Answer any *three* from the following: 5×3 = 15
- (a) What are the major and minor forest products? Explain. 5
 - (b) What are the threats to Biodiversity? 5
 - (c) Write a note on renewable and non-renewable energy sources. 5
 - (d) What are the different methods of waste management? 5
 - (e) Explain about sustainable utilization of natural resources. 5
3. Answer any *two* from the following: 10×2 = 20
- (a) Explain about different types of natural resources with suitable examples. 10
 - (b) What are the ecological services provided by forests? 10
 - (c) What is a biodiversity hotspot? Explain about different conservation strategies of biodiversity. 2+8
 - (d) Write short notes on: 5+5
 - (i) Carbon footprint
 - (ii) Wetlands Management.

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