



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 1st Semester Examination, 2022-23

BOTACOR02T-BOTANY (CC2)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.*

GROUP-A

1. Answer **all** questions briefly from the following: 1×3 = 3
 - (a) Name an aromatic amino acid found in proteins.
 - (b) What is co-enzyme?
 - (c) What is Gibb's free energy?

2. Answer any **four** questions from the following: 3×4 = 12
 - (a) Write down the important properties of water.
 - (b) Differentiate between α -helix and β -pleated sheet.
 - (c) Write a short note on t-RNA structure.
 - (d) Explain briefly redox reactions.
 - (e) Draw a neatly labelled Lineweaver-Burk plot.
 - (f) Differentiate between triacylglycerols and phosphoglycerides.

3. Answer any **one** question from the following: 5×1 = 5
 - (a) Compare epimer with anomer with proper example. Write down the name and function of a storage polysaccharide. 3+2
 - (b) ATP is called the 'Energy Currency of the Cell'— Justify the statement. 3+2
 $\Delta G = \Delta H - T\Delta S$, what does ΔG , ΔH and $T\Delta S$ denote?

GROUP-B

4. Answer **all** questions briefly from the following: 1×3 = 3
 - (a) What is the full form of NOR?
 - (b) What are lysosomes?
 - (c) What are tubulins?

5. Answer any *four* questions from the following: 3×4 = 12
- (a) Write down the characteristic features of cpDNA. 3
 - (b) What is active transport? Distinguish between antiport and symport. 1+2
 - (c) Explain endosymbiotic origin of mitochondria. 3
 - (d) Mention the importance of cell cytoskeleton. 3
 - (e) Differentiate between meiotic division I and II. What is cell cycle? 2+1
 - (f) What are lamins? State the functions of NPC. 1+2
6. Answer any *one* question from the following: 5×1 = 5
- (a) What is glycosylation protein? Elucidate the role of golgi complex in sorting and distribution of proteins. 1+4
 - (b) Describe the role of MPF in regulation of cell cycle. 5