



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 1st Semester Supplementary Examination, 2021

**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.  
All symbols are of usual significance.*

1. Answer **all** questions briefly from the following: 1×5 = 5
- (a) Distinguish between nucleotide and nucleoside.
  - (b) What is buffer solution?
  - (c) Define covalent bond with example.
  - (d) What is chiasma?
  - (e) Mention the components of cytoskeleton.

2. Answer any **five** questions from the following: 3×5 = 15  
(At least **two** questions from each Group)

**GROUP-A**

- (a) What is prosthetic group of an enzyme? What do you mean by Lineweaver-Burk plot? 1+2
- (b) What do you mean by the term entropy and enthalpy of a system?  $1\frac{1}{2} + 1\frac{1}{2}$
- (c) What are exergonic and endergonic reactions?  $1\frac{1}{2} + 1\frac{1}{2}$
- (d) Comment on the different epimers of glucose with structures. 3

**GROUP-B**

- (e) Explain the nucleosome concept in chromosome packaging. 3
- (f) What are the functions of lysosome? Name a disease associated with lysosome dysfunction. 2+1
- (g) With suitable diagram show prophase-I of meiotic cell division.
- (h) What are the main constituent of plant cell wall? Mention the function of plant cell wall. 2+1

3. Answer any *four* questions from the following: 5×4 = 20  
(At least *two* questions from each Group)

**GROUP-A**

- (a) Point out the difference between B-DNA and Z-DNA. 5
- (b) Discuss different levels of protein structure mentioning the bonds involved. 5
- (c) What are essential fatty acids? Write down the chemistry and function of cholesterol. 2+3

**GROUP-B**

- (d) How do the rough endoplasmic reticulum and golgi apparatus act in the production and releasing of protein? 5
- (e) Draw the ultrastructure of chloroplast with proper labelling and mention the function of different parts of chloroplast. 3+2
- (f) What is MPF? Describe schematically the different events of cell cycle regulation in eukaryotes. 1+4

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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