



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

**B.Sc. (Honours) in AGRICULTURE
2nd Semester Examination 2022**

PAPER—AGS-204

**FUNDAMENTALS OF PLANT BIOCHEMISTRY
AND BIOTECHNOLOGY**

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

*Candidates are required to give their answers in their
own words as far as practicable.*

Illustrate the answers wherever necessary.

1. Answer any ten questions.

10×2

(a) Mention the properties of water (H₂O).

(b) Define pH.

(c) Define zwitterions.

(d) What are reducing sugars? Give example.

- (e) Define holoenzyme with example.
- (f) Distinguish between co-enzyme and co-factor.
- (g) What is meant by mutarotation?
- (h) Describe the chemical reaction for formation of peptide bond.
- (i) Distinguish between nucleotide and nucleoside.
- (j) What do you mean by mi RNAs ?
- (k) Mention the importance of TCA cycle.
- (l) Define electron transport chain.
- (m) Define photo phosphorylation.
- (n) Define secondary metabolites.
- (o) Mention two functions of mRNA.

2. Answer any *six* questions. 6×5

- (a) Mention the classification of carbohydrate.
- (b) Mention different types of structural organisation of protein.
- (c) What do you mean by secondary structure of RNA ? Depict the tRNA structure. 2+3
- (d) Give a brief note of β -oxidation.
- (e) Describe the Glycolysis pathway.

- (f) Give a short note on allosteric enzyme.
- (g) Depict the structure of fatty acid and mention its importance. 3+2
- (h) Write down the comparative account on A-DNA, B-DNA and Z-DNA.
- (i) What do you mean by phospholipid bilayer? Discuss briefly the functions of membrane proteins.
- (j) Distinguish between reducing and nonreducing sugar. Mention the importance of carbohydrates. 2+3
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