

Total Pages—03

AGS/2<sup>nd</sup> Sem/204/23

2023

AGS 2nd Semester Examination

B.Sc. Hons. in Agriculture

Fundamentals of Plant Biodiversity  
and Biotechnology

PAPER — 204

Full Marks : 50

Time : 2 hours

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

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

*Illustrate the answers wherever necessary.*

Answer **all** questions

1. Answer *any five* questions from the following :  
2×5=10

(a) Define buffer.

(b) Distinguish between coenzyme and cofactor.

( 2 )

✓(e) Define central dogma.

✓(d) Why are amino acids known as zwitterion?

✓(e) Mention the C-terminal and N-terminal of a polypeptide chain.

(f) Distinguish between saturated and unsaturated fatty acids.

✓(g) Distinguish between nucleotides and nucleosides.

(h) Define photophosphorylation.

2. Answer *any four* questions from the following :  
5×4=20

✓(a) Mention the different types of RNA. Give a short note on tRNA. 2+3=5

✓(b) Mention the properties of enzyme. Give a short note on allosteric enzymes. 2+3=5

✓(c) Describe TCA cycle. 5

(d) Give a short note on electron transport chain. 5

( 3 )

✓(e) Depict the molecular structure of DNA.  
Distinguish among A, B and Z DNA.

2+3=5

(f) Give a short note on secondary metabolites.

5

3. Answer *any two* questions from the following :

10×2=20

(a) Define peptide bond. Describe secondary and tertiary structures of protein. 2+8=10

(b) Define reducing and non-reducing sugars. Structurally describe the different types of carbohydrates. 2+8=10

✓(c) Define fatty acid. Classify lipid. Give a short note on beta-oxidation of fatty acid.

1+3+6=10

✓(d) Classify enzymes according to the type of reaction in which they are used to catalyze. Describe the applications of enzymes. Write down the importance of vitamin and mineral nutrition in human body. 3+3+4=10

★ ★ ★