

2020

BIOCHEMISTRY — GENERAL

Paper : GE/CC-1

Full Marks : 50

The figures in the margin indicate full marks.

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

1. Answer **any five** questions : 2×5
- (a) Define essential amino acids with example.
 - (b) Why H₂O is called universal solvent?
 - (c) What are the unusual bases present in DNA?
 - (d) Write down the differences between Nucleosides and Nucleotides.
 - (e) Name the lipids present in membrane.
 - (f) What is signal transduction?
 - (g) Define Coenzyme.
 - (h) Name two second messengers.
2. Answer **any two** questions :
- (a) (i) Write the difference between cellular structure of prokaryotes and eukaryotes.
(ii) What are storage lipids? 3+2
 - (b) (i) How denaturation of DNA related to T_m value?
(ii) Why fructose behave as a reducing sugar? 2+3
 - (c) (i) Name two biologically important peptides.
(ii) What is isoelectric point of an amino acid? Give example. 2+3
3. Answer **any three** questions :
- (a) (i) Mention clearly the principle of Sorensen's formol titration. What is its significance?
(ii) Mention the function of different types of RNA. 5+5
 - (b) (i) 'All water soluble vitamins act as coenzymes' – Explain.
(ii) Write down the role of IP₃ & NO in signal transduction pathway. 5+5

Please Turn Over

- (c) (i) Classify the Fatty acids according to their structure and essentiality with example.
(ii) Write down the role of Vit-K in case of blood coagulation. 5+5
- (d) (i) Write down the reaction of amino acids with HNO_2 and LiAlH_4 .
(ii) How do you convert glucose to gluconic acid? 5+5
- (e) (i) Mention the role of lipid as cofactor.
(ii) Describe the structural features of a DNA molecule. 5+5
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