# 2022

## B.F.Sc. 1st Semester Examination

### Fundamentals of Biochemistry

PAPER — BFSC-105

*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.*

**1.** Answer *any* **ten** from the following questions : 2×10=20

(a) What is promoter? Mention its function.

(b) What do you mean by gluconeogenesis? Name a non-reducing disaccharide.

(c) What is Wobble hypothesis?

(d) Write down the Michaelis-Menten equation. Define $K_m$.

(e) What is peptide bond? What is Zwitter ion?

(f) What do you mean by MUFA? Give an example.

(g) What are the functions of primase and gyrase?

(h) What are essential fatty acids? Give an example.

(i) What is mutarotation? What is glycosidic bond?

(j) What is isoelectric pH? What is saponification number?

(k) "DNA replication is semiconservative"—explain.

(l) What is Shine-Dalgarno sequence?

(m) Differentiate fats from oils.

(n) What are zero-order and first-order reactions?

(o) What are allosteric enzymes?

**2.** Answer *any* **six** from the following questions : 5×6=30

(a) What do you mean by charging of tRNA?

(b) Classify enzymes with examples.





(c) Briefly describe the process of glycolysis.

(d) Briefly explain different types of post-transcriptional modifications.

(e) Write a short note on reversible enzyme inhibitions.

(f) Briefly describe the initiation of translation.

(g) Briefly describe the factors that are affecting enzyme activities.

(h) Write a short note on protein structures.

(i) Briefly describe the chemical structure of DNA.

(j) Write a note on beta oxidation of fatty acid.

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