

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

NBIO-165

M.Sc. Ist Semester Examination, 2023

BIOTECHNOLOGY

Paper - BT-101

(Biochemistry and Metabolism)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains three Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- The candidate is required to answer all the *ten* questions carries 1 mark each. The answer should not exceed 50 words.

Section-B

(Marks : 3 × 5 = 15)

Note :- The candidate is required to answer *five* questions by selecting at least *one* question from each Unit. Each question carries 3 marks. Answer should not exceed 200 words.

Section-C

(Marks : 5 × 3 = 15)

Note :- The candidate is required to answer *three* questions by selecting at least *one* question from each Unit. Each question carries 5 marks. The answer should not exceed 500 words.

BRI-1047

(1)

NBIO-165 P.T.O.

Section–A

1. (i) Write names of any *two* oligosachharide sugars.
- (ii) Explain Fermentation. Give its industrial importance.
- (iii) What do you understand by Oxidative Phosphorylation ?
- (iv) How many types of plant fatty acids are there ? Give their names.
- (v) What is Saponification ?
- (vi) What do you understand by contractile protein ?
- (vii) Write the names of aromatic amino acids.
- (viii) What do you understand by transamination ?
- (ix) Write the name of forces which stabilize nucleic acid structure.
- (x) Define Gluconeogenesis.

Section–B

Unit–I

2. Differentiate between Homopolysaccharide and Heteropolysaccharide with examples.
3. Represent diagrammatically the process of electron transport chain or system.
4. Draw a line diagram of TCA cycle.

Unit–II

5. Describe the method of β -oxidation of fatty acids.
6. Describe how the tertiary and quaternary structure of proteins are stabilized. What happens to these configurations when a protein is boiled ?
7. Describe Ramachandran plot in brief.

Unit–III

8. Describe in brief Krebs Hensleit cycle.
9. Write a short note on the structure, type and functions of nucleic acids.
10. Describe briefly the physical and chemical properties of amino acids.

Section–C

Unit–I

11. Describe Hexose monophosphate pathway. How it differs with that of normal pathway with regard to release of energy ?
12. Write an essay on oligosaccharide.

Unit–II

13. Elucidate briefly the process of fat metabolism in plants.
14. Write a detailed note on the classification properties, structure and functions of vitamins.

Unit–III

15. Write a detailed note on the amino acid biosynthesis.
16. Describe briefly the synthesis of purine and pyrimidine.