

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

BIOTSEM-134

M.Sc. (Ist Semester) Examination Dec., 2022

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 :- Answer all *ten* questions. Answer should not exceed **50** words. Each question carries **1** mark.

Section-B

(Marks : 3 × 5 = 15)

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

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer *three* questions by selecting at least *one* question from each Unit. Answer should not exceed **500** words. Each question carries **5** marks.

Section-A

- (i) Write the difference between Monosaccharides and Disaccharides.
- (ii) What do you understand by Glycoproteins ?

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- (iii) Define Glyconeogenesis.
- (iv) What are Phospholipids ?
- (v) Write the composition of Triglycerides.
- (vi) Write the fat soluble vitamins.
- (vii) What do you mean by histidine family ?
- (viii) What is Ramchandran Plot ?
- (ix) Write the difference between nucleotide and nucleoside.
- (x) Define Polypeptides.

Section-B

Unit-I

- 2. Write the short note on classification of Carbohydrates.
- 3. Write a note on Peptidoglycans.
- 4. Write a note on Fermentation.

Unit-II

- 5. Describe the beta oxidation of Fatty acids.
- 6. Write a note on structures of Protein.
- 7. Write a note on classification, properties and functions of vitamins.

Unit-III

- 8. Write a short note on amino acid deamination.
- 9. Write a short note on purine synthesis.
- 10. Write a note on pyruvate and asparate family.

Section-C

Unit-I

- 11. Write a detailed note on Glycolysis.
- 12. Write a detailed note on synthesis and breakdown of glycogen.

Unit-II

13. Write a detailed note on structure, classification and functions of lipids.
14. Explain Domains, motif and folds.

Unit-III

15. Write short notes on the following :
 - (i) Urea cycle
 - (ii) Classification of amino acid
16. Describe the catabolism of purines and pyrimidines.