

Roll No.

91049

B. Sc. Bio-Technology 1st Semester

w. e. f. 2012-13

Examination – November, 2019

BIOCHEMISTRY AND METABOLISM

Paper : BT- 104

Time : Three Hours] [Maximum Marks : 40

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is *compulsory*. Attempt *four* more questions selecting *one* question from each Unit.

1. Write short note on any *five* : 2 × 5 = 10
- (a) Glycoridic bonds
 - (b) Isoelectric point
 - (c) Glycolipids
 - (d) Nucleotides

- (e) Apoenzyme
- (f) Electron transport chain
- (g) Free energy

UNIT – I

2. (a) Describe the structure of proteins on the basis of α -helix and β - Pleted. 3 $\frac{1}{2}$
- (b) Write short note on :
- (i) Essential amino acids 2
 - (ii) Structure and properties of monosaccharides. 2
3. (a) What are glycoproteins ? Discuss the biological functions of glycoproteins. 3
- (b) Write short note on :
- (i) Quaternary structure of proteins 2
 - (ii) Methods of protein purifications. 2 $\frac{1}{2}$

UNIT – II

4. Describe briefly about classification, structure, nomenclature and properties of fatty acids. 7 $\frac{1}{2}$

5. (a) Explain the structure and properties of purins and pyrimidines. 5
- (b) What is denaturation and annealing of DNA. $2\frac{1}{2}$

UNIT - III

6. (a) Describe the nomenclature and classification of enzymes. 5
- (b) enzyme specificity. 1
- (c) What is biotin vitamin B_{12} ? $1\frac{1}{2}$
7. (a) What are monomeric and oligomeric enzymes. $2\frac{1}{2}$
- (b) Describe the mechanism of enzyme action . 3
- (c) What is the role of cofactors in enzyme catalysis ? 2

UNIT - IV

8. (a) Describe briefly the TCA cycle. 3
- (b) What is fate of pyruvate under aerobic and anaerobic conditions. 3

- (c) What is glycogenolysis ? $1\frac{1}{2}$
9. (a) What do you understand by carbohydrate metabolism ? 4
- (b) What is the role of Oxidative phosphorylation ? $3\frac{1}{2}$

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