

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc., Exam, Winter 2017-18

Semester: 1
Subject Code: 11103102
Subject Name: Biomolecules

Date: 22-12-2017
Time: 10.30am to 01.00pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Brief note (4x2) (Each of 04 marks) (08)**
- (a) Monosaccharide's of Biological importance and its reactions.
 - (b) Classification of amino acids with examples.
- Q.1. B) Answer the following questions (Any two) (04)**
- (a) Brief note (2x2)/ Schematically label the figures (04)
 1. Draw the structure of eukaryotic cell and label.
 2. Watson crick model of DNA.
 - (b) Deficiency manifestations of vitamin A. (04)
 - (c) Explain Nitrogen bases, Nucleosides and Nucleotides. (04)
- Q.2. A) Answer the following questions. (04)**
- (a) Brief note (04)
 1. Scurvy.
 2. Mutarotation.
 - (b) What are essential and semi essential amino acids and name them? (04)
- Q.2. B) Answer the following questions (Any two) (03)**
- (a) Short note (03)
 1. Why HDL-c is known as good cholesterol?
 2. Zwitter ions.
 3. Conjugated proteins.
 - (b) Gibbs- Donnan equilibrium. (03)
 - (c) Functions of lipids. (03)
- Q.3. A) Brief note (4x2) (Each of 04 marks) (08)**
- (a) Rickets.
 - (b) Structural organization of proteins.
- Q.3. B) Answer the following questions (Any two) (04)**
- (a) Brief note (04)
 1. Liposome and its clinical application.
 2. Differentiate between Thymine and Thiamine.
 - (b) Collagen (04)
 - (c) Phospholipids (04)
- Q.4. A) Answer the following questions. (04)**
- (a) Brief note (04)
 1. Saponification number and Iodine number
 2. Central dogma of molecular biology
 - (b) Vitamin B 12 (04)
- Q.4. B) Answer the following questions (Any two) (03)**
- (a) Multiple choice questions. (03)
 1. Table sugar is:
 - (a) Glucose (b) Fructose (c) Sucrose (d) Lactose
 2. The type of polypeptide chain present in globin of HbA1 are:
 - (a) 2 α & 2 β (b) 2 α & 2 γ (c) 2 β & 2 γ (d) 2 β & 1 α
 3. RNA doesn't contain
 - (a) Uracil (b) Adenine (c) Thymine (d) Ribose
 - (b) Define polysaccharides? Explain about any one polysaccharide of physiological importance? (03)
 - (c) Jaundice (03)