

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc. Winter 2018-19 Examination

Semester: 1**Subject Code: 11103102****Subject Name: Biomolecules****Date: 19/12/2018****Time: 10.30 am to 1.00 pm****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) Essay type. (08)

- (a) Explain with figures Structure of proteins

Q.1. B) Answer the following questions (Any two)

- (a) Describe muta-rotation with examples. (04)
- (b) Expand 11:2:5,7 and 8:1:3. (04)
- (c) Give structure and function of glycogen. (04)

Q.2. A) Answer the following questions.

(a) Fill in the blanks. (Each of 02 marks) (04)

1. _____ is a biological solvent.
2. _____ equation describes the derivation of pH as a measure of acidity (using pKa, the negative log of the acid dissociation constant) in biological and chemical systems.

(b) List any four Glycerophospholipids with structure. (04)

Q.2. B) Answer the following questions (Any two)

(a) Multiple choice questions. (Each of 01 marks) (03)

1. The undesirable odors and flavors which develop when fats are exposed to the oxygen in the air is _____.

- a) Rancidity
- b) Saponification
- c) Hydolysis
- d) Hydration

2. Essential fatty acids are _____.

- a) Fats not synthesized in body
- b) Fats synthesized in body
- c) Fats synthesized but not utilized by body.
- d) None of the above

3. _____ is a glycolipid.

- a) Phosphatidy inositol
- b) cerebrosides
- c) Glycogen
- d) Starch

(b) Short note: Biological significance of fats. (03)

(c) Define : Reichert-Meissel number. (03)

Q.3. A) Essay type (08)

- (a) Classification of carbohydrates on the basis of the forming units.

Q.3. B) Answer the following questions (Any two)

(a) Define the following (Each of 02 marks) (04)

1. Essential amino acids
2. Denaturation of proteins

(b) Describe the feature of DNA (B form) double helix (04)

(c) Discuss Stereo-isomerism of amino acids (04)

Q.4. A) Answer the following questions.

(a) Fill in the blanks.

(Each of 02 marks)

(04)

1. _____ is the type of RNA responsible for transfer of amino acid to ribosomes.

2. _____ is a region of DNA that encodes RNA for transcription and translation.

(b). Explain behavior of proteins in solutions.

(04)

Q.4. B) Answer the following questions (Any two)

(a) Multiple choice questions.

(Each of 01 marks)

(03)

1. Nucleic acids are made up of :

a) Sugar

b) Nitrogen bases

c) Phosphate

d) All of the above

2. _____ is a type of RNA.

a) m RNA

b) a RNA

c) f RNA

d) q RNA

3. _____ is a metalloporphyrin.

a) Protein

b) Sterol

c) Hemoglobin

d) DNA.

(b) Define Central dogma of molecular biology

(03)

(c) Name fat soluble and water soluble vitamins.

(03)