Seat No:_____ Enrollment No:_____

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

M.Sc., Winter 2017-18 Examination

Semester: 1 **Date: 22-12-2017**

Subject Code: 11203101 **Time: 02:00PM to 04:30PM**

Subject Name: Organic Chemistry and Biomolecules **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 (Each of 04 marks) **(08)**

(a)What do you mean by isomerism? Explain optical isomerism with example.

(b) Define Polysaccharides. Give it classification in detail.

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

(a) Short note (Each of 02 marks) **(04)**

1. Define peptide bond and glycosidic bond.
2. Name the types of geometrical isomerism.

(b). Short note on Quaternary structure **(04)**

(c) Discuss the structure and properties of pyridine **(04)**

Q.2. A) Answer the following questions.

(a) Short note. (Each of 02 marks) **(04)**

1. Differentiate between saturated and unsaturated Fatty acid.
2. Starch consists of_____

(b) Write a brief note on types of reactions found in organic chemistry with example. **(04)**

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

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

1. What is reducing sugar?
2. The primary structure of protein represent

(a) Linear sequence of Amino acid joined by peptide bond. (b) 3-D structure of protein

(c) helical structure of protein (d) Subunit structure of protein

3. Which of the following exhibit optical isomerism

(a) Formic acid (b) Acetic acid (c) Lactic acid (d) Succinic acid

(b) Short note on α – helix. **(03)**

(c) What do you mean by H-bonding .Explain its types with example? **(03)**

Q.3. A) Brief note (Each of 04 marks) **(08)**

(a) Discuss the structure and function of three Biochemically important disaccharides.

(b) Write a descriptive note on R-S system of nomenclature.

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

(a) Short note (Each of 02 marks) **(04)**

1. Give the example of sulfur containing and aromatic amino acid.
2. Define diastereoisomers.

(b) Short note on structure and function of phospholipid **(04)**

(c) Explain E-Z notations for representing the configurations of geometrical isomers with the help of suitable examples **(04)**

Q.4. A) Answer the following questions.

(a) Brief note / Fill in the blanks. (Each of 02 marks) **(04)**

1.Classification of protein on the basis of chemical nature and solubility
2.Chain isomerism is an example of_____isomerism.

(b) Explain conformational analysis of cyclohexane. **(04)**

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

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

1. The 21st amino acid is_____

a) hydroxy lysine b) hydroxyl proline c) selenocysteine d) citrulline

2. Which among the following is an example of *o-p* directing groups

(a) - NH_2, (b) -R (c) -OH (d)None

3.Axial and equatorial bonds are found in-

(a) Cyclohexane (b) n-butane (c) n-propane (d) All

(b) Short note on Classification of Lipid **(03)**

(c) Explain *erythro* and *threo* conformations. **(03)**