C) Draw the structure of any 3 monosaccharides and any one disaccharide formed by these monosaccharide and name the subunits. (5M)

OR

C) What are carbohydrates? What are the three classes of carbohydrates? (5M)

Q. IV) A) 1) Explain the following in short (any one) (2M)

i) Buffer ii) Entropy

Q. IV) A) 2) State whether true or false (any three) (3M)

1. Amphipathic compounds contain regions that are polar and nonpolar.
2. Weak acids are electron acceptor.
3. The H-O-H bond forms an angle of 104.5°tetrahedral structure.
4. In water hopping the oxygen molecule get transfer to one another.
5. The henderson-hasselbalch equation is formed by their ratio of electron donor and electron acceptor.
6. The hydrogen bonds are unique to water.

Q. IV) B) 1) Explain the following in short (any one) (2M)

i) Aromatic R-group of amino acid ii) Characteristics of protein degradation

Q. IV) B) 2) State whether true or false (any three) (3M)

1. Heat is a physical agent for protein denaturation.
2. Sangers method is used only to identify the amino terminal group of the polypeptide.
3. The formation of Rheuman's purple is an indication for the presence of an amino acid.
4. 1-fluoro-2,4-dinitrobenzene is an Edman's reagent.
5. α-helix is a common protein tertiary structure.
6. Amino acid acts as a base in presence of a base and acts an acid in presence of an acid.

Q. IV) C) 1) Explain the following in short (any one) (2M)

i) Homopolysaccharides ii) Disaccharides

Q. IV) C) 2) State whether true or false (any three) (3M)

1. D-galactose and D-glucose are epimers of each other.
2. Homopolysaccharides are the carbohydrates which has all the subunits similar to each other.
3. Lactose is made up of β-D-glucose and α-D-fructose.
4. Epimers are the compounds that have their stereoisomers together.
5. When the carbonyl group of glucose is oxidized till the level of carboxyl group increases, it forms gluconic acid.
6. Glycogen is the structural carbohydrate