

**B.Sc. Semester - 2 (CBCS) Examination**  
**March/April -2019 (New Course)**  
**BIO-TECHNOLOGY(CORE)**

**Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
  2. Figures to the right indicate marks.
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**Q.1 (A) Answer the following (One mark each) 4**

1. Water is non-polar molecule-True/False.
2. Contribution of J.D. Van der Waals in biochemistry.
3. Give an example of covalent bond with chemical structure.
4. What is PKa values?

**Q.1 (B). Answer in detail (Any one out of two) 3**

1. Discuss the law of thermodynamics.
2. Explain acid-base buffer and its importance.

**Q.1 (C). Write a note on (Any one out of two) 7**

1. Law of thermodynamics.
2. Write a note on Biomolecules with function.

**Q.2 (A) Answer the following (One mark each) 4**

1. Starch consider as disaccharide - True/ False.
2. Give any two example of non-reducing sugar.
3. Give any two example of monosaccharide.
4. Explain Proteoglycan.

**Q.2 (B). Answer in detail (Any one out of two) 3**

1. Write a short note on Disaccharide.
2. Write about heteropolysaccharide.

**Q.2 (C). Write a note on (Any one out of two) 7**

1. Write a note on polysaccharide.
2. Glycoconjugates.

**Q.3 (A) Answer the following (One mark each) 4**

1. What is protein folding?
2. Give an example of essential amino acid.
3. What is stop codon?
4. Enlist the aromatic amino acid.

**Q.3 (B). Answer in detail (Any one out of two) 3**

1. Write about protein sequencing.
2. Discuss biotechnological importance of peptides.

**Q.3 (C). Write a note on (Any one out of two)**

**7**

1. Protein-protein interaction.
2. Classification protein.

**Q.4 (A) Answer the following (One mark each)**

**4**

1. The term “DNA as genetic material” coined by\_\_\_\_\_.
2. RNA contain thiamine nucleotide instead of uracil – True/ False.
3. What is nucleoside? Explain.
4. Explain function of mRNA.

**Q.4 (B). Answer in detail (Any one out of two)**

**3**

1. Explain type of RNA.
2. Explain denaturation of DNA.

**Q.4 (C). Write a note on (Any one out of two)**

**7**

1. DNA as genetic material.
2. Explain the Meselson–Stahl experiment.

**Q.5 (A) Answer the following (One mark each)**

**4**

1. What is trans-fat?
2. Vitamin B12 also known as \_\_\_\_\_.
3. What is omega fatty acid? Explain its importance.
4. Draw the structure of glycerol.

**Q.5 (B). Answer in detail (Any one out of two)**

**3**

1. Explain function and sources of vitamins C and B12.
2. List difference between saturated and unsaturated fatty acid.

**Q.5 (C). Write a note on (Any one out of two)**

**7**

1. Vitamin deficiency with suitable example.
2. Explain structure and function of phospholipids and steroids.

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