6. Write short notes on **any three** : (5×3)

(a) Cot curves and their significance

(b) Allosteric regulation

(c) Membrane lipids

(d) Ramachandran plot

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4126 **H**

Unique Paper Code : 2232011202

Name of the Paper : Fundamentals of Biomolecules

Name of the Course : **B.Sc. (Hons) Zoology (DSC)**

Semester : II

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** question including. Question No. **1** which is compulsory.
3. Draw well-labelled diagrams wherever necessary.

1. (a) Define the following (**Any five**) : (1×5)

(i) Isozymes

(ii) Trans fats

(iii) RNA world hypothesis

(iv) C-value paradox

(v) Hyperchromic shift

(vi) Cofactor

(b) Expand the following (**Any five**) : (1×5)

(i) PUFA

(ii) GAG

(iii) siRNA

(iv) ADH

(v) LPS

(vi) IUBMB

(c) Differentiate between (**Any five**) : (1×5)

(i) Homotropic and heterotropic enzymes

(ii) Hydrolase and lyase

(iii) Configuration and conformation

(iv) Saturated and unsaturated fatty acids

(v) Glycoproteins and proteoglycans

(vi) Anomers and Epimers

2. Describe the salient structural features of B-DNA. Explain how reducing the water content around this molecule to about 75% would change its structure. Compare the two structures. (15)

3. Describe how Michaelis-Menten model can be modified in presence of different types of reversible inhibitors. Illustrate with suitable graphs. (15)

4. (a) Explain the various levels of structural organization of proteins with suitable illustrations. (10)

   (b) Explain the physiological significance of derived lipids. (5)

5. (a) Discuss isomerism in carbohydrates with suitable examples. (12)

   (b) Add a note on physiological importance of essential and non-essential amino acids. (3)