

**January, 2017**  
**BIOCHEMISTRY**

Time : Two Hours]

[Maximum Marks : 40

Answer any five questions. The questions are of equal value.

1. Describe the structural and physical properties of water with diagram.
2. Write notes on the following :
  - (a) Artificial / synthetic sweeteners
  - (b) Ramachandran plot
3. What are simple lipids ? Give an account of the different steroidal compounds of plants.
4. Define 'free energy'. Find out the relationship between standard free energy change and equilibrium constant.
5. Write notes on the following :
  - (a) Wood and Werkman's reaction
  - (b) Phosphorylation in glycolysis

(2)

6. Briefly explain the reaction steps involved in Pentose Phosphate Pathway (PPP) with it's significance.
7. Write notes on the following :
  - (a) Drug detoxification
  - (b) Light Harvesting Complex
8. What is Senescence ? Give an account of it's type and hormonal regulation.