

SUBJECT: BIOCHEMISTRY

Day: Tuesday  
Date: 09/10/2018

W-2018-1019

Time: 03.00 PM TO 06.00 PM  
Max Marks: 60

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**N.B:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw neat diagrams **WHEREVER** necessary.
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**Q.1** Draw the structures of all naturally occurring purines and pyrimidines. Give the different tautomeric forms of nitrogenous bases and their applications in the H-bond formation. **(15)**

**OR**

**Q.1** Describe the artificial synthesis of peptides. **(15)**

**Q.2** Answer the following:

- a) Differentiate between reducing & non-reducing sugars. **(07)**
- b) Describe the nomenclature and properties of fatty acids. **(08)**

**Q.3** Answer any **THREE** of the following: **(15)**

- a) Comment on: Significance of proton gradient in Halobacteria.
- b) Explain the partial double bond nature of peptide bond & comment on its significance.
- c) A mixture of following amino acids is subjected to electrophoresis at pH 3.9: Ala, Leu, Arg, Asp, His. Which ones will go towards i. Anode (-)? ii. Cathode (+)? Justify.
- d) Write a note on: Water as universal solvent.

**Q.4** Answer any **THREE** of the following: **(15)**

- a) Diagrammatically illustrate the D-series of aldoses.
- b) Explain the term symport & antiport with suitable example.
- c) Describe the structure & function of steroids.
- d) Write a note on: High energy compounds.

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