

**F. Y. B. SC. (BIOTECHNOLOGY) SEM – II (CBCS - 2015  
COURSE) : WINTER - 2017**

**SUBJECT: BIOCHEMISTRY-I**

**Day** : Saturday  
**Date** : 28/10/2017

**W-2017-0936**

**Time** 10.00 AM TO 01.00 PM  
**Max.Marks.60**

**N.B.**

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.**
- 2) Answer **ANY TWO** questions from Q. No. **2, 3, and 4** in section- I
- 3) Answer **ANY TWO** questions from Q. No. **6, 7, and 8** in section- II
- 4) Answer the questions of section-I and section- II in **SEPARATE** answer books.
- 5) Figures to the right indicate **Full** marks

**SECTION-I**

- Q.1** Attempt **ANY FIVE** of the following: (10)
- a) What are phosphoproteins?
  - b) What are pyrimidines? Draw their structures.
  - c) Enlist the types of Vitamins B.
  - d) Explain about 'Na' ion and give its electronic configuration.
  - e) Name different types of electrophoresis techniques.
  - f) What are the various bonds involved in stabilization of the tertiary structure of protein.
- Q.2** Answer the following: (10)
- a) What are biocatalyst? Explain with suitable examples.
  - b) Explain in detail structure of DNA molecule.
- Q.3** Explain the following: (10)
- a) Explain different types of RNA, their structure and functions.
  - b) Explain classification of amino acid on the basis of functional R groups.
- Q.4** Write short notes on following: (10)
- a) Structural organization in protein molecule.
  - b) Chromo- proteins and phosphoproteins.

**SECTION-II**

- Q.5** Attempt the following questions: (10)
- a) Explain estimation of purity of water by Titrimetric method.
  - b) Describe the denaturation and renaturation of DNA.
- Q.6** Answer the following: (10)
- a) Explain the principle and applications of Ion Exchange Chromatography.
  - b) What are vitamins? Describe role of vitamins as coenzyme.
- Q.7** Answer the following: (10)
- a) Discuss the ultracentrifugation method of biomolecule separation.
  - b) Explain in detail about 'Mg' and 'Fe' ion with its electronic configuration and its significance.
- Q.8** Answer in brief: (10)
- a) Explain the structure and function of NAD and NADP
  - b) Describe the Kjeldahl's method of Nitrogen estimation

\* \* \*