

**F. Y. B. SC. (BIOTECHNOLOGY) SEM – II (CBCS - 2015  
COURSE) : SUMMER - 2018  
SUBJECT: BIOCHEMISTRY-I**

**Day : Monday**  
**Date : 09/04/2018**

**S-2018-1047**

**Time 02.00 PM TO 05.00 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 is biocatalyst?
  - b) What are purine bases? Draw their structure.
  - c) What are 'N' and 'C' terminals of polypeptide?
  - d) What is ultra-centrifugation?
  - e) Draw the structure of- i) one acidic amino acid, ii) ATP
  - f) Enlist various types of electrophoresis techniques.
- Q.2** Answer the following: **(10)**
- a) How amino acids are classified based on 'R' groups? Give two examples from each class, with their structures.
  - b) Explain Watson and Crick model of DNA.
- Q.3** Explain the following: **(10)**
- a) Explain in detail types of mRNA, their structures and functions.
  - b) What is peptide bond? Explain in detail its properties.
- Q.4** Write short notes on following: **(10)**
- a) Glycoprotein
  - b) Classification of proteins according to functions.

**SECTION-II**

- Q.5** Attempt the following questions: **(10)**
- a) Explain different types of filtration techniques.
  - b) What are vitamins? How they are classified? Give suitable examples from each class.
- Q.6** Answer the following: **(10)**
- a) What are essential and non-essential amino acids? Explain with suitable examples.
  - b) Differentiate between DNA and RNA molecules.
- Q.7** Answer the following: **(10)**
- a) Explain in detail Density Gradient method for separation of biomolecules.
  - b) Explain the principle and applications of Affinity Chromatography.
- Q.8** Answer in brief: **(10)**
- a) Explain the Flame photometry technique.
  - b) Explain the biological role of any four essential minerals.

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