

Enrollment No: \_\_\_\_\_

Exam Seat No: \_\_\_\_\_

# C.U.SHAH UNIVERSITY

## Summer Examination-2019

**Subject Name: Principles of Biochemistry**

**Subject Code: 5SC01PBC1**

**Semester: 1**

**Date: 14/03/2019**

**Branch: M.Sc (Microbiology)**

**Time: 02:30 To 05:30**

**Marks: 70**

### Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
  - (2) Instructions written on main answer book are strictly to be obeyed.
  - (3) Draw neat diagrams and figures (if necessary) at right places.
  - (4) Assume suitable data if needed.
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### SECTION – I

- Q-1 Attempt the following questions (07)**
- a. Define catabolism
  - b. Define pH
  - c. Name any two acidic amino acids
  - d. Name the different types of weak interactions
  - e. Name the purine involved in nucleotide biosynthesis
  - f. What is first law of thermodynamics
  - g. Name any two fat soluble vitamins
- Q-2 Attempt all questions (14)**
- a) Explain the hierarchical order of proteins (7)
  - b) Explain the structure of a typical Biomembrane with the help of a labeled diagram. Also write the important functions of Biomembrane (7)
- OR**
- Q-2 Attempt all questions (14)**
- a) Write a short note on various types of weak interactions involved in bond formation. (7)
  - b) Explain the biosynthesis of any one nucleotide. (7)
- Q-3 Attempt all questions (14)**
- a) What do you understand by reducing sugars? Add a note on the classification of carbohydrates. (7)
  - b) Give the classification of water soluble vitamins. Discuss the disorders due to vitamin B complex (7)
- OR**
- Q-3 a) Discuss the structure of any two monosaccharide and there importance. (7)**
- b) Name the essential amino acids. Show the different locations of secondary structures of proteins on Ramachandran plot (7)**



## SECTION – II

- Q-4**      **Attempt the Following questions**      **(07)**
- a. Define Translation
  - b. Define recombinant DNA technology
  - c. Name the initiation codon in translation
  - d. Define apoenzyme
  - e. Define enthalpy
  - f. What is codon biasing?
  - g. Define entropy
- Q-5**      **Attempt all questions**      **(14)**
- a) Name the different factors affecting enzyme action. Explain any one factor in detail with the help of an example.      **(7)**
  - b) Explain HMP pathway      **(7)**
- OR**
- Q-5**      a) Compare glycolysis and gluconeogenesis      **(7)**  
b) Discuss DNA replication in prokaryotes.      **(7)**
- Q-6**      **Attempt all questions**      **(14)**
- a) Discuss translation in prokaryotes in detail.      **(7)**
  - b) Compare rho dependent and rho independent termination of transcription      **(7)**
- OR**
- Q-6**      **Attempt all Questions**
- a) Compare B form of DNA with A form of DNA and Z form of DNA      **(7)**
  - b) Discuss various types of Post Transcriptional Modifications.      **(7)**

