

F. Y. B. Sc. (Biotechnology) SEM – II (CBCS - 2015 COURSE) :
SUMMER - 2019

Subject: Biochemistry-I

Day: Wednesday

Date: 10/04/2019

S-2019-1373

Time: 02.00 PM TO 05.00 PM

Max. Marks: 60

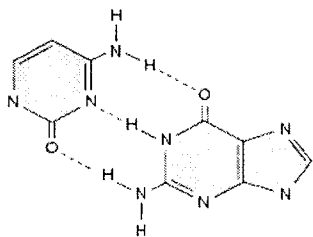
N.B.:

- 1) Q1 and Q5 are compulsory.
- 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
- 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
- 4) Answers to Both the sections to be written in **SAME** answer books.
- 5) Draw a labeled diagram WHEREVER necessary.

SECTION - 01

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) What is the difference between alpha-helix and beta-sheet protein conformations?
- b) What is central dogma of gene expression?
- c) Give any two applications of enzymes.
- d) What are phosphoproteins?
- e) What do you understand by 5' and 3' end of DNA?
- f) Identify the two nucleotides in the structure –



Q.2) Answer the following: (5 Marks X 2 = 10)

- a) What are enzymes? What is their significance in biological system.
- b) Explain pI of an amino acid with the help of its titration curve.

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) What are chromo proteins? What is their significance in biological system?
- b) Differentiate the structure and biological functions of ATP and ADP.

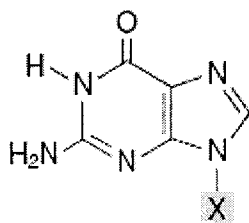
Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) Glycoproteins
- b) Watson and Crick model of DNA

SECTION - 02

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Identify the following –



- b) Explain the term- hypervitaminosis.
- c) Why is inorganic phosphate important for soil?
- d) What is the principle of Kjeldahl's method?

(P.T.O.)

- e) State the principle of protein separation by PAGE
- f) Explain briefly the toxic effect of arsenic in potable water.

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) Which are the B group vitamins and what is their biological importance?
- b) Enumerate various types of chromatography. Explain principle and applications of gel chromatography.

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Highlight the important features of the structure of RNA.
- b) Name various types of filtration technique. Describe dialysis in detail.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Advantages and disadvantages of flame photometry
- b) Agarose gel electrophoresis
