Registration No. :

Total number of printed pages – 2

Seventh Semester Back Examination – 2014
PROTEIN ENGINEERING
BRANCH : BIOTECH
QUESTION CODE : L152
Full Marks – 70
Time : 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.
The figures in the right-hand margin indicate marks.

1. Answer the following questions :   2 ×10

    (a) Give any two examples of protein with only α helix in its structure.

    (b) What is native conformation of protein ?

    (c) Explain hyperfine splitting.

    (d) Explain protein domain with example.

    (e) What do you mean by fluorescence ?

    (f) What do you mean by hyperfine splitting ?

    (g) What do you mean by fluorescence ?

    (h) What is viscosity ?

    (i) Which type of cuvette is used for UV spectroscopy and why ?

    (j) Name the groups in classification of protein domains.

2. Explain different methods of mutagenesis with suitable diagram.   10

3. Explain Bragg equation. How is it useful for predicting of structure of macro-molecules ?   10

4. (a) Explain different XRD spectroscopy methods.   5

    (b) Explain structure and function relationship of enzyme.   5

P.T.O.

5. (a) How pH effects the protein stability ?   5

   (b) "Protein conformation is stabilized largely by weak interactions" Explain. 5

6. (a) Draw peptide plate structure.   5

   (b) Explain CD with suitable diagram.   5

7. (a) Differentiate between rational design and directed evolution.   5

   (b) Explain homology modeling.   5

8. Write short notes on :   2.5 × 4

   (a) Gyromagnetic ratio

   (b) Nature of peptide bond

   (c) Super secondary structures

   (d) Hydrogen-deuterium exchange.