

No. of Printed Pages : 03

Roll No.

878

B.Tech. EXAMINATION, May 2017

(Eighth Semester)

(Old Scheme) (Re-appear Only)

(BT)

BT-466

PROTEIN ENGG.

Time : 3 Hours]

[Maximum Marks : 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) What principles form the basis of secondary structure prediction ? **10**

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- (b) Each protein exists as an unfolded polypeptide when translated from an mRNA sequence to linear chain of amino acids. Discuss the protein folding pathways. **10**
2. (a) Discuss the diagrammatically illustrate various super secondary structures. **10**
- (b) Define domains in proteins. How domains account for higher level of structure architecture in protein ? **10**
3. Write short notes on the following : **5×4=20**
- (a) Quarternary structure
- (b) Bacteriorhodopsin
- (c) Nucleotide binding proteins
- (d) Protein phosphorylation.
4. Differentiate between : **10×2=20**
- (a) Eukaryotic and prokaryotic transcription factors
- (b) Epidermal growth factor and Insulin receptor.
5. (a) Discuss function-structure relationship in case of serine proteases. **10**
- (b) Explain detailed structure of a typical Immunoglobulin. **10**
6. Describe the methods to alter primary structure of proteins. **20**
7. (a) How are primary and secondary databases helpful in analysis procedures ? **10**
- (b) Write about engineered proteins. **10**
8. Define protein design. Discuss along with examples the principles underlying protein design. **20**