

Dr Anupal Bhat

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3 EXAMINATION- December-2018
B.Tech VIIth Semester

COURSE CODE: 18B1WBT732
COURSE NAME: Peptide Therapeutics
COURSE CREDITS: 3

MAX. MARKS: 35
MAX. TIME: Two Hours

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

- Q1. a) Explain various types' physical and chemical instability of peptides and proteins? How would you design stability studies of synthetic peptides? [4]
- b) How synthetic peptide aggregates? Explain aggregation behavior of proteins and peptides in solid states. [3]
- Q2. a) Which three general torsions do we have in each amino acid in a polypeptide? Describe these using illustrations. Which of these torsions is most restricted? [2]
- b) Four types of interactions help maintaining the overall structure of proteins. Describe these briefly. Rank the interactions by strength going from the strongest to the weakest. [2]
- c) Explain the alpha-helical and beta sheet structure of protein/peptides. How it is confirmed? [3]
- Q3. Explain in detail how mass spectrometry is used for peptide fragmentation and protein identification? [7]
- Q4.a) Discuss various applications of synthetic peptides in research and development. [2]
- b) Explain followings a) Various delivery routes of therapeutic peptides and proteins b) Mechanism of antimicrobial peptides [5]
- Q5. Write short notes on followings [7]
- a) Angiotensin I- converting enzyme inhibitory peptides
- b) Neuroprotective peptides