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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -2 EXAMINATION- 2019  
B. Tech VII Semester

COURSE CODE: 18B1WBT732

MAX. MARKS: 25

COURSE NAME: PEPTIDE THERAPEUTICS

COURSE CREDITS: 03

MAX. TIME: 1.5 HR

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

Q1. Name any one Opioid peptides and Opioid receptors. [1][CO IV]

Q2. List the Pituitary gland and hormones and mention their physiological functions. [3] [CO IV]

Q3. . Explain the pathophysiology of Hypertension and mention the peptides and targets used for anti hypertensive drug development.[ 4] [CO IV]

Q4. Write a note on following peptides/hormones: [6] [CO IV]

- Somatostatin
- Oxytocin
- Physical and chemical instability of peptides

Q5. Amino acid analysis of 2.0 mg of pure enzyme yielded 136.2  $\mu\text{g}$  (MW 131.2) and 36.2  $\mu\text{g}$  of tryptophan (MW=204.2). What is the minimum MW of enzyme? [3] [CO III]

Q6. Draw tentative CD spectra of following peptide conformations showing minima and maxima  
a)  $\alpha$  helix b)  $\beta$ -sheet c)  $\beta$ -turn conformations. [3] [CO III]

Q7 Upon complete hydrolysis, a peptide yielded gly+ala+2cys+arg+glu+ile+thr+phe+val+NH<sub>4</sub><sup>+</sup>. Reduction of the original peptide with mecaptoethanol, followed by alkylation of the cysteine residues with iodoacetate yielded two smaller peptides (A and B). Suggest two likely structure of the original peptide from the following data: (explain structure deductions).....[5] [CO III]

Peptide A	Peptide B
Contained ala+gly+cys+glu+arg+ile+NH <sub>4</sub> <sup>+</sup>	Contained thr+val+cys+phe
Carboxy peptidase A liberated isoleucine	Carboxypeptidase A liberated valine
Treatment with phelyisothiocyanate yielded PTH-glycine	Chymotrypsin liberated valine and a tripeptide containing cys+thr+phe
Treatment with trypsin yielded two peptides one contained glutamate+isoleucine+NH <sub>4</sub> <sup>+</sup> . The other contained gly+ala+cys+arg	The Edman degradation yielded PTH-theronine