

Registration No. :

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Total number of printed pages – 2

B. Tech  
PCBT 4201

## Third Semester Regular Examination – 2014

### BIOCHEMISTRY

BRANCH(S) : BIOTECH

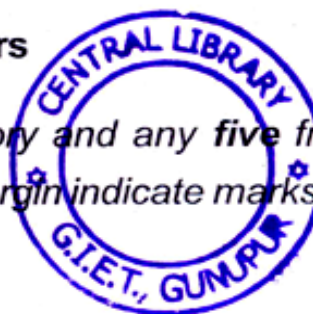
QUESTION CODE : H 406

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) What is transcription ?
- (b) Explain relevance of HMP pathway.
- (c) "Enzymes accelerate reaction" explain the cause.
- (d) Write the name of the amino acid denoting F, T, D, N.
- (e) What is London force ?
- (f) Differentiate between apozyme and holozyme.
- (g) Explain Ramachandran plot.
- (h) What is the precursor of glutamic acid in its synthesis ?
- (i) Describe electron carriers.
- (j) Explain properties of hormones.

2. Derive mathematical expression for rate of enzyme catalysis for single substrate reaction. How different types of inhibitors effect enzyme catalysis ?

10

P.T.O.

3. Explain mechanism of oxidative phosphorylation with proper diagram at its cellular location. 10
4. (a) Explain different methods of nucleotide synthesis. 5  
(b) Explain energy yield of CA cycle. 5
5. (a) Explain Structural feature of alpha helix. 5  
(b) "Protein conformation is stabilized largely by weak interactions" Explain. 5
6. (a) Draw peptide plate structure. 5  
(b) Explain relevance of  $K_m$ . 5
7. (a) Differentiate between de-novo and salvage pathway of nucleotide synthesis. 5  
(b) Explain mechanism of energy transfer during ATP mediated reactions. 5
8. Write short notes : 2.5 × 4
- (a) Vitamins  
(b) Genetic code  
(c) Protein targeting  
(d) Alpha oxidation of fatty acids.
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