

Registration No. :

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Total number of printed pages – 2

B. Tech  
PCBT 4201

### Third Semester Back Examination – 2014

#### BIOCHEMISTRY

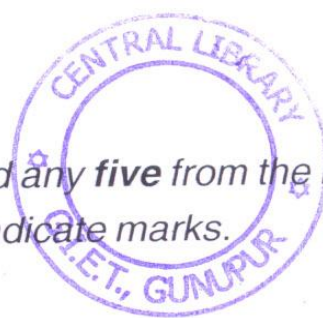
BRANCH : BIOTECH

QUESTION CODE : L 334

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 splicing ?
  - (b) Explain Ramachandran plot.
  - (c) “Enzymes accelerate reaction” explain the cause.
  - (d) Write the name of the amino acid denoting F, K, E, N.
  - (e) What is protein turn over ?
  - (f) Explain components of starch.
  - (g) Explain relevance of TCA pathway.
  - (h) What is the precursor for pyrimidine synthesis ?
  - (i) Describe Genetic code.
  - (j) Explain properties of vitamins.
2. Derive mathematical expression for rate of enzyme catalysis for single substrate reaction. How different types of inhibitors effect enzyme catalysis ? 10
3. Explain CA cycle with proper diagram and energy yield. 10

P.T.O.

4. (a) Explain mechanism of oxidative phosphorylation. 5  
(b) Explain different methods of nucleotide synthesis. 5
5. (a) Explain secondary structures of protein. 5  
(b) "Protein conformation is stabilized largely by weak interactions" Explain. 5
6. (a) What are the different types of lipids ? 5  
(b) Explain relevance of  $K_m$ . 5
7. (a) Differentiate between de-novo and salvage pathway of nucleotide synthesis. 5  
(b) Explain thermodynamics of enzyme catalyzed reaction. 5
8. Write short notes on the following :  $2.5 \times 4$   
(a) Hormones  
(b) Electron carriers  
(c) Protein targeting  
(d) HMP pathway.
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