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Total number of printed pages – 2

B. Tech
CPBT 7201

Third Semester (Special) Examination – 2013

BIOCHEMISTRY

BRANCH : BIOTECH

QUESTION CODE : D 225

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
- What are secondary structures of a protein ?
 - What are the different classes of enzymes, as given by Enzyme Commission ?
 - Define a codon.
 - How many net ATP molecules are generated in glycolysis ?
 - Give single alphabet symbols for
 - Phenylalanine
 - Leucine
 - Why are hormones essential for human beings ?
 - Differentiate between nucleoside and nucleotide.
 - What is a cofactor ?
 - What is gluconeogenesis ?
 - What are sphingolipids ?
2. (a) Differentiate between homopolysaccharides and heteropolysaccharides along with examples. 5
- (b) Draw the Fischer projection formula of glucose. 5



P.T.O.

3. (a) What is an apoenzyme ? Describe the mechanism of enzyme-substrate reaction. 5
- (b) Explain Ramachandran plot, depicting phi and psi angles. Give proper diagrams. 5
4. Write down all the steps of citric acid cycle, mentioning the enzymes and co enzymes (NADH, FADH₂, etc) in each step. 10
5. (a) Write down the successive reaction steps of glycolysis. 5
- (b) Show that the net yield of ATP molecules in aerobic respiration is 38. 5
6. (a) What are the different steps taking place in pentose phosphate pathway ? 5
- (b) What are the functions of triacylglycerols in eukaryotes. 5
7. (a) Describe all levels in the structural hierarchy of proteins. 5
- (b) What is the importance of protein folding ? 5
8. Write short notes on any **two** of the following . 5×2
- (a) B DNA
- (b) Importance of vitamins
- (c) Saturated fatty acids
- (d) Peptide bond.

