

B.TECH SEM – IV (2007 COURSE) (BIOMEDICAL ENGG.) :

SUMMER - 2018

SUBJECT : BIOCHEMISTRY

Day : **Thursday**
Date : **07/06/2018**

Time : **10.00 AM TO 01.00 PM**
Max. Marks : **80**

S-2018-2641

N.B.

- 1) Q.1 and Q.5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SEPARATE** answer book.

SECTION – I

- Q.1**
- a) Define the term pH. Give Henderson Hasselbatch equation. (06)
 - b) Write a note on lipoproteins. (04)
 - c) Write about lipids devoid of glycerol. (04)
- Q.2**
- a) What is the action of the following on carbohydrates? (06)
i) Phenyl hydrazine ii) PCl_5 iii) Br_2 .
 - b) Give the composition of buffer solution. (04)
 - c) Give the structure of following acids: (03)
i) Palmitic acid ii) Stearic acid iii) Oleic acid.
- Q.3**
- a) What are carbohydrates? Give its classification. (06)
 - b) What are oligosaccharides? Give its examples. (04)
 - c) Write a short note on formation of glycoside. (03)
- Q.4**
- a) Explain the stereochemical properties of carbohydrates. (06)
 - b) Write a note on unsaturated fatty acids. (04)
 - c) Explain hydrogen bond and peptide bond. (03)

SECTION – II

- Q.5**
- a) Define dissociation of water and its ionic product $-K_w$. (06)
 - b) Write notes on: (04)
i) Sources of vitamins in human beings
ii) Hormones
 - c) Explain the terms inhibition and activation. (04)
- Q.6**
- a) What are proteins? Give secondary structure of proteins. (06)
 - b) Discuss essential and non essential amino acids. (04)
 - c) Give the structures of GTP and CoA. (03)
- Q.7**
- a) What is specificity of enzymes? State different kinds of specificity. (06)
 - b) Give the different components of nucleic acid. (04)
 - c) Explain nucleotides and nucleosides. (03)
- Q.8**
- a) What are enzymes? Give the classification of enzymes. (06)
 - b) Explain energy rich compounds ADP and ATP. (04)
 - c) Write a note on enzyme substrate complex. (03)

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