F.Y.B.PHARM. SEMESTER-II (CBCS - 2015 COURSE) :
WINTER - 2017
SUBJECT : PHARMACEUTICAL BIOCHEMISTRY – I

Day : **Tuesday**
Date : **14/11/2017**

Time **10.00 AM TO 01.00 PM**
Max. Marks : 60

W-2017-3784

N.B.

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

SECTION – I

Q.1 Answer any **FIVE** of the following: **(10)**

a) Calculate iso-electric point of alanine. $\left(p^{ka_1}=3 \text{ and } P^{ka_2}=9\right)$
b) How albumin and globulins are separated from egg white?
c) Why fluorides are added in tooth paste preparations?
d) What are detergent enzymes? Give examples.
e) State pharmaceutical uses of essential amino acids.
f) What are conjugated lipids?

Q.2 **a)** Describe tertiary structure of protein in detail and illustrate the effect of heavy metal ions, extreme pH and heat on protein structure. **(07)**
b) What are allosteric enzymes? Give examples. **(03)**

Q.3 **a)** What are coenzymes? How they are obtained and state biochemical role of any two coenzymes? **(07)**
b) What is facilitated diffusion? **(03)**

Q.4 Write notes on any **TWO** of the following: **(10)**

a) Classification of Amino acid
b) Michaelis-Menten kinetics of enzymes catalyzed reaction
c) Polysaccharides

SECTION – II

Q.5 Attempt any **FIVE** of the following: **(10)**

a) What are derived amino acids?
b) State structure of histidine and tryptophan.
c) What are essential amino acids?
d) What is primary structure of protein?
e) State reaction between glycine and formaldehyde.
f) How C-terminal of peptide is determined?

Q.6 **a)** How proteins are separated by gel filtration? Explain in detail. **(07)**
b) State pharmaceutical uses of enzymes. **(03)**

Q.7 **a)** Describe the structure and composition of bio-membrane in detail. Draw the diagram of fluid mosaic model of bio-membrane. **(07)**
b) What are allostereic enzymes? Give examples. **(03)**

Q.8 Write notes on any **TWO** of the following: **(10)**

a) Factors affecting the rate of enzyme catalyzed reaction
b) Secondary structure of peptide
c) Na^+–K^+ – Pump

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