B.Sc (Chemistry) Semester III
Third Sessional Exam 2020
BCH-CC11TH (Biomolecules)
Organic Chemistry IV

Time allowed – Three hours Max marks - 75

Attempt all questions

Q.1. Answer briefly. 15x1

A) Give one example of Basic amino acid along with its structure.
B) Define the isoelectric point of an amino acid?
C) Give two examples of Essential amino acid.
D) Write the product when alpha-amino acid is reacted with ninhydrin.
E) What is Zymogen?
F) What is Prosthetic group?
G) What is Exoenzyme?
H) What is Rancidity?
I) What is Saponification value of an oil?
J) What are **Compound** lipids?
K) Human requires two omega-6 fatty acids from the diet. Write their names.
L) In general, natural amino acids exist in which configuration?
M) What are antibiotics?
N) Give the name of antibiotic containing nitro group
O) Give chemical structure of chloroquine

Q.2. Answer any **three** of the following. 3x5

A) What do you understand by tertiary structure of protein? Discuss briefly.
B) How will you prepare Valine by Strecker's method?
C) What is a polypeptide linkage? In a polypeptide, what do the terms 'N-terminal' and 'C-terminal' refer to?
D) For polypeptide Val-Phe-Gly-Lys, what product(s) will be formed on its reaction with DNFB reagents?
E) Explain Merrifield solid phase peptide synthesis.

Q.3. Write down short note on any **three** of the following. 3x5

A) Lock and Key model and Induced Fit model of enzyme activity.

B) Reversible and Irreversible inhibition of enzyme activity.

C) Competitive and Non-competitive enzyme inhibition.

D) Effect of pH on enzyme catalysed reactions.

E) Effect of temperature on enzyme catalysed reactions.

Q.4. Write down short note on any **three** of the following. 3x5

A) Hydrogenation of oil and fats.

B) Glycolysis.

C) Krebs cycle

D) ATP

E) Caloric value of food

Q.5. Write down medicinal values of any **three** of the following. 3x5

A) Haldi (curcumin)

B) Azadirachtin (neem)

C) Vitamin C

D) Antacid (ranitidin)
