

2023

Time - 3 hours

Full Marks - 60

Answer all groups as per instructions.

Figures in the right hand margin indicate marks.

*Candidates are required to answer
in their own words as far as practicable.*

GROUP – A

1. Fill in the blanks. (all) [1 × 8
- (a) In the nucleus of living cell, _____ is the major constituent.
- (b) _____ synthesise protein in the living cell.
- (c) A coenzyme can be separated from enzyme by _____.
- (d) The enzyme used as catalyst in the conversion of sucrose to glucose and fructose is _____.
- (e) α -Amino acids are the building blocks of _____.
- (f) Alkali hydrolysis of simple lipids produce _____ and _____.
- (g) Name of one drug which act both as analgesic and antipyretic is _____.
- (h) _____ is an example of triphenyl methane dyes.

P.T.O.

[2]

GROUP – B

2. Answer any eight of the following questions within two to three sentences each. [1½ × 8

- (a) Nucleic acids are called polynucleotides. Why ?
- (b) What happens when glycine reacts with ethyl alcohol ? Give equation.
- (c) What is active sites of an enzyme ?
- (d) What is oxidative phosphorylation ?
- (e) Write the components present in phospholipids.
- (f) What is catabolism ?
- (g) What are mordant dyes ?
- (h) Define drugs.
- (i) Write the structure of Guanine.
- (j) Name two antibiotics.

GROUP – C

3. Answer any eight of the following questions within 75 words each. [2 × 8

- (a) What are essential and nonessential amino acids ?
- (b) What are oxidases ? Give two examples.
- (c) Explain rancidity with examples.

[3]

- (d) What is Iodine number ? How can it be calculated ?
- (e) What is coenzyme ? Give two examples.
- (f) Name the sugars present in RNA and DNA.
- (g) Give two evidences in favour of Zwitter ion structure of amino acids.
- (h) What is calorific value of food ?
- (i) What is a prosthetic group ?
- (j) Give the structure of paracetamol and its uses.

GROUP – D

4. Answer any four of the following questions.

- (a) Write notes on : [3 + 3]
 - (i) Isoelectric point
 - (ii) Electrophoresis
- (b) Discuss the synthesis of α -amino acids by : [3 + 3]
 - (i) Strecker synthesis
 - (ii) Azlactone synthesis
- (c) What are competitive, uncompetitive and non competitive inhibitors ? [2 + 2 + 2]

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[4]

- (d) Discuss the synthesis of Malachite green and phenolphthaleine and write their two uses. [2 + 2 + 1 + 1
- (e) Write notes on : [3 + 3
- (i) Saponification value
- (ii) Acid value
- (f) What are antimalarials ? Discuss the structure and synthesis of chloroquine. [2 + 1 +3
- (g) Discuss the catabolic pathway of fats. [6