

HIGHER SECONDARY EXAMINATION – FIRST YEAR

BIOCHEMISTRY

MODEL PAPER

MAX MARKS 70

PART I

**Answer all the questions
Choose the correct answer**

15X1=15

- 1. Which one of the following is an example for buffer solution?**
 - (a) Hydrochloric acid & Sodium hydroxide**
 - (b) Sodium acetate & Hydrochloric acid**
 - (c) Carbonic acid & Sodium bicarbonate**
 - (d) Oxalic acid and acetic acid**

- 2. Chylomicron belongs to the group of**
 - (a) Metalloprotein**
 - (b) Chromoprotein**
 - (c) lipoprotein**
 - (d) Nucleoprotein**

- 3. Lactate dehydrogenase 12.5 are example for**
 - (a) Apoenzyme**
 - (b) Isoenzyme**
 - (c) Coenzyme**
 - (d) Haloenzyme**

- 4. Separation of racemic mixture is called as**
 - (a) resolution**
 - (b) Mutarotation**
 - (c) Oxidation**
 - (d) reduction**

- 5 The Ketopentose is**
 - (a) Ribose**
 - (b) Ribulose**
 - (c) Erythrose**
 - (d) Erythrulose**

- 6. The primary structure of proteins is associated with**
 - (a) amino acid sequence**
 - (b) B pleated sheet**
 - (c) Conformation**
 - (d) Relative position of subunit**

7. -----is an example for nonprotein amino acid
 - (a) alanine
 - (b) arginine
 - (c) glycine
 - (d) ornithine

8. The Nitrogenous base present in cephalin is
 - (a) Choline
 - (b) Spingosine
 - (c) ethanolamine
 - (d) enositol

9. Name the process by which Vanaspathi Oleomargarine is prepared
 - (a) Hydrogenation
 - (b) Iodination
 - (c) Hydration
 - (d) Saponification

10. Thymidynilate is a
 - (a) purine base
 - (b) nucleoside
 - (c) nucleotide
 - (d) pyrimidine base

11. Cholecalciferol is
 - (a) Vitamin D3
 - (b) Vitamin B1
 - (c) Biotin
 - (d) Vitamin A

12. Avidin interferes with the absorption of
 - (a) Biotin
 - (b) Vitamin A
 - (c) Vitamin C
 - (d) Vitamin B12

13. Calcium activates the enzyme
 - (a) Carboxy peptidase
 - (b) Succinate dehydrogenase
 - (c) Hexokinase
 - (d) lipase

14. The subcellular organelles from a liver homogenate can be isolated by
- (a) differential centrifugation
 - (b) Small bench Centrifugation
 - (c) gel permeation chromatography
 - (d) PAGE
15. Gas liquid chromatography is widely used to analyse
- (a) Proteins
 - (b) Fatty acids
 - (c) Enzymes
 - (d) Vitamins

PART II

Answer any 6 question in which Q.No.16 is compulsory.

6X2=12

16. Justify α D Glucose and β D Glucose are stereoisomers.
17. Lysosomes are called suicidal bags. Why ?
18. How are nucleic acid synthesised ?
19. How are proteins denatured?
20. Distinguish simple glyceride and mixed glyceride with example.
21. Differentiate DNA & RNA (any 4 points).
22. Write about (a) Cheilosis (b) Pernicious anaemia
23. Name the minerals involved in the following function.
- (a) maintain alkalinity of bile
 - (b) Principal cation of soft tissue
 - (c) Normal sensitive to taste
 - (d) used in the treatment of osteoporosis with Vitamin D.
24. Classify the following enzymes to which major class they belong to
- (a) epimerase (b) Peptidase
 - (c) alcohol dehydrogenase (d) Hexokinase

PART III

Answer any 6 question in which Q.No.25 is compulsory.

6X3=18

25. Write about the structural features observed in silk fibroin & Keratin.
26. Explain the important buffer system of RBC
27. Compare the action of ligases & lyases
28. How do you detect the presence of reducing sugars? Explain the test.
29. Explain the structure of tRNA.
30. Give the function of the following vitamins
- (a) Vitamin E (b) Ascorbic acid (c) Folic acid.
31. List out the factors affecting Calcium absorption.

32. State Beer's & Lambert's Law.
33. How are soaps formed?

PART IV

Answer all the questions

5X5=25

34. Write a note on the structural organisation of a cell membrane.
(or)
Explain the functional diversity of proteins.
35. Compare and Contrast the Competitive & uncompetitive inhibition.
(or)
Give reactions for the following
(a) oxidation of sugars
(b) Browning reaction of sugars
36. Explain the test used to identify the presence of amino acids.
(or)
Explain the structure & functions of Cholesterol.
37. Write about the salient features of double helical structure of DNA.
(or)
Explain the Coenzymic function of B complex vitamins.
38. Give the functions of the following minerals.
(a) Selenium
(b) Iodine
(c) Sodium
(d) Phosphorus
(e) Copper
(or)
How are enzymes purified? Explain with suitable diagram.