

- (c) Define anemia. What are the different causes of iron deficiency anemia? Describe. (5,5,5)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1505 I

Unique Paper Code : 2173542001

Name of the Paper : DSE - Analytical Biochemistry

Name of the Course : B.Sc. (Prog.) (Analytical Chemistry)

Semester : III/V

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **four** questions in all.

1. (a) Fill in the blanks :

(i) The hydrolysis of lactose yields _____.

(ii) The non-protein part of enzymes is known as _____.

(iii) The example of non-reducing sugar is _____.

(iv) Two epimers of D-glucose are _____.

(v) The hydrolysis of sucrose yields _____.

(vi) The _____ form of amino acids exist at their isoelectric point.

(vii) The example of aromatic amino acid is _____.

(viii) The _____ fat contains saturated fatty acids.

(ix) _____ is a reducing sugar.

(x) Globular proteins are _____ in water.
(5,5,5)

2. (a) Differentiate globular and fibrous proteins.

(b) Explain the process of hardening of oils and fats in detail.

(c) What are enzymes ? Give their classification.
(5,5,5)

3. (a) Discuss Ruff degradation for the conversion of aldohexose to aldopentose.

(b) Why sucrose is known as 'invert sugar' ? Draw its Haworth projection and comment on its reducing ability.

(c) How temperature and pH influence the activity of enzymes ? Explain with suitable diagram.
(5,5,5)

4. Write short note on the following (**any three**) :

(a) Blood coagulation

(b) Liposomes

(c) Peptide hormones

(d) Normal and pathological urine
(5,5,5)

5. (a) Define isoelectric point. Calculate the isoelectric point of glycine from the following data: $pK_{a1} = 2.4$, $pK_{a2} = 9.6$. Draw the zwitterion structure of glycine.

(b) What is active site of enzymes ? Give salient features of active site of enzymes.

(c) Describe biological importance of carbohydrates.
(5,5,5)

6. (a) Briefly describe the role of cholesterol in our body.

(b) How is electrophoresis used for separation and analysis of amino acids ?