Q1. 21 January Shift 1

Identify the correct statements.

A. Arginine and Tryptophan are essential amino acids.

B. Histidine does not contain heterocyclic ring in its structure.

C. Proline is a six membered cyclic ring amino acid.

D. Glycine does not have chiral centre.

E. Cysteine has characteristic feature of side chain as $MeS - CH_2 - CH_2-$.

Choose the correct answer from the options given below :

(1) A and D Only (2) B and E Only

(3) C and E Only (4) C and D Only

Q2. 21 January Shift 2

The correct statements are :

A. Activation energy for enzyme catalysed hydrolysis of sucrose is lower than that of acid catalysed hydrolysis.

B. During denaturation, secondary and tertiary structures of a protein are destroyed but primary structure remains intact.

C. Nucleotides are joined together by glycosidic linkage between C_1 and C_4 carbons of the pentose sugar.

D. Quaternary structure of proteins represents overall folding of the polypeptide chain.

Choose the correct answer from the options given below :

(1) A and B Only (2) A, B and D Only

(3) B and C Only (4) A, C and D Only

Q3. 22 January Shift 1

Given below are two statements:

Statement I: Sucrose is dextrorotatory. However, sucrose upon hydrolysis gives a solution having mixture of products. This solution shows laevorotation.

Statement II: Hydrolysis of sucrose gives glucose and fructose. Since the laevorotation of glucose is more than the dextrorotation of fructose, the resulting solution becomes laevorotatory.

In the light of the above statements, choose the correct answer from the options given below

(1) Statement I is true but Statement II is false (2) Statement I is false but Statement II is true

(3) Both Statement I and Statement II are false (4) Both Statement I and Statement II are true

Q4. 22 January Shift 2

Match List - I with List - II.

List - I	List - II
Reaction of Glucose with	Product formed
A. Hydroxylamine	I. Gluconic acid
B. Br_2 water	II. Glucose pentacetate
C. Excess acetic anhydride	III. Saccharic acid
D. Concentrated HNO_3	IV. Glucoxime

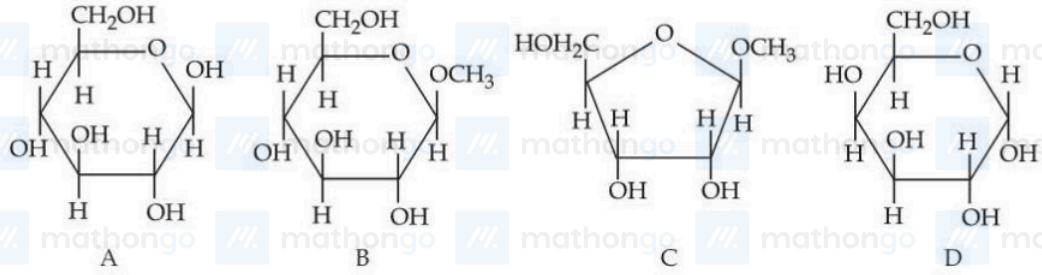
Choose the correct answer from the options given below :

(1) A-III, B-I, C-IV, D-II (2) A-I, B-III, C-IV, D-II

(3) A-IV, B-III, C-II, D-I (4) A-IV, B-I, C-II, D-III

Q5. 23 January Shift 1

From the given following (A to D) cyclic structures, those which will not react with Tollen's reagent are :



(1) A and B (2) A and D (3) B and D (4) B and C

Q6. 23 January Shift 2

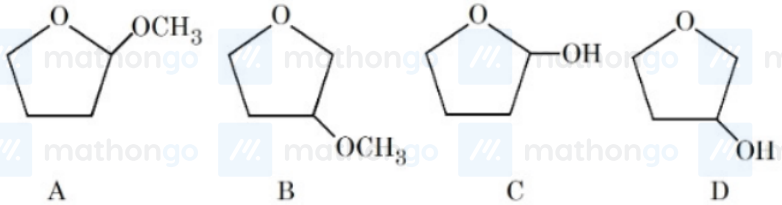
Both human DNA and RNA are chiral molecules. The chirality in DNA and RNA arises due to the presence of

(1) L-sugar component (2) Chiral phosphate unit

(3) Base unit (4) D-sugar component

Q7. 24 January Shift 1

A student is given one compound among the following compounds that gives positive test with Tollen's reagent.



The compound is :

(1) D (2) A

(3) B (4) C

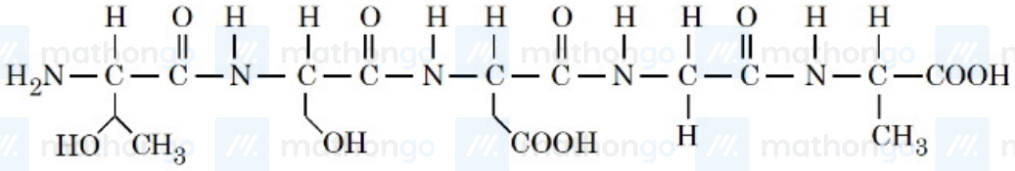
Q8. 24 January Shift 2

The number of possible tripeptides formed involving alanine (ala), glycine (gly) and valine (val), where no amino acid has been used more than once is:

(1) 3 (2) 8 (3) 6 (4) 4

Q9. 28 January Shift 1

In the given pentapeptide, find out an essential amino acid (Y) and the sequence present in the pentapeptide:



Choose the correct answer from the options given below:

(1)

(Y)	Sequence
Serine	Ser-Asp-Thr-Ala-Gly

(2)

(Y)	Sequence
Serine	Thr-Ser-Asp-Ala-Gly

(3)

(Y)	Sequence
Threonine	Ser-Thr-Asp-Gly-Ala

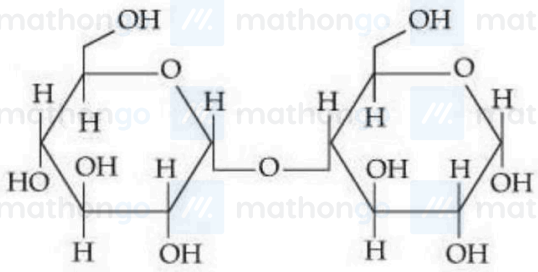
(4)

(Y)	Sequence
Threonine	Thr-Ser-Asp-Gly-Ala

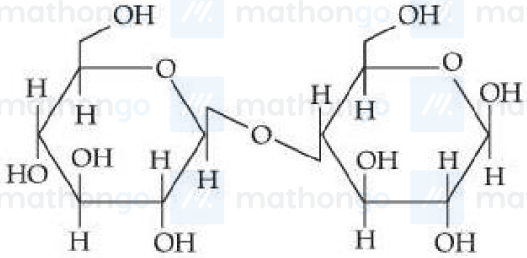
Q10. 28 January Shift 2

Structures of four disaccharides are given below. Among the given disaccharides, the non-reducing sugar is :

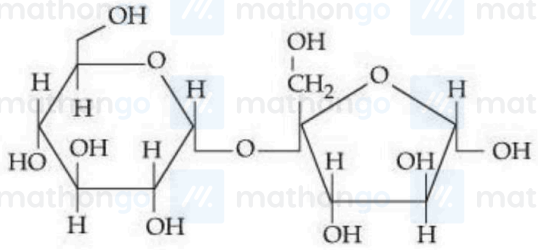
(1)



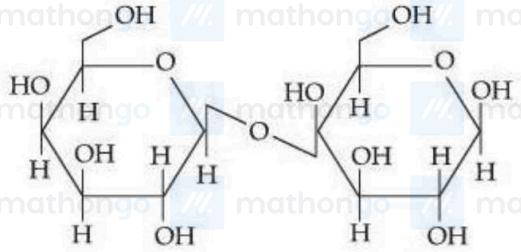
(2)



(3)



(4)



ANSWER KEYS

1. (1) **2.** (1) **3.** (1) **4.** (4) **5.** (3) **6.** (4) **7.** (4) **8.** (3)

9. (4) **10.** (3)