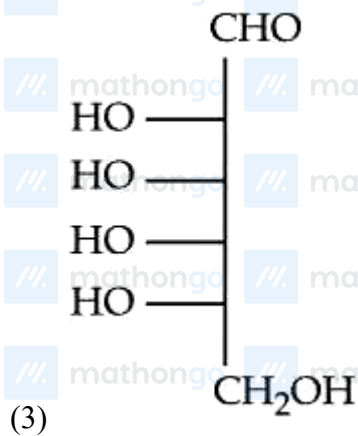
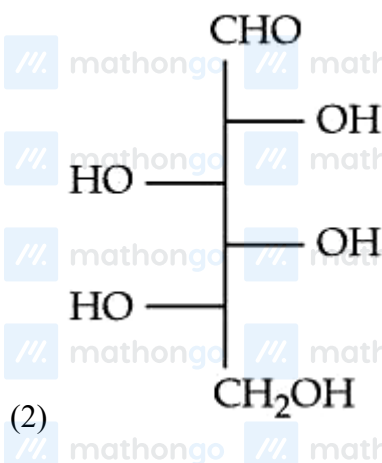
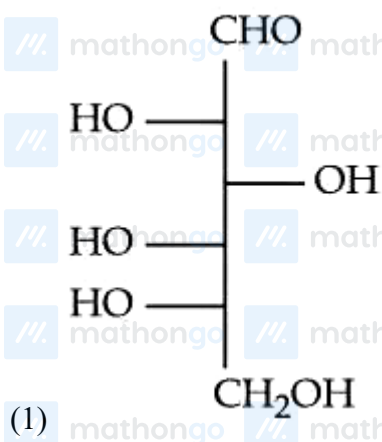


Questions

MathonGo

Q1 - 2024 (04 Apr Shift 1)

Which of the following is the correct structure of L-Glucose?



Questions

MathonGo



Q2 - 2024 (04 Apr Shift 2)

Match List I with List II

	List - I		List - II
A.	α - Glucose and α - Galactose	I.	Functional isomers
B.	α - Glucose and β - Glucose	II.	Homologous
C.	α - Glucose and α - Fructose	III.	Anomers
D.	α - Glucose and α - Ribose	IV.	Epimers

Choose the correct answer from the options given below:

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

Q3 - 2024 (04 Apr Shift 2)

Vanillin compound obtained from vanilla beans, has total sum of oxygen atoms and π electrons is _____

Q4 - 2024 (05 Apr Shift 1)

Which of the following gives a positive test with ninhydrin?

- (1) Starch
 (2) Egg albumin
 (3) Polyvinyl chloride
 (4) Cellulose

Questions

MathonGo

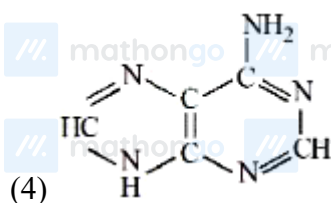
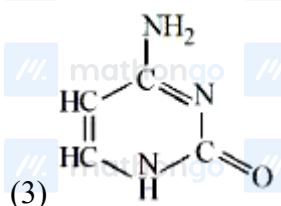
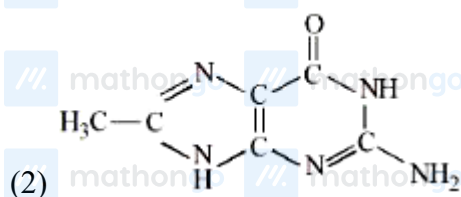
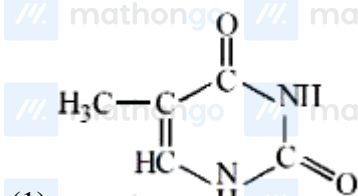
Q5 - 2024 (05 Apr Shift 2)

Coagulation of egg, on heating is because of :

- (1) The secondary structure of protein remains unchanged
- (2) Denaturation of protein occurs
- (3) Biological property of protein remains unchanged
- (4) Breaking of the peptide linkage in the primary structure of protein occurs

Q6 - 2024 (06 Apr Shift 1)

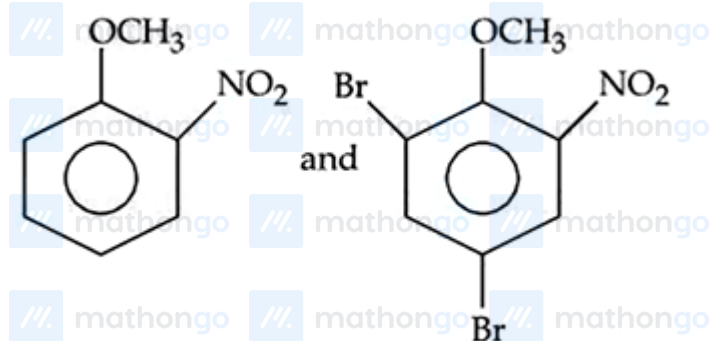
DNA molecule contains 4 bases whose structure are shown below. One of the structures is not correct, identify the incorrect base structure.



Q7 - 2024 (06 Apr Shift 2)

Questions

MathonGo



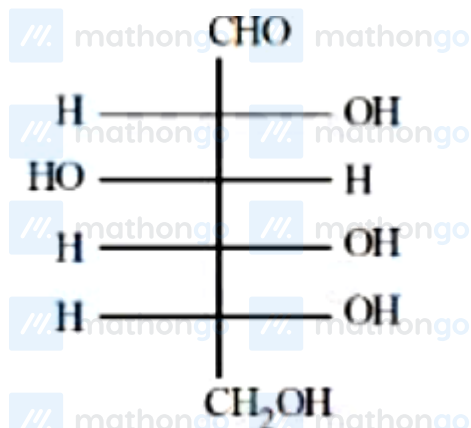
The incorrect statements regarding enzymes are :

- (A) Enzymes are biocatalysts.
 (B) Enzymes are non-specific and can catalyse different kinds of reactions.
 (C) Most Enzymes are globular proteins.
 (D) Enzyme - oxidase catalyses the hydrolysis of maltose into glucose.

Choose the correct answer from the option given below :

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

Q8 - 2024 (08 Apr Shift 1)



The incorrect statement regarding the given structure is

- (1) can be oxidized to a dicarboxylic acid with Br_2 water
 (2) will coexist in equilibrium with 2 other cyclic structure

Questions

MathonGo

(3) despite the presence of - CHO does not give Schiff's test

(4) has 4 asymmetric carbon atom

Q9 - 2024 (08 Apr Shift 2)

The total number of carbon atoms present in tyrosine, an amino acid, is _____

Q10 - 2024 (09 Apr Shift 1)

Total number of essential amino acid among the given list of amino acids is _____

Arginine, Phenylalanine, Aspartic acid, Cysteine, Histidine, Valine, Proline

Q11 - 2024 (09 Apr Shift 2)

The incorrect statement about Glucose is :

(1) Glucose is soluble in water because of having aldehyde functional group

(2) Glucose remains in multiple isomeric form in its aqueous solution

(3) Glucose is one of the monomer unit in sucrose

(4) Glucose is an aldohexose

Questions

MathonGo

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Answer Key

/// mathongo /// mathongo /// mathongo /// mathongo /// mathongo /// mathongo

Q1 (1) mathongo /// ma**Q2** (1) /// mathongo **Q3** (11) mathongo /// ma**Q4** (2) /// mathongo

Q5 (2) mathongo /// ma**Q6** (2) /// mathongo **Q7** (2) mathongo /// ma**Q8** (1) /// mathongo

Q9 (9) mathongo /// ma**Q10** (4) /// mathongo **Q11** (1) mathongo /// mathongo /// mathongo

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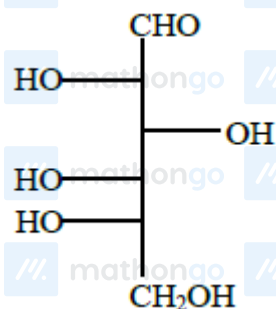
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Solutions

MathonGo

Q1

Structure of L-Glucose is



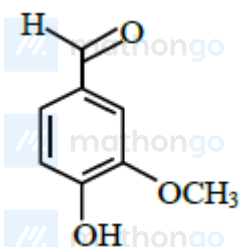
Q2

Based on biomolecules theory and structure of these named compounds -

- (A) α -Glucose and α -Galactose (IV) Epimers.
 (B) α -Glucose and β -Glucose (III) Anomers
 (C) α -Glucose and α -Fructose (I) Functional isomers
 (D) α -Glucose and α -Ribose (II) Homologous

Q3

Vanillin compound is an organic compound molecular formula $\text{C}_8\text{H}_8\text{O}_3$. It is a phenolic aldehyde. Its functional compounds include aldehyde, hydroxyl and ether. It is the primary component of the extract of the vanilla beans.



Total sum of oxygen atoms and π -electrons is $3 + 8 = 11$

Total number of oxygen atoms = 3

Total number of π -bonds = 4

\therefore Total number of π -electrons = 8

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Solutions

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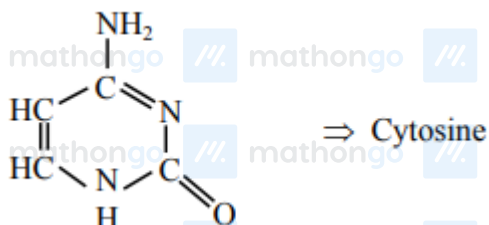
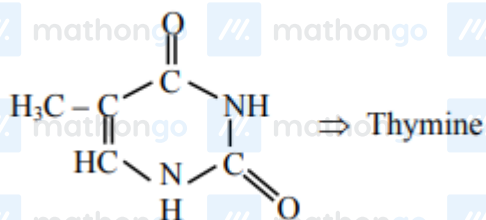
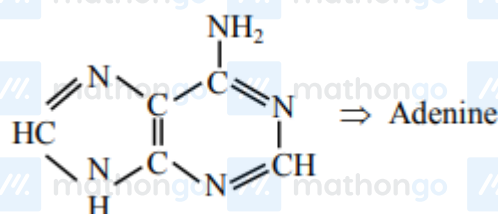
Q4

Ninhydrin test is a test of amino acids. Egg albumin contains protein which is a natural polymer of amino acids which will show positive ninhydrin test

Q5

Coagulation of egg give primary structure of protein, which is known as denaturation of protein

Q6



Are bases of DNA molecule. As DNA contain four bases, which are adenine, guanine, cytosine and thymine.

Q7

Direct NCERT Based

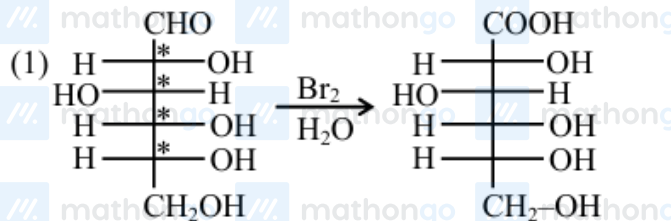
Q8

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Solutions

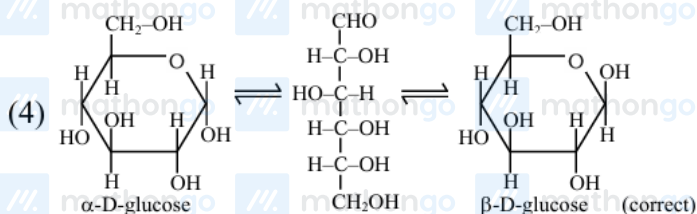
MathonGo



statement 1 is incorrect (monocarboxylic acid)

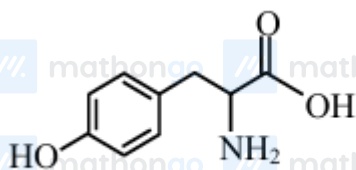
(2) correct

(3) c.c. is 4 (correct)



Q9

Tyrosine



Number of carbon atoms = 9

Q10

Essential Amino acids are :-

Arginine, Phenylalanine, Histidine, Valine

Q11

Glucose is soluble in water due to presence of alcohol functional group and extensive hydrogen bonding.

Glucose exist is open chain as well as cyclic forms in its aqueous solution.

Glucose having 6C atoms so it is hexose and having aldehyde functional group so it is aldose. Thus,

aldohexose.

Glucose is monomer unit in sucrose with fructose.

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