

PYQSide

JEE MAIN BIOMOLECULES — MONOSACCHARIDES — PYQS

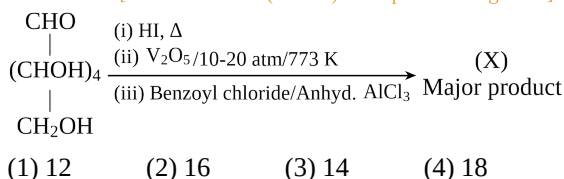
Max. Marks: 32

Questions: 8

Section A (MCQ)

- Q.1** Consider the following reactions. Total number of electrons in the π bonds and lone pair of electrons in the product (X) is :

[JEE Main 2026 (Online) 6th April Evening Shift]



Scan or tap for the full solution



- Q.2** Identify the correct statements. Choose the correct answer from the options given below :

- Glucose exists in two anomeric forms.
- Anomers of glucose differ in configuration at C-1 in cyclic hemiacetal structure.
- Melting point of α - anomer of glucose is greater than β - anomer.
- Specific rotation of α - anomer is $+19^\circ$ while for β - anomer is $+112^\circ$
- α and β - anomers of glucose are prepared by crystallization of saturated glucose solution at 303 K and 371 K respectively.

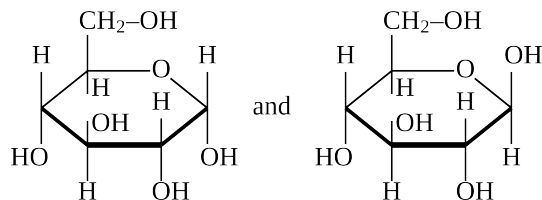
[JEE Main 2026 (Online) 5th April Morning Shift]

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

Scan or tap for the full solution



- Q.3** Given below are two statements :

Statement-I:

are two anomers of D-(+)-glucose.

Statement-II: The open chain forms of D-glucose and D-fructose contain three similar chiral carbons at C₃, C₄ and C₅.

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

[JEE Main 2026 (Online) 5th April Evening Shift]

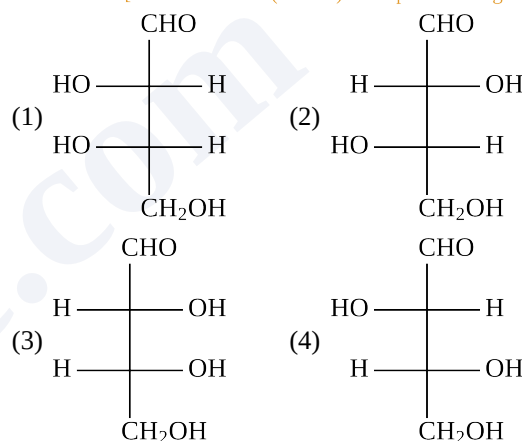
- (1) Both Statement-I and Statement-II are true
(2) Both Statement-I and Statement-II are false
(3) Statement-I is true but Statement-II is false
(4) Statement-I is false but Statement-II is true

Scan or tap for the full solution



- Q.4** A D-aldotetrose on oxidation with concentrated HNO_3 resulted in optically inactive dicarboxylic acid. The structure of the D-aldotetrose is:

[JEE Main 2026 (Online) 4th April Evening Shift]

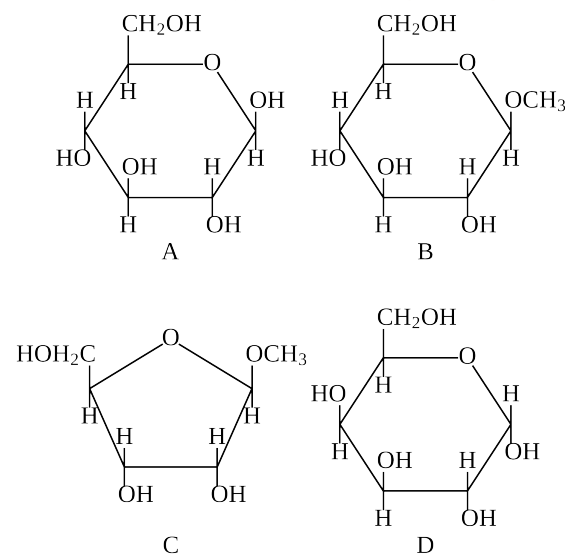


Scan or tap for the full solution



- Q.5** From the given following (A to D) cyclic structures, those which will not react with Tollens' reagent are:

[JEE Main 2026 (Online) 23rd January Morning Shift]



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

Scan or tap for the full solution



Q.6 Match List-I with List-II.

List-I Reaction of Glucose with		List-II Product formed	
A.	Hydroxylamine	I.	Gluconic acid
B.	Br ₂ water	II.	Glucose pentaacetate
C.	Excess acetic anhydride	III.	Saccharic acid
D.	Concentrated HNO ₃	IV.	Glucoxime

Choose the correct answer from the options given below :

[JEE Main 2026 (Online) 22nd January Evening Shift]

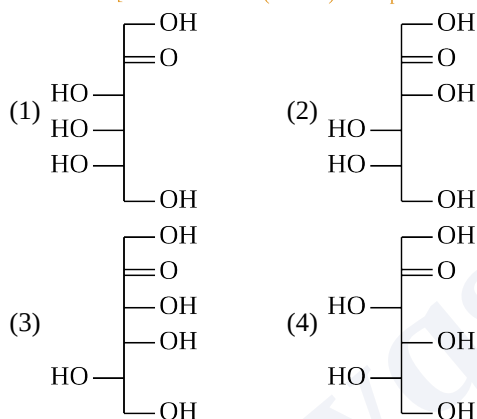
- (1) A-IV, B-III, C-II, D-I (2) A-I, B-III, C-IV, D-II
(3) A-III, B-I, C-IV, D-II (4) A-IV, B-I, C-II, D-III

Scan or tap for the full solution



Q.7 Which of the following is the correct structure of L-Fructose?

[JEE Main 2025 (Online) 3rd April Morning Shift]



Scan or tap for the full solution



Q.8 Given below are two statements:

Statement-I: D-glucose pentaacetate reacts with 2,4-dinitrophenylhydrazine

Statement-II: Starch, on heating with concentrated sulfuric acid at 100°C and 2–3 atmosphere pressure produces glucose.

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

[JEE Main 2025 (Online) 28th January Morning Shift]

- (1) Statement-I is true but Statement-II is false
(2) Both Statement-I and Statement-II are true
(3) Statement-I is false but Statement-II is true
(4) Both Statement-I and Statement-II are false

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	4	4	1	3	4	4	2	3			