

Question 16. Which of the following reactions of glucose can be explained only by its cyclic structure?

- (a) Glucose forms pentaacetate.
- (b) Glucose reacts with hydroxylamine to form an oxime.
- (c) Pentaacetate of glucose does not react with hydroxylamine.
- (d) Glucose is oxidized by nitric acid to gluconic acid.

Solution: (c) The pentaacetate of glucose does not react with hydroxylamine indicating the absence of free -CHO group. This property of glucose can be explained only by its cyclic structure.