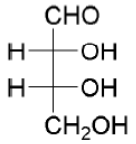
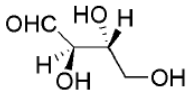
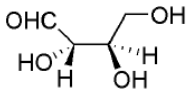
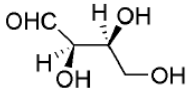
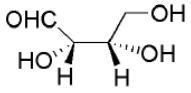
The Fischer projection of D-erythrose is shown below:



D-Erythrose

D—Erythrose and its isomers are listed as P, Q, R and S in **Column-I**. Choose the correct relationship of P, Q, R and S with D-erythrose from **Column-II**.

Column-I		**Column-II**
P.		**1.** Diastereomer
Q.		**2.** Identical
R.		**3.** Enantiomer
S.		

(A) $P \to 2,\ Q \to 3,\ R \to 2,\ S \to 2$ (B) $P \to 3,\ Q \to 1,\ R \to 1,\ S \to 2$

(C) $P \to 2,\ Q \to 1,\ R \to 1,\ S \to 3$ (D) $P \to 2,\ Q \to 3,\ R \to 3,\ S \to 1$

Sol. **C**

Given structure : (2R, 3R)

$P \Rightarrow (2R,3R)$, so, identical. Hence $P \to 2$

$Q \Rightarrow (2S,3R)$, so, Diastereomers. Hence $Q \to 1$

$R \Rightarrow (2R,3S)$, so, Diastereomers. Hence $R \to 1$

$S \Rightarrow (2S,3S)$, so, Enantiomers. Hence $S \to 3$