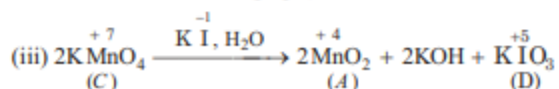
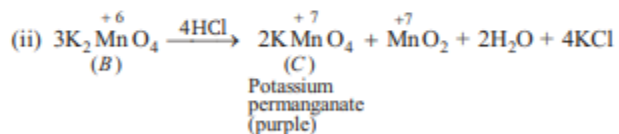
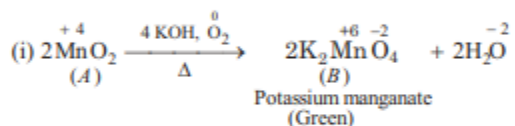


In the above sequence of reactions, A and D, respectively, are
(2019 Main, 11 Jan II)

- (a) KI and KMnO_4 (b) MnO_2 and KIO_3
(c) KI and K_2MnO_4 (d) KIO_3 and MnO_2

When $\text{MnO}_2(A)$ is fused with alkali in presence of air then potassium manganate (B) is formed. Potassium manganate (B) is of green colour which disproportionate in a neutral or acidic solution to produce potassium permanganate (C). Potassium permanganate (C) in presence of acidic medium oxidises iodide to iodate.

The reaction can be shown as:



Thus, A and D are MnO_2 and KIO_3 , respectively.