The instantaneous rate of disappearance of $MnO_4^{\,-}$ ion in the following reaction is $4.56\times10^{-3}\,Ms^{-1}$

$$2MnO_4^{\,-} + 10I^- + 16H^+ \rightarrow 2Mn^{2+} + 5I_2 + 8H_2O$$

The rate of appearance I₂ is: [Online April 9, 2013]

- (a) $4.56 \times 10^{-4} \,\mathrm{Ms^{-1}}$ (b) $1.14 \times 10^{-2} \,\mathrm{Ms^{-1}}$ (c) $1.14 \times 10^{-3} \,\mathrm{Ms^{-1}}$ (d) $5.7 \times 10^{-3} \,\mathrm{Ms^{-1}}$