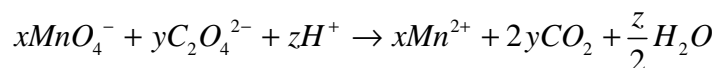


Consider the following reaction:



The values of x, y and z in the reaction are, respectively:

- (1) 5, 2 and 16            (2) 2, 5 and 8            (3) 2, 5 and 16            (4) 5, 2 and 8

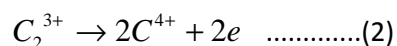
[JEE Main 2013]

Solution

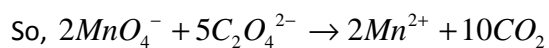
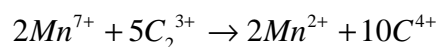
We have,  $Mn^{7+} \rightarrow Mn^{2+}$  [Reduction]



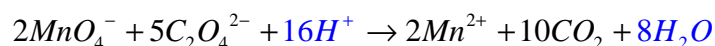
On balancing,



2. (1) + 5. (2)



Balancing O and H considering acidic medium (since  $H^+$  is mentioned),



$x = 2, y = 5, z = 16$

Hence, (3).