

JEE MAIN D- AND F-BLOCK ELEMENTS — PREPARATION AND PROPERTIES OF $K_2Cr_2O_7$ — PYQS

Max. Marks: 24
Questions: 6

Section A (MCQ) — 3 questions

- Q.1** Correct statements from the following are
- Potassium dichromate is an oxidising agent and it oxidises $FeSO_4$ to $Fe_2(SO_4)_3$ in acidic medium.
 - Sodium dichromate can be used as primary standard in volumetric estimation.
 - CrO_4^{2-} and $Cr_2O_7^{2-}$ are interconvertible in aqueous solution by varying the pH of the solution.
 - Cr–O–Cr bond angle in $Cr_2O_7^{2-}$ is 126° .

Choose the correct answer from the options given below : [JEE Main 2026 (Online) 4th April Morning Shift]

- (1) A, B and C Only (2) A, C and D Only
(3) A and C Only (4) B and D Only

Scan or tap for the full solution



- Q.2** Which of the following sets includes all the species that will change the orange colour of $K_2Cr_2O_7$ in acidic medium ?

[JEE Main 2026 (Online) 2nd April Morning Shift]

- (1) Fe^{2+} , Sn^{2+} , I^- , S^{2-}
(2) S^{2-} , Fe^{3+} , I^- , $C_2O_4^{2-}$
(3) Fe^{2+} , NO_2^- , SO_2 , Sn^{4+}
(4) Fe^{3+} , SO_4^{2-} , S^{2-} , Sn^{4+}

Scan or tap for the full solution



- Q.3** The oxidation state of chromium in the final product formed in the reaction between KI and acidified $K_2Cr_2O_7$ solution is :

[JEE Main 2026 (Online) 23rd January Evening Shift]

- (1) +2 (2) +3 (3) +4 (4) +6

Scan or tap for the full solution



Section B (Numerical) — 3 questions

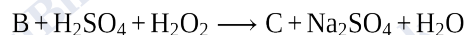
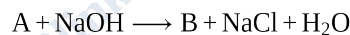
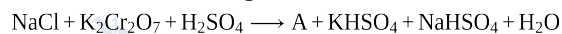
- Q.4** The molar mass of the water insoluble product formed from the fusion of chromite ore ($FeCr_2O_4$) with Na_2CO_3 in presence of O_2 is _____ $g\ mol^{-1}$.

[JEE Main 2025 (Online) 29th January Morning Shift]

Scan or tap for the full solution



- Q.5** Consider the following reactions :



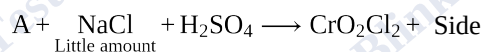
In the product 'C', 'X' is the number of O_2^{2-} units, 'Y' is the total number of oxygen atoms present and 'Z' is the oxidation state of Cr. The value of $X + Y + Z$ is _____.

[JEE Main 2026 (Online) 21st January Morning Shift]

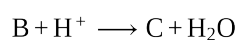
Scan or tap for the full solution



- Q.6** Consider the following reactions



Products



The number of terminal 'O' present in the compound 'C' is _____

[JEE Main 2025 (Online) 3rd April Morning Shift]

Scan or tap for the full solution



ANSWER KEY

Section A (MCQ) — 3 questions

Ques.	1	2	3																
Ans.	2	1	2																

Section B (Numerical) — 3 questions

Ques.	4	5	6																
Ans.	160	13	6																