Resonance®
Educating for better tomorrow

JEE (MAIN) 2026

MEMORY BASED QUESTIONS & TEXT SOLUTION

SHIFT-2

DATE & DAY: 21st January 2026 & Wednesday

PAPER-1

Duration: 3 Hrs.
Time: 03:00 PM – 06:00 PM

SUBJECT: CHEMISTRY

REGISTERED & CORPORATE OFFICE (CIN: U80302RJ2007PLC024029):
CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Rajasthan) - 324005
0744-2777777 | 73400 10345 | contact@resonance.ac.in | www.resonance.ac.in | Follow Us: @ResonanceEdu | @Resonance_Edu

PART : CHEMISTRY

1. 1 g of an organic compound produce 1.49 of $Mg_2P_2O_7$ Determine % of P.

Ans. **(41.61)**

2. Given below are two statements

Statement-I: The correct order for radius is Al > Mg > Mg^{2+} > Al^{3+}

Statement-II: Atomic size always, depends on electronegativity.

In the light of the above statements, choose the correct option.

(1) Statement-I and II are correct

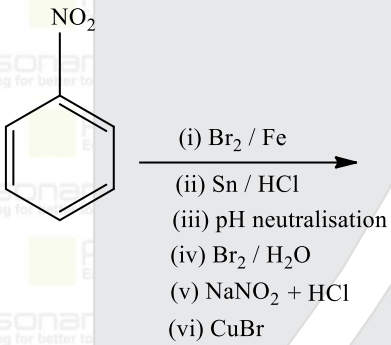
(2) Both Statement-I and II are incorrect

(3) Statement-I is correct but Statement-II incorrect

(4) Statement-I is incorrect but Statement-II correct

Ans. **(2)**

3.



Number of Bromine atoms present in product

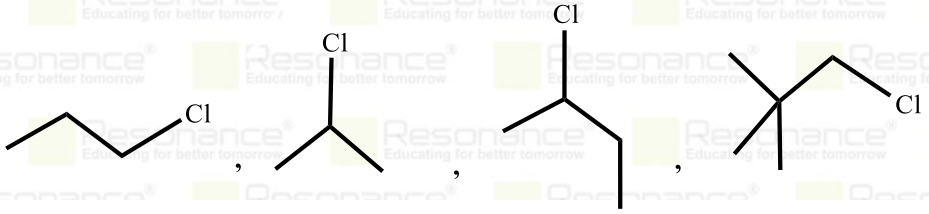
Ans. **(5)**

4. When 8.74 g MnO_2 is treated with HCl, then what will be the weight of Cl_2(g) obtained? Molar mass of MnO_2 = 87.4 g/mol.

(1) 7.1 g (2) 17.1 g (3) 14.2 g (4) 3.55 g

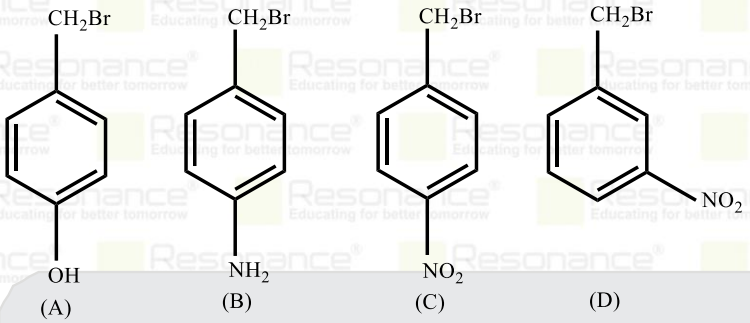
Ans. **(1)**

5. Following 4 molecules are given and among them, one is optically active. Find % carbon in that compound:



Ans. **(50)**

6. Rate of reaction of nucleophilic substitution in polar protic solvent is:



(1) B > A > D > C (2) C > D > A > B (3) A > B > C > D (4) D > A > B > C

Ans. (1)

7. Some species are given

Ni^{2+}, Fe^{2+}, Co^{2+}, V^{3+} and Ti^{2+}

How many species has magnetic moment (spin only) less than 3 BM.

Ans. (3)

8. What will be the ratio of wavelength of 3rd line at Paschen series to 2nd line of Balmer series of H-atom?

(1) $\frac{9}{4}$ (2) $\frac{3}{2}$ (3) $\frac{2}{3}$ (4) $\frac{16}{4}$

Ans. (1)

9. $K_2Cr_2O_7$ is heated with KCl in pressure of H_2SO_4. Find the correct match of product with their oxidation state.

(1) CrO_2Cl_2, +6 (2) $CrCl_3$, +3 (3) $Cr_2O_2Cl_2$, +5 (4) K_2CrO_4, +6

Ans. (1)

10. Osmotic pressure of a solution is **12 atm**. What is the concentration of NaCl solution which is isotonic to the given solution at 900 K.

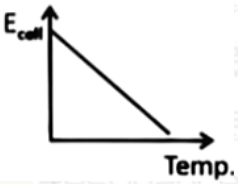
R = 0.082 Lit-atm K K^{-1} mol^{-1}

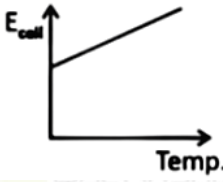
Assume 100% dissociation.

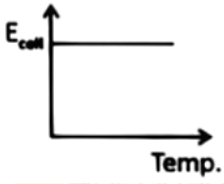
(1) 0.02439M (2) 0.4878 (3) 0.2439M (4) 0.04878M

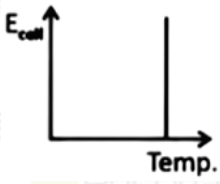
Ans. (1)

11. Find out correct Graph

(1) 

(2) 

(3) 

(4) 

Ans. (1)

12. For first order kinetics reaction,

$A \rightarrow B + C$

If initial pressure of A is 1 bar and at time 100 s , the total pressure is 1.5 bar, then find the rate constant of the reaction.

(1) 0.00693 s^{-1} (2) 0.0693 s^{-1} (3) 0.693 s^{-1} (4) 6.93 s^{-1}

Ans. (1)

13. Find concentration of X^{2-} at equilibrium in 0.1 M H_2X. Given $K_{a_1} = 2.5 \times 10^{-7}$, $K_{a_2} = 1 \times 10^{-13}$

(1) 2.5×10^{-7} (2) 1×10^{-13} (3) 6×10^{-12} (4) 5×10^{-10}

Ans. (2)

14. Match correctly from column-I and column-II

	Column-I		**Column-II**
(A)	H_2/Pd-$BaSO_4$	(i)	Etard oxidation
(B)	$CrO_2Cl_2 + CS_2$	(ii)	Stephen's reduction
(C)	$SnCl_2 + HCl$	(iii)	Gattarmann-koch reaction
(D)	$CO + HCl + AlCl_3$	(iv)	Rosenmund reduction

(1) A-iv, B-i, C-ii, D-iii (2) A-i, B-iv, C-ii, D-iii (3) A-iv, B-iii, C-ii, D-i (4) A-iv, B-i, C-iii, D-ii

Ans. (1)

15. $CH_3Br \xrightarrow{Nu^{\ominus}}$

Order of reactivity of nucleophile

$^{\ominus}OH$ $CH_3COO^{\ominus}$ $PhO^{\ominus}$ $ClO_4^{\ominus}$

(1) $Ph-O^{\ominus} > OH^{\ominus} > ClO_4^{\ominus} > CH_3COO^{\ominus}$ (2) $OH^{\ominus} > Ph-O^{\ominus} > CH_3-COO^{\ominus} > ClO_4^{\ominus}$

(3) $ClO_4^{\ominus} > OH^{\ominus} > Ph-O^{\ominus} > CH_3COO^{\ominus}$ (4) $CH_3COO^{\ominus} > OH^{\ominus} > PhO^{\ominus} > ClO_4^{\ominus}$

Ans. (2)

16. Match the list-I with ist II.

	List-I		List-II
(A)	cis-2-butene	(i)	Functional isomer
	Trans-2-butene	(ii)	Stereoisomers
(B)	Diethyl ether, Butanol	(iii)	Positional isomers
(C)	1-Butene, 2-butene	(iv)	Chain isomers

(1) A-iii, B-i, C-ii (2) A-i, B-iii, C-ii (3) A-ii, B-i, C-iii (4) None of these

Ans. **(3)**

17. Which compound is optically inactive out of following

(I) n-propyl chloride

(II) secondary butyl chloride

(III) tert butyl chloride,

(IV) isopropyl chloride.

(1) Only I, III, IV (2) Only IV (3) Only I, II, III (4) Only II, III, IV

Ans. **(1)**

18. Which of the following statements are true?

(i) Mn has highest oxidation state in Mn_2O_7

(ii) MnO is more ionic than Mn_2O_7

(iii) Mn_2O_7 has one bridging O atom

(iv) Oxidation state of Mn is maximum in oxo compounds

(1) Only (i), (ii), (iii) are correct (2) Only (i), (ii), (iii) and (iv) are correct

(3) Only (i), (iii) and (iv) are correct (4) Only (i) and (iv) are correct

Ans. **(2)**

19. In which of the following pairs first compound have more covalent nature than second compound?

(a) $SnCl_2$, $SnCl_4$

(b) $PbCl_4$, $PbCl_2$

(c) UF_6, UF_4

More the charge on cation more will be polarising power and more will be covalent character.

(1) Only (a) and (b) (2) Only (b) and (c) (3) Only (a) and (c) (4) Only (c)

Ans. **(2)**

20. Solubility product of MX(s) is 10^{-10} $E^0_{M^+/M} = 0.71$ V. Find out $E^0_{M/Mx/X}$.

(1) 0.119 V (2) –0.119 V (3) 1.301 V (4) –1.301 V

Ans. **(2)**