Resonance®
Educating for better tomorrow

JEE (MAIN) 2026

MEMORY BASED QUESTIONS & TEXT SOLUTION

SHIFT-2

DATE & DAY: 22 January 2026 & Thursday

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

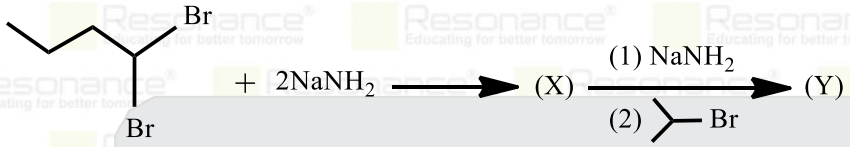
CHEMISTRY

1. The correct order of electron gain enthalpy (magnitude only) for group 16 elements is

(1) Te > Se > S > O (2) S > Se > Te > O (3) O > S > Se > Te (4) S > O > Se > Te

Ans. (2)

2.



(1) Isopropyl but-1-yne (2) 2-methyl hex-2-yne

(3) 5-methyl hex-2-yne (4) 2-methyl hex-3-yne

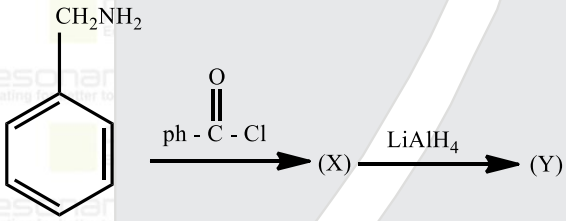
Ans. (4)

3. 100 g 98% by weight H_2SO_4 is mixed with 100 g 49% by weight H_2SO_4. Mole fraction of H_2SO_4 in solution is

(1) 0.9 (2) 0.1 (3) 0.67 (4) 0.33

Ans. (4)

4. Consider the following reaction.



The correct structure of Y is

(1) $PhCH_2NHCOPh$ (2) $Ph\text{-}CH_2NHCH_2Ph$ (3) $PhNH_2CH_2Ph$ (4) $PhCH_3$

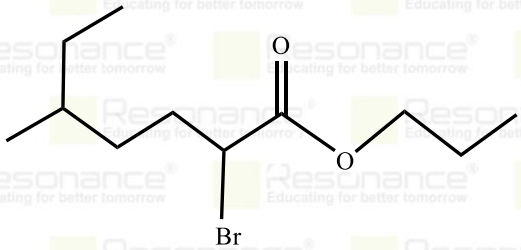
Ans. (2)

5. Which of the following is a mixed oxide?

(1) Fe_2O_3 (2) PbO_2 (3) Pb_3O_4 (4) BaO_2

Ans. (3)

6. Correct IUPAC name for following compound is:



(1) Propyl-2-bromo-5-methyl heptanoate (2) Propyl-2-bromo-6-ethyl hexanoate

(3) Propyl-5-bromo-2-methyl heptanoate (4) Propyl-6-bromo-2-ethyl hexanoate

Ans. (1)

7. Volume ratio of decimolar NH_4OH and decimolar **HCl** to give a solution of **pH = 9.25** at 25ºC is x:1. Find x.
pK_b of NH_4OH = 4.75

Ans. (2)

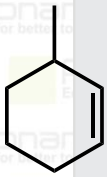
8. Reaction with Glucose

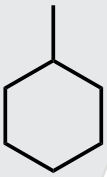
	List-I		List-II
(A)	Hydroxyl amine	(i)	Gluconic acid
(B)	Br_2 water	(ii)	Glucose pentacetate
(C)	Excess acetic anhydride	(iii)	Saccharic acid
(D)	conc. HNO_3	(iv)	Glucoxime

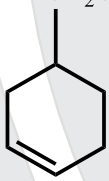
(1) A-iv, B-i, C-ii, D-iii (2) A-iv, B-iii, C-ii, D-i (3) A-i, B-iv, C-ii, D-iii (4) A-iv, B-i, C-iii, D-ii

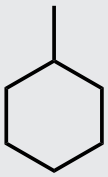
Ans. (1)

9. An alkene on reductive ozonolysis gives methanal as one of the products. It's structure is

(1) $CH_2CH_2CH_3$ 

(2) CH_2-CH=CH_2 

(3) CH_2CH_3 

(4) CH=$CHCH_3$ 

Ans. (2)

10. Consider the following data:

$$Na(s) + \frac{1}{2}Cl_2(g) \rightarrow NaCl(s) \quad \Delta H^\circ = -411\ kJ/mole^{-1}$$

$$Na(s) \rightarrow Na(g) \quad \Delta H^\circ = 107\ kJ/\ mole$$

$$Cl_2(g) \rightarrow 2Cl(g) \quad \Delta H^\circ = 242\ kJ/\ mole$$

$$Cl(g) + e^- \rightarrow Cl^-(g) \quad \Delta H^\circ = -355\ kJ/mole^\circ$$

$$Na(g) \rightarrow Na^+(g) + e^- \quad \Delta H^\circ = 502\ kJ/mole^{-1}$$

Find out lattice energy of NaCl(s).

(1) –786 kJ mol^{-1} (2) –628 kJ mol^{-1} (3) –428 kJ mol^{-1} (4) –393 kJ mol^{-1}

Ans. (1)

11. **Statement-I:** 'N' is most electronegative element & Sb is least electronegative element in the group 15.
Statement-II: N_2O_3 is the acidic in nature while Sb_2O_3 is the amphoteric in the nature

(1) Both Statement-I and Statement-II are correct
(2) Both Statement-I and Statement-II are incorrect
(3) Statement-I is correct, Statement-II is incorrect
(4) Statement-II is correct, Statement-I is incorrect

Ans. (1)

12. Least dipole moment in following species:
$CHCl_3$, NF_3, H_2S, H_2O, NH_3
Then find number of lone pairs in that species on central atom

(1) 0 (2) 1 (3) 3 (4) 2

Ans. (2)

13. Which of the following will behave as best reducing agent?

Given

$Al^{3+} + 3e^- \rightarrow Al \quad E^\circ = -1.66\ V$

$Co^{3+} + e^- \rightarrow Co^{2+} \quad E^\circ = 1.81\ V$

$Fe^{3+} + e^- \rightarrow Fe^{2+} \quad E^\circ = 0.77\ V$

$Cd^{2+} + 2e^- \rightarrow Cd \quad E^\circ = -0.4\ V$

(1) Al (2) Co^{2+} (3) Fe^{2+} (4) Cd

Ans. (1)

14. Which of the following is the correct IUPAC name of complex? $[Ni(PPh_3)_3(H_2O)_3]Cl_2$

(1) Triaquatris (triphenylphosphine) nickel (II) chloride

(2) Tris (triphenyphosphine) triaqua nickell (II) chloride

(3) Triaquatris (triphenylphosphine) nickelate (II)chloride

(4) Triaquatris (triphenylphosphine) nickel (III) chloride

Ans. (1)

15. Given below are two statements.

Statement I: First ionisation enthalpy of Cr is greater than Mn.

Statement II: Second ionisation enthalpy of Cr is less than that of Mn.

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

(1) Both statement I and statement II are correct

(2) Both statement I and statement II are incorrect

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

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

Ans. (2)

16. When **1 g** of compound (X) is subjected to Kjeldahl's method for estimation of nitrogen, 15 mL 1 M H_2SO_4 was neutralized by ammonia evolved. The % of nitrogen in compound (X) is

(1) 21 (2) 0.21 (3) 42 (4) 0.42

Ans. (3)

17. The dibromo compound $[P]$ of molecular formula ($C_9H_{10}Br_2$) when heated with excess Sodamide followed by treatment with dilute HCl gives [Q]. On warming [Q] with mercuric sulphate dilute sulphuric acid yield (R) which gives positive iodoform test but negative tollen's test. The compound $[P]$ is

Ans. (Conceptual**)**

18. Consider two reactions having same pre-exponential factor (A) at same temperature (T).

$A \xrightarrow{E_{a_1}} B$

$C \xrightarrow{E_{a_2}} D$

$E_{a_1} = 5E_{a_2}$

Find out correct expression?

(1) $\frac{k_1}{k_2} = e^{-\frac{E_{a_2}}{RT}}$ (2) $\frac{k_1}{k_2} = e^{-\frac{4E_{a_1}}{RT}}$ (3) $\frac{k_1}{k_2} = e^{-\frac{4E_{s_1}}{5kT}}$ (4) $\frac{k_1}{k_2} = e^{-\frac{4E_{g_2}}{SR_2r}}$

Ans. (3)