

JEE-Main-04-04-2025 (Memory Based)

[EVENING SHIFT]

Chemistry

Question: Maximum IE and minimum IE of group 13 elements

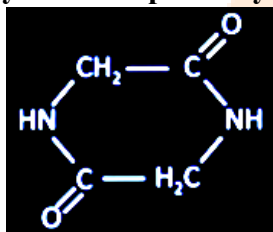
Options:

- (a) B, In
- (b) B, Tl
- (c) Al, In
- (d) Al, Tl

Answer: (a)

Question: x is peptide which is hydrolysed to 2 amino acids y and z, y when react with HNO_2 gives lactic acid. z when heated gives cyclic structure as below:

y and z respectively are



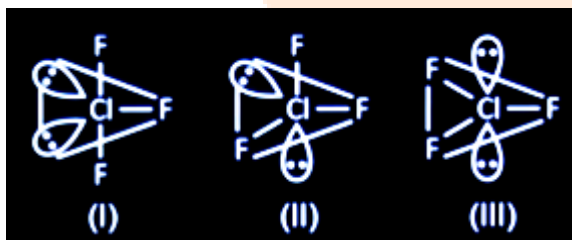
Options:

- (a) Alanine and Lysine
- (b) Alanine and Glycine
- (c) Glycine and Alanine
- (d) Valine and Glycine

Answer: (b)

Question: Statement-I: ClF_3 has 3 possible structures

Statement-II: III is most stable structure due to least lp-bp repulsion.



Options:

- (a) Statement-I is correct and statement-II is incorrect
- (b) Statement-I is incorrect and statement-II is correct
- (c) Both statement-I and II are correct
- (d) Both statement-I and II are incorrect

Answer: (a)

Question: Consider the following graph between Rate Constant (K) and $1/T$.

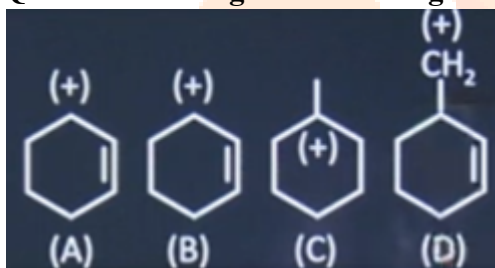


Options:

- (a) $E_{a_1} > E_{a_2} > E_{a_3}$
- (b) $E_{a_3} > E_{a_2} > E_{a_1}$
- (c) $E_{a_3} > E_{a_1} > E_{a_2}$
- (d) $E_{a_1} > E_{a_3} > E_{a_2}$

Answer: (b)

Question: Arrange the following carbocation in decreasing order of their stability



Options:

- (a) (A) > (B) > (C) > (D)
- (b) (A) > (C) > (B) > (D)
- (c) (C) > (A) > (B) > (D)
- (d) (B) > (C) > (A) > (D)

Answer: (b)

Question: Statement-I: Alcohol is prepared from alkyl halide in presence of aq. KOH by elimination

Statement-II: Alkenes are prepared from alkyl halide with alc. KOH by β - elimination

Options:

- (a) Statement-I and Statement-II are correct
- (b) Statement-I and Statement-II are incorrect
- (c) Statement-I is true and Statement-II is false
- (d) Statement-I is false and Statement-II is true

Answer: (d)

Question: A dipeptide 'x' on complete hydrolysis gives 'y' and 'z' y on treatment with aq HNO_2 produces lactic acid on the other hand 'z' on heating gives the following molecule. Based on the information the given dipeptide is

Options:

- (a) Alanine - Glycine
- (b) Valine - Glycine

- (c) Valine - Leucine
(d) Alanine - Alanine

Answer: (a)

Question: Consider the following complex ions

- (a) $\text{Ni}(\text{CO})_4$ (b) $[\text{Ni}(\text{CN})_6]^{2-}$
(c) $[\text{FeF}_6]^{3-}$ (d) $[\text{CoF}_6]^{3-}$

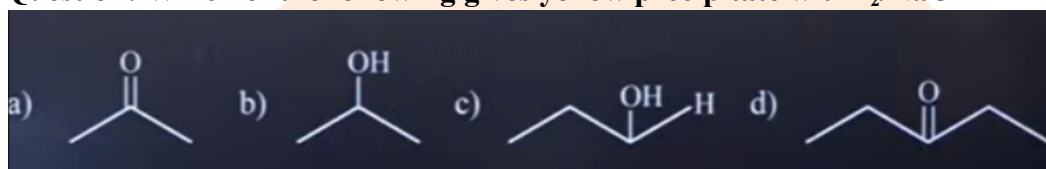
Which of the following order is correct for their unpaired electrons

Options:

- (a) $c > d > a = b$
(b) $c > d > a > b$
(c) $a > b > c > d$
(d) $c > a > d > b$

Answer: (a)

Question: Which of the following gives yellow precipitate with I_2/NaOH

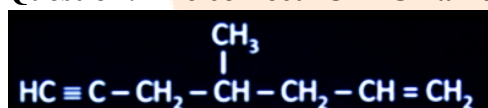


Options:

- (a) a & b
(b) b & c
(c) a & c
(d) b & d

Answer: (a)

Question: The correct IUPAC name of the following compound is



Options:

- (a) 4-Hydroxyhept-1-en-6-yne
(b) 4-Hydroxyhept-6-en-1-yne
(c) 4-Hydroxyhept-1-yn-6-ene
(d) 4-Hydroxyhept-6-yn-1-ene

Answer: (a)

Question: Consider the following zero order reaction:

$\text{A} \rightarrow \text{Products}$

Half-life of the reaction is 1 hr if initial concentration of the reaction is 2 mol/L. Find the half-life of the reaction in minutes if the initial concentration of the reaction is 0.5 mol/L.

Options:

- (a) 15
(b) 35
(c) 60
(d) 55

Answer: (a)

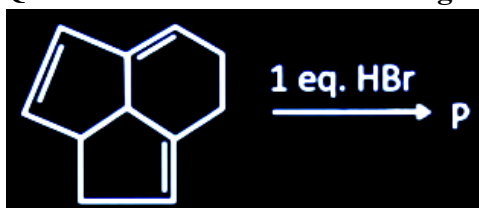
Question: The incorrect relationship in the following pair in relation to ionization enthalpies is

Options:

- (a) $Mn^+ < Mn^{+2}$
- (b) $Mn^{+2} < Fe^{+2}$
- (c) $Fe^{+2} < Fe^{+3}$
- (d) $Mn^+ < Cr^+$

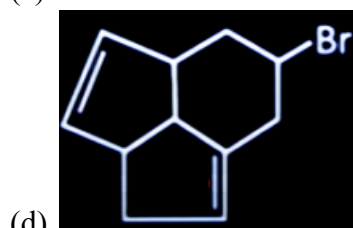
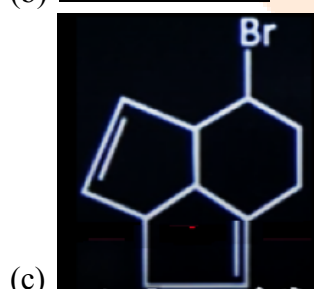
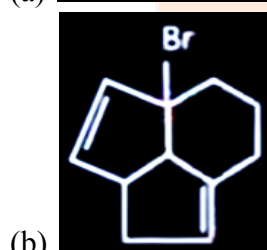
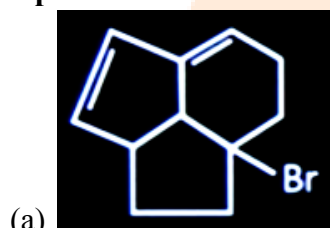
Answer: (c)

Question: Consider the following reaction,



Identify the major product of

Options:



Answer: (b)

Question: Match the column

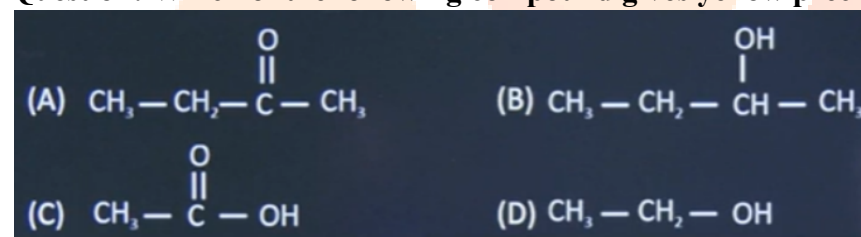
List-I (Process)	List-II (Thermodynamic parameter)
(A) Adiabatic	(1) $w = 0$
(B) Isobaric	(2) $q = -w$
(C) Isochoric	(3) $q = 0$
(D) Isothermal	(4) $q = \Delta U + P\Delta V$

Options:

- (a) A-4, B-1, C-3, D-2
- (b) A-2, B-1, C-3, D-4
- (c) A-3, B-4, C-1, D-2
- (d) A-4, B-1, C-2, D-3

Answer: (c)

Question: Which of the following compound gives yellow precipitate with NaOI?



Options:

- (a) A, B & D
- (b) A only
- (c) A & C only
- (d) A & B only

Answer: (a)

Question: Total number of electrons in chromium ($Z = 24$) for which the value of azimuthal quantum number (l) is 1 and 2

Answer: (17)

Question: If x mg of $\text{Mg}(\text{OH})_2$ is added in 1 L of solution to make a solution with $\text{pH} = 10$, then find the value of x .

[Given: MW of $\text{Mg}(\text{OH})_2 = 58 \text{ g/mol}$]

Assume $\text{Mg}(\text{OH})_2$ dissociates completely in water.

Answer: (2.9)

Question: The amount of Calcium Oxide produced when 150 kg of Limestone (75% pure) on strong heating is:

Options:

Answer: (63)

