

JEE-Main-05-04-2024 (Memory Based)
[EVENING SHIFT]

Chemistry

Question: How many can give H₂ gas from dil acid Ti²⁺, Cr²⁺, V²⁺

Options:

Answer: (5)

Question: If shortest wavelength of Lyman series is 916Å the longest wave of balmer series is

Options:

(a) $\frac{9x}{5}$

(b) $\frac{36x}{5}$

(c) $\frac{x}{4}$

(d) $\frac{5x}{9}$

Answer: (d)

Question: Mass of Ag deposited by 1 coulomb charge

Options:

(a) 1 electrochemical equivalent

(b) 1 g

(c) .1 g

(d) 1 chemical equivalent

Answer: (a)

Question: How many have dipole moment zero. HF, BeCl₂, BeF₂, BF₃, SiF₄, NH₃, H₂O, H₂S, NF₃, CH₄, CHCl₃, CO₂, H₂

Options:

Answer: (6)

Question: Find out E cell of the given cell $M | M^{2+} || X^{2-} | X$.

$$E^{\circ}_{M^{2+} | M} = 0.34 \text{ V}$$

$$E^{\circ}_{X | X^{2-}} = 0.46 \text{ V}$$

Options:

- (a) 0.80 V
- (b) 0.12 V
- (c) -0.12 V
- (d) -0.80 V

Answer: (a)

Question: Which of the following is true regarding coagulation of egg :

Options:

- (a) 1^o structure does not change
- (b) 2^o structure does not change
- (c) 3^o structure does not change
- (d) Denaturation of protein does not occur

Answer: (a)

Question: Angular momentum of an electron in an orbit of radius R of a hydrogen atom is directly proportional to

Options:

- (a) R
- (b) 1/R
- (c) 1/ \sqrt{R}
- (d) \sqrt{R}

Answer: (d)

Question: Assertion :- Dipole moment of NH_3 is greater than NF_3

Reason :- Dipole moment of N-H aligns with the dipole moment of N and lone pair. F has high electronegativity

Options:

- (a) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion
- (b) Both Assertion and Reason are correct but Reason is not the correct explanation for Assertion
- (c) Assertion is correct but Reason is incorrect
- (d) Both Assertion and Reason are incorrect

Answer: (a)

Question: Find out value of C_p / C_v for an ideal gas undergoing reversible adiabatic process for which $P \propto T^3$ is given

Options:

- (a) 4/3
- (b) 3/2
- (c) 4/5
- (d) 5/4

Answer: (b)

Question: $M | M^{2+} || X | X^{2-}$

$E_{M^{2+}}$, $m = 0.46$, E_x , $X^{2-} = 0.34$

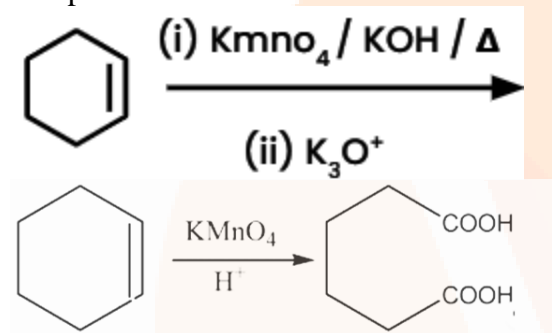
Options:

- (a) rxn $m + x \rightarrow m^2 x^{2-}$ is spontaneous
- (b) rxn $m^2 + x^{2-} \rightarrow m + x$ is spontaneous
- (c) e cell of rxn according to que=some value
- (d) This was also like option D

Answer: (b)

Question: Consider the following reaction :

The product is



Options:

- (a) Adipic Acid
- (b) Oxalic Acid
- (c) Succinic Acid
- (d) Benzoic Acid

Answer: (a)

Question: In an atom, how many electrons can have

(i) $n = 4$

(ii) $ml = 1$

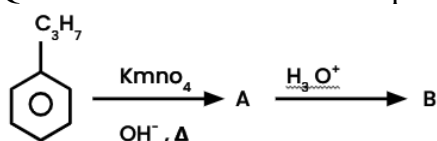
(iii) $ms = 1/2$

Options:

- (a) 32
- (b) 16
- (c) 8
- (d) 2

Answer: (b)

Question: Number of π bonds present in product B is :



Options:

- (a) Benzoic Acid
- (b) Adipic Acid
- (c) Succinic acid
- (d) None of the above

Answer: (a)

Question: For the reaction $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$

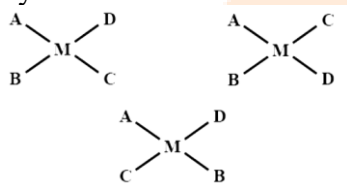
How many moles of methane is required for the formation of 11 g of CO_2 .

Options:

- (a) 0.3
- (b) 0.25
- (c) 0.5
- (d) 2

Answer: (b)

Question: Number of geometrical isomerism possible for Mabcd type compound having sp^3 hybridisation ?



Options:

- (a) 3
- (b) 6
- (c) 4
- (d) 5

Answer: (a)

Question: Number of correct statements ?

Statement - 1 : In group 13, atomic radius increases down the group.

Statement - 2 : Every element of group 13 have stable stable +1 oxidation state.

Statement - 3 : For group 13 element electronegativity decreases down the group.

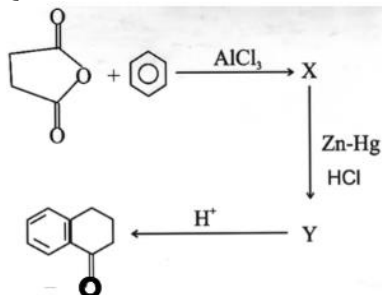
Statement - 4 : Hybridisation of $[\text{Al}(\text{H}_2\text{O})_6]^{3+}$ is sp^3d^2 .

Statement - 5 : Aluminum is rendered passive by conc. HNO_3

Options:

Answer: (3)

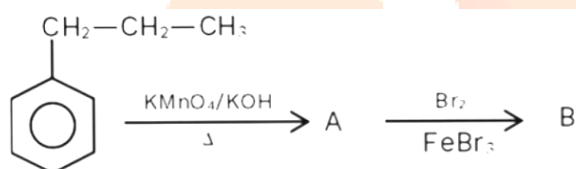
Question:



Options:

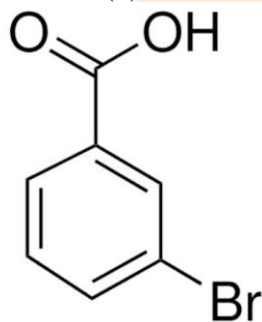
Answer: (z)

Question: Calculate number of π bond present in product B



Options:

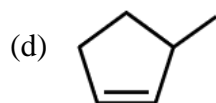
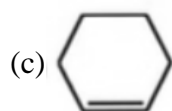
Answer: (8)



Question: Major product in the given reaction

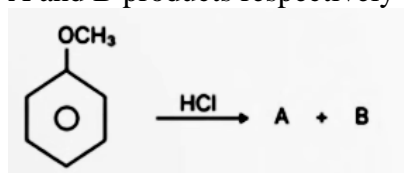
Options:



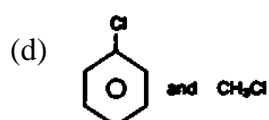
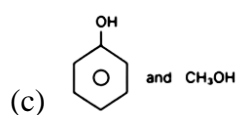
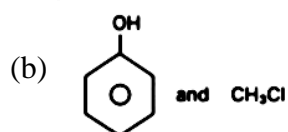
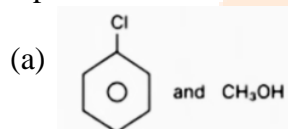


Answer: (d)

Question: Consider the following sequence of reaction :
A and B products respectively are :

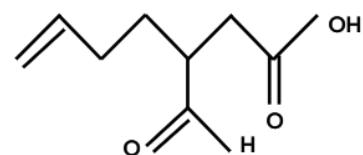


Options:



Answer: (b)

Question: What is the IUPAC of



Options:

(a) 3 - formylhept - 6 - enoic acid

(b) 3 - aldohept - 7 - enoic acid

(c) 3 - ketohept - 6 - enoic acid

(d) 3 - oxohept - 6 - enoic acid

Answer: (a)

