JEE-Main-08-04-2025 (Memory Based)
[EVENING SHIFT]
Chemistry

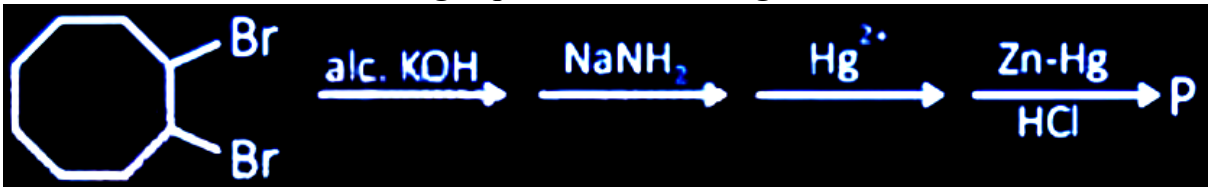
Question: Consider the last electron of an element having atomic No. 9 & choose correct option
Options:
(a) Sum of total nodes = 1
(b) n = 2; l = 0
(c) Last electron enters in 2s subshell
(d) There are $5e^-$ with I = 0
Answer: (a)

Question: Which of the following has sp^3d^2 hybridisation?
Options:
(a) $[NiCl_4]^{2-}$
(b) $[Ni(CO)_4]$
(c) SF_6
(d) $[Ni(CN)_4]^{2-}$
Answer: (c)

Question: Atomic number of element with lowest first ionisation enthalpy is
Options:
(a) 32
(b) 19
(c) 35
(d) 87
Answer: (d)

Question: Consider the following statement
Statement-I: H_2Se is more acidic than H_2Fe
Statement-II: H_2Se has higher bond dissociation Enthalpy
In light of above statement, choose correct option
Options:
(a) Statement-I is true & Statement-II is false
(b) Statement-I is false & Statement-II is true
(c) Both Statement-I & Statement-II are true
(d) Both Statement-I & Statement-II are false
Answer: (a)

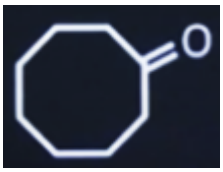
Question: Consider the following sequence of reactions given below

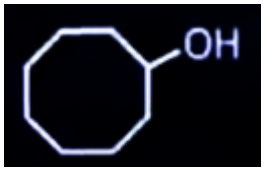


The product P is

Options:

(a) 

(b) 

(c) 

(d) 

Answer: (a)

Question: he correct IUPAC name of 

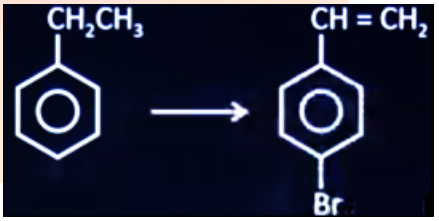
is

Options:

(a) 4-ethylcyclopent-2-en-1-ol
(b) 3-ethylcyclopent-4-en-1-ol
(c) 5-ethylcylapent-1-en-3-ol
(d) 3-ethylcyclopent-1-en-5-ol

Answer: (c)

Question: The correct sequence of reagent to the added for the following conversion



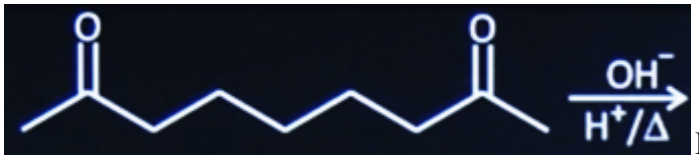
Options:

(a) Br_2/Fe; alc. KOH; $Cl_2/FeCl_3$
(b) $Br_2/FeCl_3$; Cl_2/Δ; alc. KOH
(c) $FeCl_3/Br_2$; alc. KOH; H^+/Δ
(d) $Cl_2/FeCl_3$; $Br_2/FeCl_3$; alc. KOH

Answer: (b)

Question: For a first order reaction, the ratio of time required is t_1/t_2, if t, is time consumed when reactant reaches ¼th of initial cone and t_2 is the time when it reaches 1/8th of initial concentration

Options:
(a) 2/3
(b) ¾
(c) 3/2
(d) 4/3
Answer: (a)

Question: 

Product
The correct IUPAC name of the product is:-
Options:
(a) 1-acetyl-2-methyl cyclohexene
(b) 1-(2-methylcyclohexene-1-yl) ethanone
(c) Cyclo-oct-2-en-1-one
(d) 2-Cyclobutene-1-one
Answer: (b)

Question: Match List-I with List-II and choose the correct option.

List-I	**List-II**
(a) Nucleophile	**(i) Tetrahedral shape**
(b) Electrophile	**(ii) Planar and sp^2 hybridized**
(c) Carbocation	**(iii) Species that accepts electron**
(d) Carbanion	**(iv) Species that donate electron**

Options:
(a) a(i), b(ii), c(iv), d(iii)
(b) a(iv), b(iii), c(ii), d(i)
(c) a(iv), b(iii), c(i), d(ii)
(d) a(iii), b(iv), c(ii), d(i)
Answer: (b)

Question: Match List-I with List-II and choose the correct option.

List-I	**List-II**
(a) dil $KMnO_4$	**(i) Unsaturation test**
(b) $FeCl_3$ test	**(ii) Alcoholic -OH**
(c) Liberate CO_2 with $NaHCO_3$	**(iii) Phenolic -OH**
(d) Ceric Ammonium nitrate test	**(iv) Carboxylic Acid**

Options:
(a) A-I, B-IV, C-III, D-II
(b) A-IV, B-I, C-III, D-II
(c) A-I, B-III, C-IV, D-II
(d) A-III, B-II, C-IV, D-I
Answer: (c)

Question: An aqueous solution of 0.1 M HA shows depression in freezing point of 0.2°C. If K_f (H_2O) = 1.86 K kg mol^{-1} and assuming molarity = molality, find the dissociation constant of HA.
Options:
(a) 4.50×10^{-5}
(b) 6.25×10^{-3}
(c) 5.625×10^{-4}
(d) 2.65×10^{-4}
Answer: (c)

Question: Which of the following solutions can form minimum boiling azeotrope?
Options:
(a) $C_2H_5OH + H_2O$
(b) n-heptane + n-hexane
(c) $CH_3COOH + C_5H_5N$
(d) $C_2H_5Br + C_2H_4I$
Answer: (a)