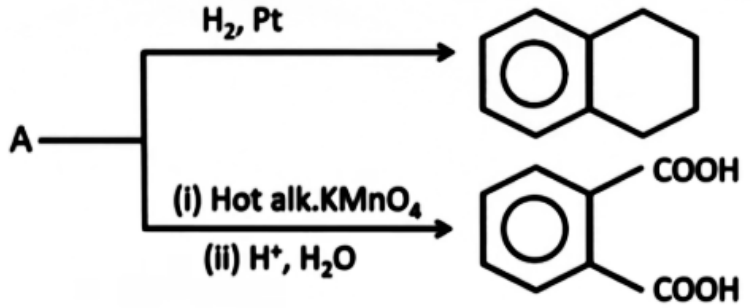
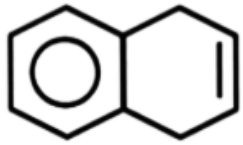
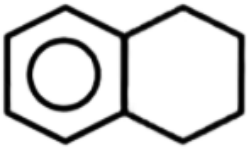
JEE-Main-21-01-2026 (Memory Based)
[MORNING SHIFT]
Chemistry

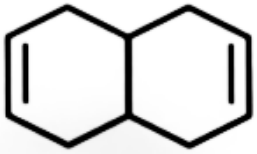
Question:

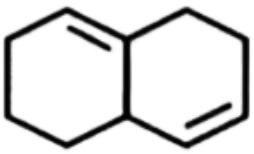


Options:

(a) 

(b) 

(c) 

(d) 

Answer: (a)

Question: For two chemical reactions A and B, if the difference between their activation energy is 20 kJ at 300 K(R = 8.3 J K^{-1} mol^{-1}). Determine $ln\frac{k_2}{k_1}$

Options:

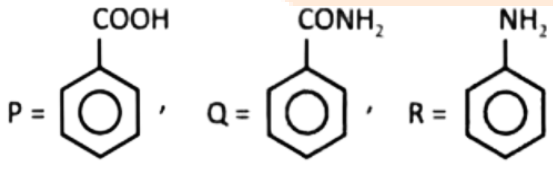
(a) 9
(b) 8
(c) 5
(d) 2

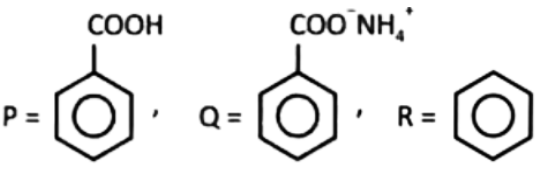
Answer: (b)

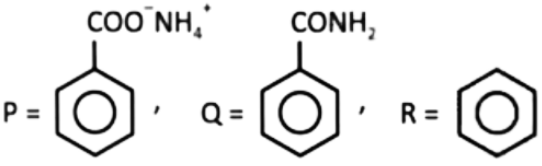
Question: In Sulphur estimation 0.7 g of an organic compound gives 1 g $BaSO_4$ in Carius method. What is the % of Sulphur in compound?
Options:
(a) 19.61
(b) 23.85
(c) 27.93
(d) 14.57
Answer: (a)

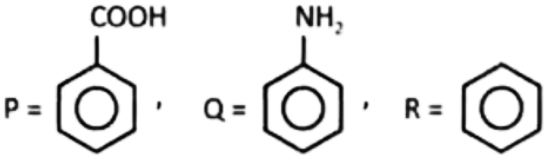
Question: Which of the following is the correct order with respect to the property indicated?
Options:
(a) Cl > F (Ionisation energy)
(b) $K_2O > Na_2O > Al_2O_3$ (Basic nature)
(c) K > Na > Al > Mg (Metallic character)
(d) None of these
Answer: (b)

Question: Given below are two statements.
Statement-I: Arginine and Tryptophan are essential amino acids.
Statement-II: Glycine does not have any chiral carbon.
In the light of the above statements, which is the correct option.
Options:
(a) Both Statement-I and Statement-II are correct
(b) Both Statement-I and Statement-II are incorrect
(c) Statement-I is correct and Statement-II is incorrect
(d) Statement-I is incorrect and Statement-II is correct
Answer: (a)

Question: Observe the following reaction sequence:
$(P) \xrightarrow[\Delta]{NH_3} (Q) \xrightarrow{Br_2, KOH} (R)$
Which of the following is the correct structure for P, Q and R?
Options:
(a) 

(b) 

(c) 

(d) 

Answer: (a)

Question: In the following reaction, $MnO_4^{2-} \xrightarrow{H^+}$

Manganate ion undergoes ion undergoes disproportionation to form

Options:

(a) MnO_2, MnO_4^-

(b) MnO, MnO_2

(c) MnO_2, MnO

(d) MnO_4^-, MnO

Answer: (a)

Question: 80 mL of organic compound is mixed with 264 mL O_2 and ignited. It gives 224 mL of gaseous mixture at NTP. After passing KOH 64 mL of gas remains. The organic compound is

Options:

(a) C_2H_4

(b) C_2H_2

(c) C_4H_{10}

(d) C_3H_6

Answer: (b)

Question: Consider the following reaction

$Ca + 2HCl \rightarrow CaCl_2 + H_2$

We have 14 g Ca reacts with excess of HCl. Choose the incorrect option.

Options:

(a) Mass produced of $CaCl_2$ is 38.85 g

(b) Mole of H_2 produced is 0.35 mol

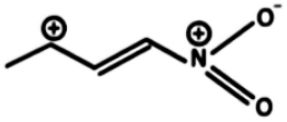
(c) Volume of H_2 produced at STP is 7.84 L

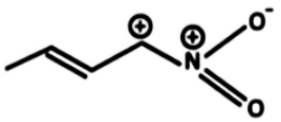
(d) Mass of $CaCl_2$ product is 3.885 g

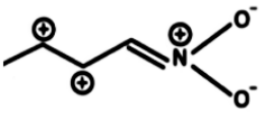
Answer: (d)

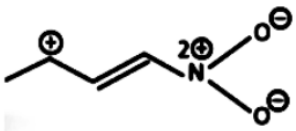
Question: Which one of the resonating structure is not correct

Options:

(a) 

(b) 

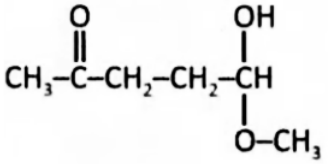
(c) 

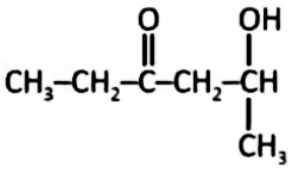
(d) 

Answer: (c)

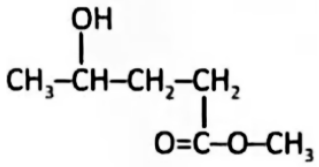
Question: Given below are two statements:
Statement-I: All the pairs of molecules (PbO, PbO_2); (SnO, SnO_2) and (GeO, GeO_2) contain amphoteric oxides.
Statement-II: $AlCl_3$, BH_3, BeH_2 and NO_2 all have incomplete octet.
In the light of the above statements, choose the correct option.
Options:
(a) Both Statement-I and Statement-II are correct
(b) Both Statement-I and Statement-II are incorrect
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct
Answer: (d)

Question: Statement A: But-2-ene show O.I.
Statement B: Propanal and propanone are F.G.I
Statement C: Pentane and 2, 2-dimethylpropane are C.I.
Correct Statement are:
Options:
(a) Only A and B
(b) Only A and C
(c) Only B and C
(d) All
Answer: (c)

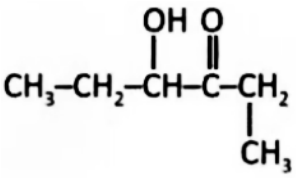
Question: $C_6H_{12}O_3$ gives positive iodoform test on hydrolysis with dil. Acid product formed gives Tollen and iodoform test both. Find structure of $C_6H_{12}O_3$.
Options:
(a) 

(b) 

(c)



(d)



Answer: (a)

Question: Consider the following statements.

A. **Propanal and Propanone are functional isomers**
B. **Ethoxyethane and methoxypropane are metamers**
C. **But-2-ene shows optical isomerism**
D. **But-1-ene and BUt-2-ene are functional isomers**
E. **Pentane and 2, 2-dimethylpropane are chain isomers**

The correct statement are

Options:

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

Answer: (c)

Question: Given below are two statements

Statement I: When electric discharge is put on hydrogen, it emits discrete frequency in electromagnetic spectrum.

Statement II: Frequency of He^+ ion of 2^{nd} line of Balmer series is equal to first line of Lyman series of H-atom

Options:

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

Answer: (a)

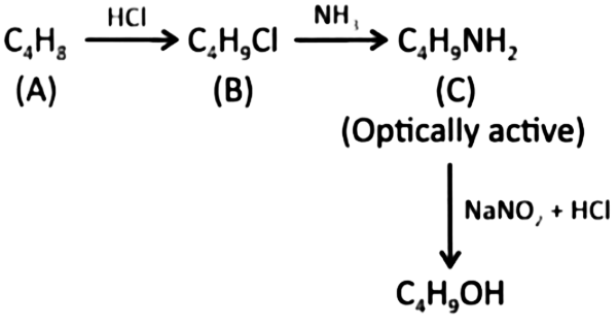
Question: Which of the following compound is paramagnetic in nature?

Options:

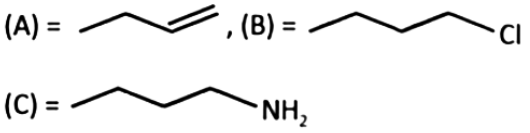
(a) $[Ni(CO)_4]$
(b) $[Ni(CN)_4]^{2-}$
(c) $[NiCl_4]^{2-}$
(d) $[Co(H_2O)_6]^{3+}$

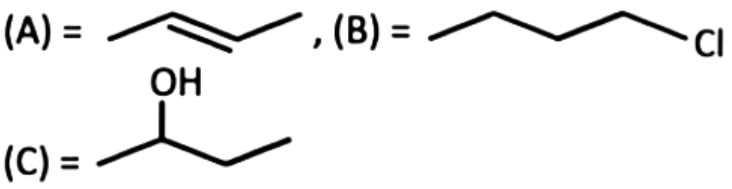
Answer: (c)

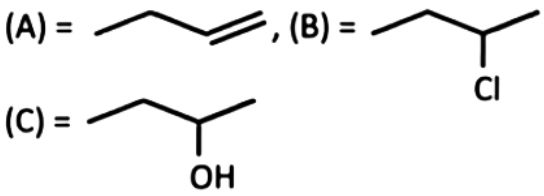
Question: Observe the following reaction sequence:

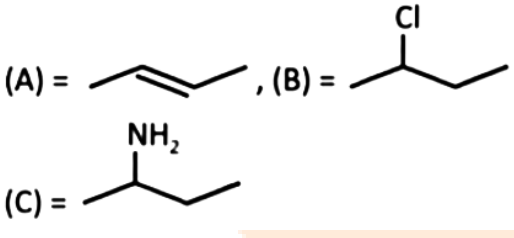


Which of the following is correct structure of A, B and C?
Options:

(a) 

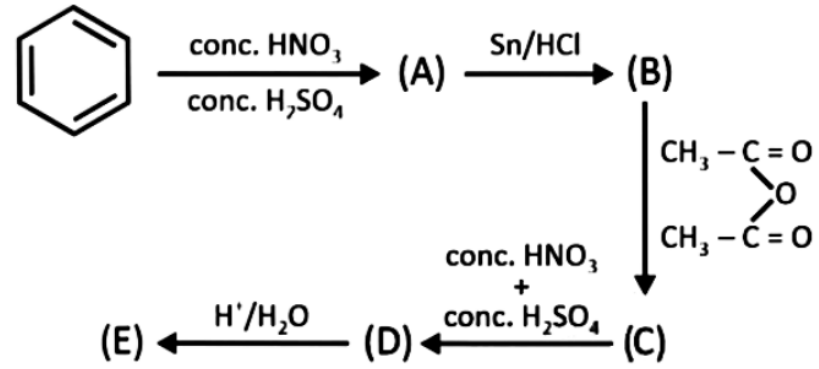
(b) 

(c) 

(d) 

Answer: (d)

Question:



% of N in E = ?

Options:
Answer: (20)

Question: 10 mol of oxygen is heated at constant volume from 30°C to 40°C. The change in the internal energy of gas is____cal. The molar specific heat of oxygen at constant pressure C_P = 7 cal/mol °C & R = 2 cal/mol °C
Options:
Answer: (500)

Question: 1 g of AB_2 is dissolved in 50 g solvent such that ΔT_f = 0.689. When 1 g AB is dissolved in 50 g of same solvent ΔT_f is 1.176. Find molar mass of AB_2. K_f = 5 K kg/mol. (Report to nearest integer) AB_2 and AB are non electrolyte.
Options:
Answer: (145)

Question: Out of the following, how many compounds have tetrahedral geometry?

$NH^+_4, XeF_4, \left[NiCl_4\right]^{2-}, \left[PtCl_4\right]^{2-}, \left[Cu\left(NH_3\right)_4\right]^{2+}, BF_3$ and $\left[Ni(Co)_4\right]$

Options:
Answer: (3)