

Class: 11
Subject: Chemistry
Topic: ASK15E11UT06
No. of Questions: 30

- Q1. The ionization energy of N is more than that of oxygen (O) because
- (a) Nitrogen has half filled p orbital
 - (b) Nitrogen atom is smaller in size
 - (c) Nitrogen contains less number of electrons
 - (d) Nitrogen is less electronegative

Sol. (a)

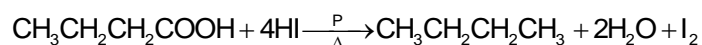
- Q2. The oxidation state of the most electronegative element in the products of the reaction, BaO_2 with dil. H_2SO_4 are
- (a) 0 and -1
 - (b) -1 and -2
 - (c) -2 and 0
 - (d) -2 and +1

Sol. (d)

- Q3. By which of the following reagent butanoic acid can be converted into butan
- (a) $\text{HI}/\text{P}/\Delta$
 - (b) NaOH/CaO
 - (c) CH_3MgBr
 - (d) All of these

Sol. (a)

Only HI in presence of P on heating can reduce carboxylic acids into alkanes.



- Q4. Of the following alkyl halides, one with the lowest boiling point is
- (a) ethyl bromide
 - (b) iso propyl bromide
 - (c) n – butyl bromide
 - (d) methyl bromide

Sol. (d)

- Q5. The most electronegative elements of the third period.
- (a) F
 - (b) P
 - (c) Br
 - (d) Cl

Sol. (d)

- Q6. Among KO_2 , AlO_2^- , BaO_2 and NO_2^+ . Unpaired electron is present in
- (a) NO_2^+ and BaO_2
 - (b) KO_2 and AlO_2^-
 - (c) KO_2 only
 - (d) BaO_2 only

Sol. (d)

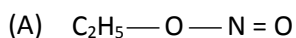
- Q7. Which of the following will have least hindered rotation about carbon – carbon bond?
- (a) ethane
 - (b) ethylene
 - (c) acetylene
 - (d) hexachloroethane

Sol. (a)

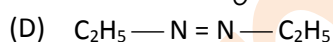
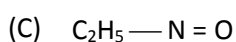
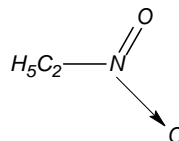
In ethane rotation about carbon – carbon bond is least hindered.

In ethylene and acetylene rotation is restricted while in hexachloroethane it involves rotation of two bulkier CHCl groups around each other.

Q8. $C_2H_5I \xrightarrow{AgNO_2} X$ (major product) there X is



(B)



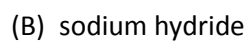
Sol. (B)

Q9. Which of the following has largest size



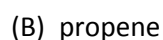
Sol. (C)

Q10. A solution of sodium metal in liquid ammonia is strongly reducing due to the presence of



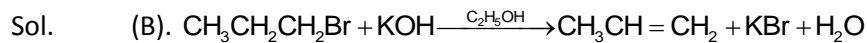
Sol. (D)

Q11. n – propyl bromide on treatment with ethanoic potassium hydroxide produces



(C) propyne

(D) propanol



Q12. $\text{C}_6\text{H}_5\text{Cl} \xrightarrow{\text{Ni-Al/NaOH}} \text{X}$. The compound X is

(A) phenol

(B) benzene

(C) O & P chlorophenol

(D) benzol

Sol. (B)

Q13. Correct order of basic strength is

(A) $\text{NH}_3 < \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$

(B) $\text{PH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{SbH}_3$

(C) $\text{SbH}_3 > \text{AsH}_3 > \text{PH}_3 > \text{NH}_3$

(D) $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$

Sol. (D)

Q14. The compound insoluble in acetic acid is

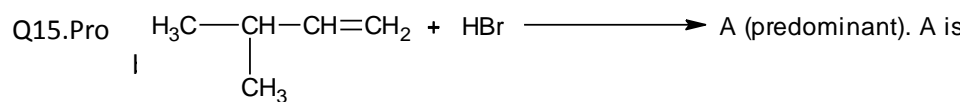
(A) calcium oxide

(B) calcium carbonate

(C) calcium oxalate

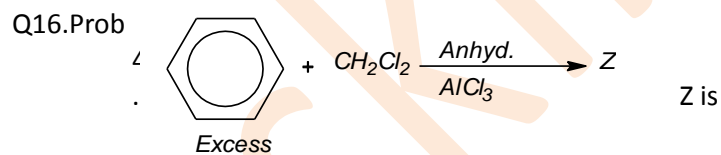
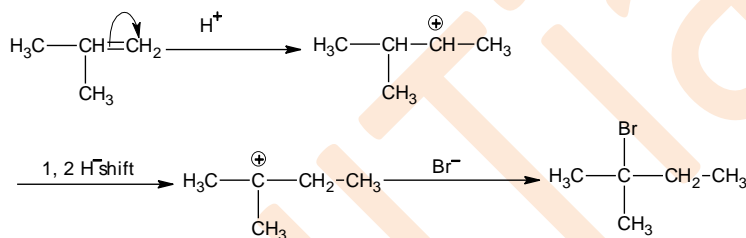
(D) calcium hydroxide

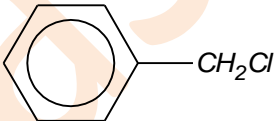
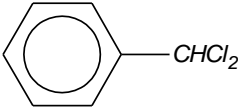

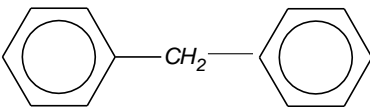
Sol. (C)



- (A) $\text{H}_3\text{C}-\underset{\text{CH}_3}{\text{CH}}-\underset{\text{Br}}{\text{CH}}-\text{CH}_3$ (B) $\text{H}_3\text{C}-\underset{\text{CH}_3}{\text{CH}}-\text{CH}_2-\text{CH}_2\text{Br}$
 (C) $\text{H}_3\text{C}-\underset{\text{CH}_3}{\overset{\text{Br}}{\text{C}}}-\text{CH}_2-\text{CH}_3$ (D) None is correct

Sol. (C).



- (A)  (B) 
 (C)  (D) 

Sol. (D)

- Q17. The shape of ClO_3^- is
- (A) triangular pyramid (B) pyramidal
(C) triangular planar (D) triangular bipyramidal

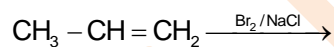
Sol. (B)

- Q18. Which of the following on heating do not decompose?

- (A) Li_2CO_3 (B) BaCO_3
(C) Na_2CO_3 (D) none

Sol. (C)

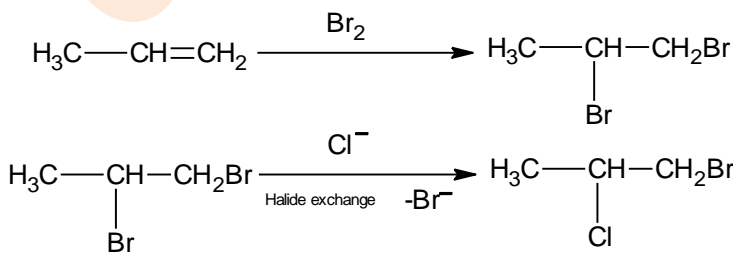
- Q19. Consider the following reaction



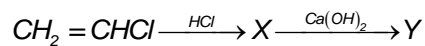
Product of the reaction will be

- (A) only 1, 2 – dibromopropane
(B) only 1 – bromo – 2 – chloropropane
(C) only – 2 – bromo – 1 – chloropropane
(D) mixture of 1, 2 – dibromopropane and 1 – bromo – 2 – chloropropane

Sol. (D)



Q20. Identify Y in the following



- (A) 1, 1, 2 – Trichloroethane (B) Acetaldehyde
(C) 1, 2 – Dichloroethane (D) chloroethylene

Sol. (B)

Q21. Which of the following halides is most acidic?

- (A) BCl_3 (B) SbCl_3
(C) BiCl_3 (D) CCl_4

Sol. (A)

Q22. The solubility in water of sulphates down the Be groups is $\text{Be} > \text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$. This is due to

- (A) increase in melting point (B) high ionization energy
(C) higher coordination number (D) all of these

Sol. (C)

Q23. Alkene do not give addition with

- (A) Br_2 (B) BH_3
(C) $\text{Hg}(\text{OCOCH}_3)$ (D) I_2

Sol. (D). Alkene adds to iodine and gives 1, 2 – iodoalkane which is highly unstable and converts again into alkene.

Q24. Benzene reacts with Cl_2 in the presence of FeCl_3 & in absence of sunlight to form

- (A) benzyl chloride (B) benzal chloride
(C) chlorobenzene (D) benzenehexa chloride

Sol. (C)

Q25. Which of the following isoelectronic species has the smallest size?

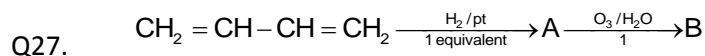
- (a) N^{3-} (b) O^{2-}
(c) F^- (d) Ne

Sol. (C)

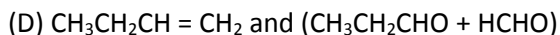
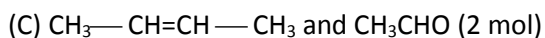
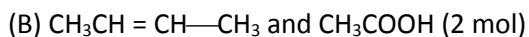
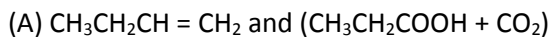
Q26. Solubilities of carbonates decreases down the magnesium group due to decrease in

- (A) entropy of solution formation (B) lattice energies of solids
(C) hydration energy of cations (D) inter-ionic attraction

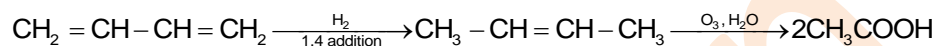
Sol. (C)



A and B are

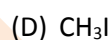
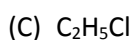
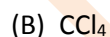
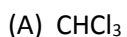


Sol. (B).



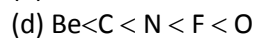
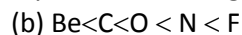
Zinc is not present, hence CH_3CHO first formed is oxidised to CH_3COOH .

Q28. Cl_2 reacts with C_2H_6 in presence of light to form



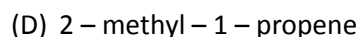
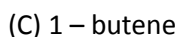
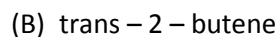
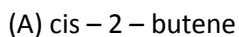
Sol. (C)

Q29. The correct order of increasing electron affinity of the following elements is



Sol. (C)

Q30. Which of the following has zero dipole moment?



Sol. (B). The dipole moments (two of equal magnitude) act in opposite direction and hence cancel each other.