

**Class: 11**  
**Subject: Chemistry**  
**Topic: ASK15E11UT07**  
**No. of Questions: 30**

Q1. Which of the following is not involved in the formation of photochemical smog?

- (a) NO
- (b) O<sub>3</sub>
- (c) C<sub>x</sub>H<sub>y</sub>
- (d) SO<sub>2</sub>

Sol. (d)

Sulfur dioxide does not contribute for the formation of smog

Q2. Which of the following is a secondary pollutant?

- (a) NO
- (b) CO
- (c) SO<sub>2</sub>
- (d) PAN

Sol. (b)

Carbon monoxide acts as secondary pollutant.

Q3. Which of the following is not considered to be a pollutant?

- (a) NO<sub>2</sub>
- (b) CO<sub>2</sub>
- (c) O<sub>3</sub>
- (d) C<sub>x</sub>H<sub>y</sub>

Sol. (b)

Q4. The most abundant hydrocarbon pollutant is:

- (a) Methane
- (b) Ethane
- (c) Propane

(d) Butane

Sol. (a)

Q5. Which of the following is the coldest reexampleion?

- (a) Troposphere
- (b) Mesosphere
- (c) Stratosphere
- (d) Thermosphere

Sol. (b)

Q6. Which of the following is true about photochemical smog?

- (a) It is reducing in nature
- (b) It is formed in winter
- (c) It is a mixture of smoke and fog
- (d) It causes irritation in eyes

Sol. (d)

Q7. What is most harmful for life on globe?

- (a) Deforestation
- (b) Soil erosion
- (c) Increasing desert
- (d) Nuclear fall out

Sol. (d)

Q8. If BOD of river is high, this implies that the river is

- (a) Non polluted at all
- (b) Highly polluted with inorganic chemicals
- (c) Highly polluted with organic chemicals which are decomposed by microorganisms
- (d) Polluted with pesticides

Sol. (c)

- Q9. Disease caused by eating fish found in water contaminated with industrial waste having mercury is
- (a) Minamata disease
  - (b) Brights disease
  - (c) Hashimotos disease
  - (d) Osteosclerosis.

Sol. (a)

- Q10. Fluorosis, the base disease is caused by the presence of
- (a) Pesticides in water
  - (b) Fluorides in water
  - (c) CO in air
  - (d) SO<sub>2</sub> in air

Sol. (b)

- Q11. Photochemical smog is related to pollution if
- (a) Air
  - (b) Water
  - (c) Soil
  - (d) All of the above.

Sol. (a)

- Q12. Which of the following is not a greenhouse gas?
- (a) CO<sub>2</sub>
  - (b) CH<sub>2</sub>
  - (c) Chloro fluoro carbons
  - (d) O<sub>2</sub>

Sol. (d)

Q13. Depletion of ozone layer causes

- (a) Blood cancer
- (b) Lung cancer
- (c) Skin cancer
- (d) Breast cancer

Sol. (c)

Q14. The acid rain does not contain

- (a) Sulphuric acid
- (b) Nitric acid
- (c) Sulphurous acid
- (d) Acetic acid

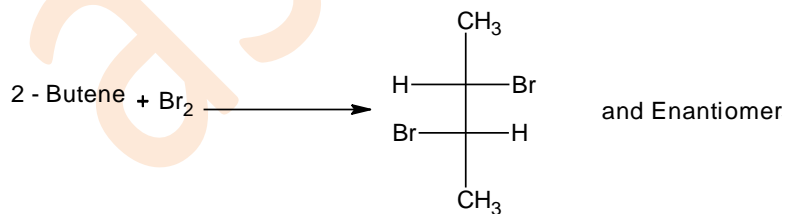
Sol. (d)

Q15. Which one of the following is a source of energy but does not cause pollution?

- (a) Gasoline
- (b) Nuclear power plants
- (c) Fossil fuels
- (d) Sun

Sol. (d)

Q16.



(by anti addition)

2 - butene is

- (a) Cis
- (b) Trans
- (c) both

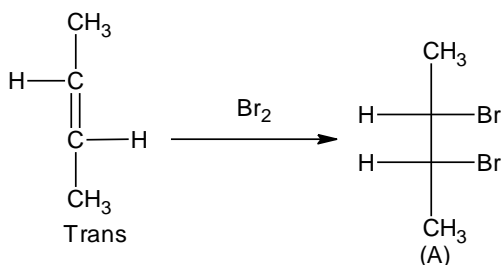
(d) none

Sol.

(a)

On cis alkene there is anti addition of bromine such that product is optically active. d and l mixture is formed.

Q17.



Which is true statement?

- (a) A is formed by anti addition and is meso
- (b) A is formed by syn addition and is meso
- (c) A is formed by anti addition and is racemic
- (d) A is formed by syn addition and is racemic

Sol.

(a)

On trans – alkene there is anti addition of Br<sub>2</sub> molecule forming meso compound.

Q18. CH<sub>3</sub> — CH<sub>3</sub>, CH<sub>2</sub> = CH<sub>2</sub> and CH ≡ CH can be distinguished in the laboratory by the use of

- (a) only Br<sub>2</sub> water
- (b) only Baeyer reagent
- (c) only Cu<sub>2</sub>Cl<sub>2</sub>/NaOH
- (d) Br<sub>2</sub> water and CuCl<sub>2</sub> /NH<sub>4</sub>OH

Sol.

(d)

Br<sub>2</sub> water will distinguish both CH<sub>2</sub> = CH<sub>2</sub> and CH ≡ CH from CH<sub>3</sub> — CH<sub>3</sub>. Then CuCl<sub>2</sub>/ NH<sub>4</sub>OH distinguishes CH ≡ CH from CH<sub>2</sub> = CH<sub>2</sub>.

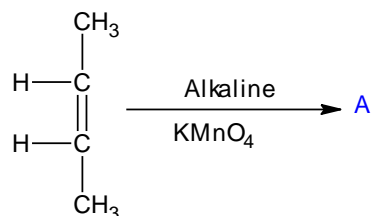
Q19. Which among the following alkynes will give aldehyde on hydroboration oxidation reaction?

- (a) CH<sub>3</sub> — C ≡ C — H
- (b) CH<sub>3</sub> — CH<sub>2</sub> — C ≡ C — H
- (c) CH ≡ CH
- (d) All of these

Sol. (d)

All terminal alkynes on hydroboration oxidation will give an aldehyde.

Q20.



Which is true about this reaction?

- (a) A is meso 1, 2 – butan – diol formed by syn addition
- (b) A is meso 1, 2 – butan – diol formed by anti addition
- (c) A is a racemic mixture of d and f 1, 2 – butan – diol formed by anti addition.
- (d) A is a racemic mixture of d and l 1, 2 – butan – diol formed by syn addition.

Sol. (a)

On cis – alkene. There is syn addition of two —OH groups forming meso compound.

Q21. In the reaction with Tollen's reagent acetylene shows

- (a) oxidizing property
- (b) reducing property
- (c) basic property
- (d) acidic property

Sol. (d)

Acidic hydrogen of acetylene is replaced by  $\text{Ag}^+$  ion of Tollen's reagent.

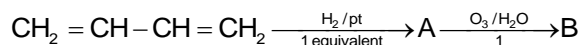
Q22. Which of the following has zero dipole moment?

- (a) cis – 2 – butane
- (b) trans – 2 – butane
- (c) 1 – butane
- (d) 2 – methyl – 1 – propene

Sol. (b)

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

Q23.

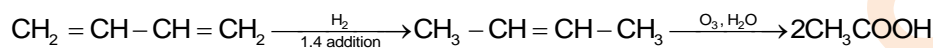


A and B are

- (a)  $\text{CH}_3\text{CH}_2\text{CH} = \text{CH}_2$  and  $(\text{CH}_3\text{CH}_2\text{COOH} + \text{CO}_2)$
- (b)  $\text{CH}_3\text{CH} = \text{CH} - \text{CH}_3$  and  $\text{CH}_3\text{COOH}$  (2 mol)
- (c)  $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$  and  $\text{CH}_3\text{CHO}$  (2 mol)
- (d)  $\text{CH}_3\text{CH}_2\text{CH} = \text{CH}_2$  and  $(\text{CH}_3\text{CH}_2\text{CHO} + \text{HCHO})$

Sol.

(b)



Zinc is not present, hence  $\text{CH}_3\text{CHO}$  first formed is oxidised to  $\text{CH}_3\text{COOH}$

Q24. Alkene do not give addition with

- (a)  $\text{Br}_2$
- (b)  $\text{BH}_3$
- (c)  $\text{Hg}(\text{OCOCH}_3)$
- (d)  $\text{I}_2$

Sol.

(d)

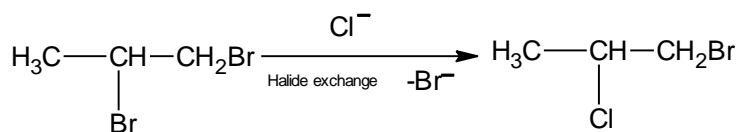
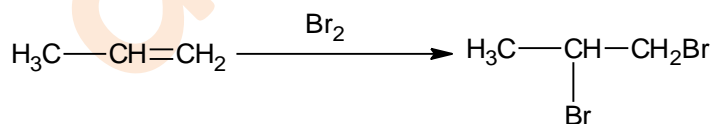
Alkene adds to iodine and gives 1, 2 - iodoalkane which is highly unstable and converts again into alkene.

Q25. Consider the following reaction  $\text{CH}_3 - \text{CH} = \text{CH}_2 \xrightarrow{\text{Br}_2 / \text{NaCl}}$  Product of the reaction will be

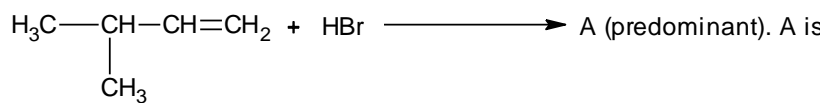
- (a) only 1, 2 - dibromopropane
- (b) only 1 - bromo - 2 - chloropropane
- (c) only - 2 - bromo - 1 - chloropropane
- (d) mixture of 1, 2 - dibromopropane and 1 - bromo - 2 - chloropropane

Sol.

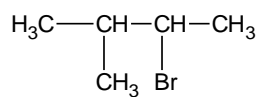
(d)



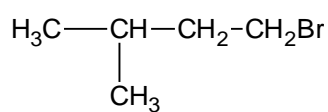
Q26.



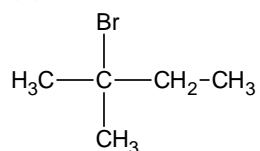
(a)



(b)

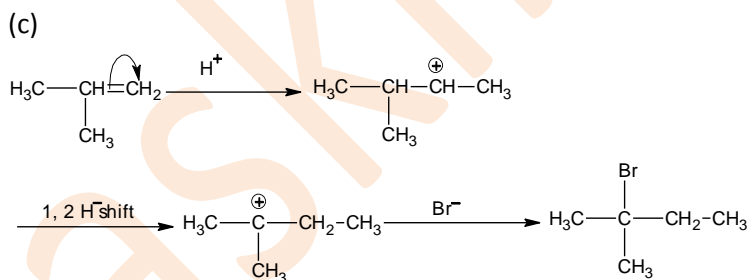


(c)



(d) None is correct

Sol.

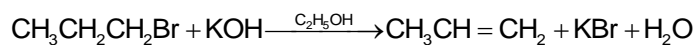


Q27. n – propyl bromide on treatment with ethanoic potassium hydroxide produces

- (a) Propane
- (b) Propene
- (c) Propyne
- (d) Propanol

Sol. (b)





Q28. 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.

Q29. By which of the following reagent butanoic acid can be converted into butane

- (a) HI/P/Δ
- (b) NaOH/CaO
- (c) CH<sub>3</sub>MgBr
- (d) All of these

Sol.

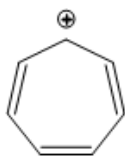
(a)

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

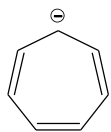


Q30. Using huckel's rule predicts which of the following hydrocarbons will exhibit aromatic stabilization?

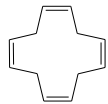
(a)



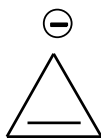
(b)



(c)



(d)



Sol.

(a)

Only (a) tropylium cation with  $6\pi$  electrons.

