1. Only two isomeric monochloro derivatives are possible for :-

(a) n-Pentane (b) 2,4-Dimethyl pentane
(c) Toluene (d) 2,3-Dimethyl butane

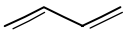
2. The number of possible monochloro derivatives of 2, 2, 3, 3-Tetramethylbutane is -

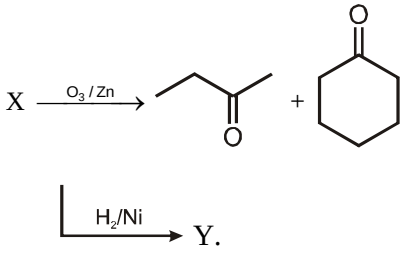
(a) 2 (b) 3
(c) 4 (d) 1

3. Which of the following alkene gives four monochloro (structural isomer) products after hydrogenation ?

(a) Pent-2-ene (b) 2-Methylbut-2-ene
(c) 3-Methylhex-2-ene (d) 2, 3-Dimethylbut-2-ene

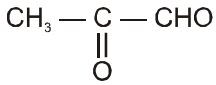
4. An organic compound C_4H_6 on ozonolysis gives formaldehyde and glyoxal. What is the structure of organic compound ?

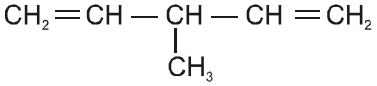
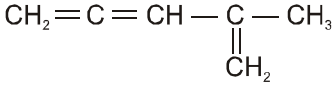
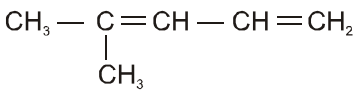
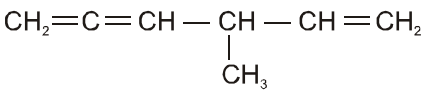
(a)  (b) 
(c)  (d) $CH_3–CH_2–C\equiv CH$

5. 

The IUPAC name of compound Y is :

(a) 2-Cyclohexyl butane (b) 1-Methyl propyl cyclohexane
(c) Butyl cyclohexane (d) 1-Cyclohexyl butane

6. An alkene give two moles of HCHO, one mole of CO_2 and one mole of  on ozonolysis. What is its structure?

(a)  (b) 
(c)  (d) 

7. General fomula C_nH_{2n-2} represents:

(a) alkenes (b) alkanes
(c) alkynes (d) none

8. To prepare But-2-yne from 2, 2, 3, 3-Tetrachlorobutane, reagent used is :

(a) Zinc dust / Δ (b) Sodamide
(c) Alc. KOH (d) aq. KOH

9. Which of the following compounds on hydrolysis gives propyne ?

(a) CaC_2 (b) Mg_2C_3
(c) Al_4C_3 (d) Cu_2Cl_2

10. Which of the following will react most readily with bromine?

(a) $CH \equiv CH$ (b) $CH_2 = CH_2$
(c) $CH_3CH = CH_2$ (d) $CH_3CH_2CH_3$.

11. Most Acidic hydrogen is present in:

(a) ethyne (b) ethene
(c) benzene (d) ethane

12. When 1-butyne is treated with excess of HBr, the expected product is

(a) 1, 2-Dibromobutane (b) 2, 2-Dibromobutane
(c) 1, 1-Dibromobutane (d) All the above

13. Acetylene on treatment with dil. H_2SO_4 having $HgSO_4$ gives :

(a) acetaldehyde (b) acetic acid
(c) ethanol (d) ethylene

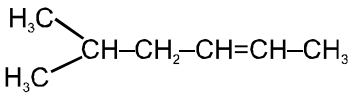
14. Which of the following reagents will distinguish between 1-butyne and 2-butyne?

(a) Br_2/ CCI_4 (b) $AgNO_3 + NH_4OH$
(c) Dil. Cold $KMnO_4$ (d) $KMnO_4$

15. Ammonical $AgNO_3$ give white ppt. after reaction with any compound then this reflects the presence of

(a) One – CHO group (b) One triple bond
(c) A terminal alkyne (d) Compound is unsaturated

16. Which will undergo reaction with ammonical $AgNO_3$:

(a) 
(b) $CH_3–CH=CH–C\equiv CH$
(c) $CH_3–CH_2–CH=CH–CH_2–CH_3$ (d) $CH_2=CH–CH_2–CH_3$

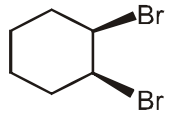
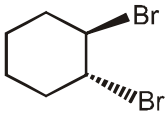
17. Ethylene readily undergoes:

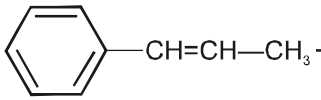
(a) addition reaction (b) substitution reaction
(c) elimination reaction (d) rearrangement reaction

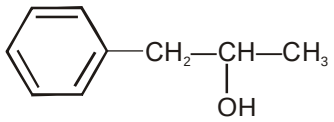
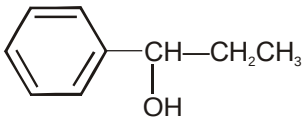
18. Reaction of ethene with Br_2 in CCI_4 gives:

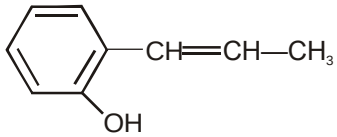
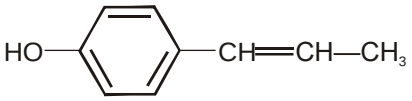
(a) Bromoethane (b) 1, 2-Dibromoethane
(c) 1, 1-Dibromoethane (d) 1, 1, 2, 2-Tetrabromoethane.

19.  + Br_2 ⟶ P, P will have configuration :

(a)  (b)  (c) both true (d) none is true

20.  P (major), P is :

(a)  (b) 

(c)  (d) 

21. Addition of CI_2 water (or HOCI) to propene gives

(a) 1-Chloro-2-propanol (b) 2-Chloro-1-propanol
(c) 3-Chloro-1-propanol (d) 1-Chloro-1-propanol

22. Tert-alkyl halide is obtained as major product in :

(a) $(CH_3)_3CH \xrightarrow[hv]{Br_2}$ (b) $(CH_3)_2CH–CH=CH_2 \xrightarrow[Peroxide]{HBr}$

(c) $(CH_3)_2$ CH–CH=$CH_2 \xrightarrow{HBr}$ (d) Both (a) and (c)

23. Addition of HCI to 2-methyl-2-butene mainly gives

(a) 1-Chloro-2-methylbutane (b) 2-Chloro-2-methylbutane
(c) 2-Chlorobutane (d) 1-Chlorobutane.

24. Addition of HCl to 3, 3, 3-trichloropropene gives

(a) $Cl_3CCH_2CH_2Cl$ (b) $Cl_3CCHClCH_3$
(c) $Cl_2CHCHClCH_2Cl$ (d) $Cl_2CHCH_2CHCl_2$

25. The addition of HBr to 2-pentene gives

(a) 2-Bromopentane only
(b) 3-Bromopentane only
(c) Both 2-bromopentane and 3-bromopentane is nearly equal amounts
(d) Only 1-Bromopentane

26. Kharasch effect regarding addition of HBr is not observed in :

(a) hex–1–ene (b) prop–1–ene
(c) hex–3–ene (d) pent–1–ene

27. Intermediate in the following reaction is

$CH_3–CH=CH_2 \xrightarrow[\text{Peroxide}]{HCl}$

(a) $CH_3–\overset{\oplus}{C}H–CH_3$ (b) $CH_3–\underset{\displaystyle Cl}{\underset{|}{C}}H–\overset{\oplus}{C}H_2$

(c) $CH_3–\dot{C}H–CH_2–Cl$ (d) $CH_3–\overset{\oplus}{C}H–CH_2–Cl$

28. Peroxide effect is observed

(a) Only with HBr (b) Only with HI
(c) Only with HCI (d) Only with HF

29. Which of the following reacts most readily with conc. H_2SO_4 ?

(a) $CH_2 = CH_2$ (b) $CH_3CH=CH_2$
(c) $(CH_3)_2C = CH_2$ (d) with same rate

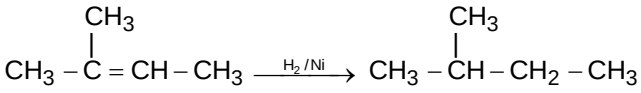
30. Reaction of HBr with propene in the presence of peroxide gives:

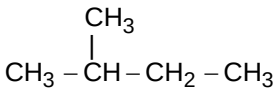
(a) isopropyl bromide (b) allyl bromide
(c) n-propyl bromide (d) 3-bromopropane

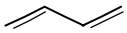
1. (d)

2. (d)

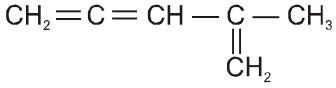
3. **(b)**



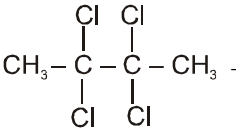

has four chemically different types of hydrogen atoms.

4. (c)  $\xrightarrow[(2)\ Zn,\ H_2O]{(1)\ O_3}$ $CH_2{=}O + OHC{-}CHO$ (glyoxal)

5. (b)

6. (b)  $\xrightarrow{O_3/Zn+H_2O}$ $2HCHO + CO_2 + CH_3 — CO — CHO$

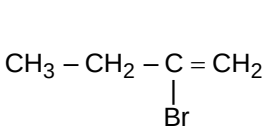
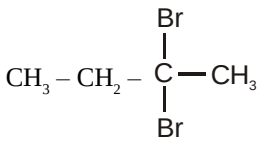
7. (c) General fomula C_nH_{2n-2} represents alkynes

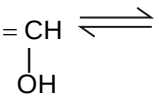
8. (a)  $\xrightarrow{Zn\ dust}$ $CH_3 - C \equiv C - CH_3$ (But -2-yne) (C;wV -2-vkbZu)

9. (b) $2Mg^{+2}(\bar{C} \equiv C - C^{3-}) \xrightarrow{H_3O^+} Mg(OH)_2 + CH \equiv C - CH_3$ (Propyne)

10. (c)

11. (a) Most Acidic hydrogen is present in ethyne.

12. (b) $CH_3 - CH_2 - C \equiv C - H \xrightarrow{HBr}$  $\xrightarrow{HBr}$ 

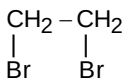
13. (a) $H{-}C{\equiv}C{-}H + H_2O \xrightarrow{Hg^{+2}}$  CH_3CHO.

14. (b)butyne and 2-Butyne can be distinguish by ammonical silver nitrate solution.

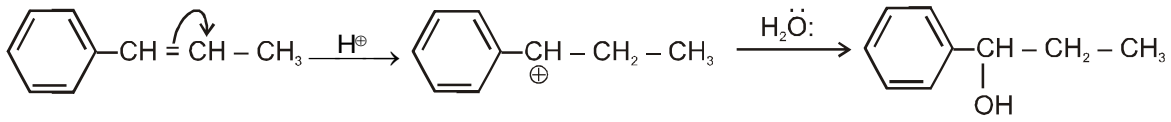
15. (c)

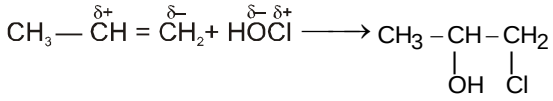
16. (b) Terminal alkyne can react with ammonical $AgNO_3$.

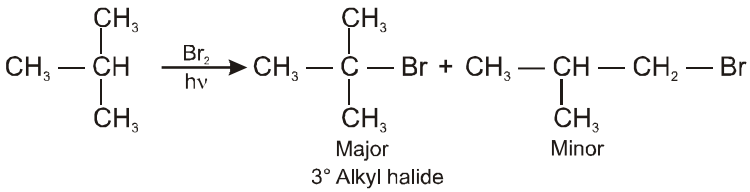
17. (a)

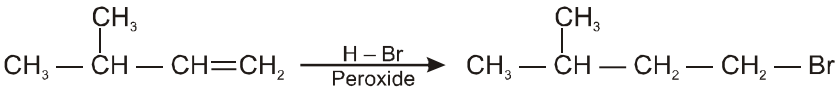
18. (b) $CH_2 = CH_2 + Br_2 \xrightarrow{CCl_4}$ 

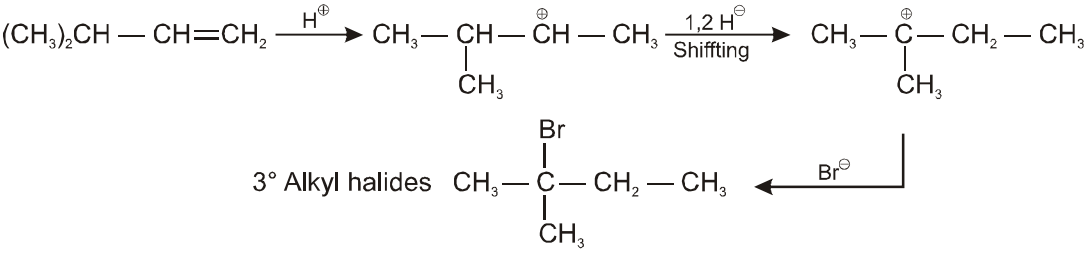
19. (b) Bromination is anti addition.

20. (b) 

21. (a) 

22. (d) (a) 

(b) 

(c) 

So, answer is (d)

23. (b)

24. (a)

25. (c)

26. (c)

27. (a)

28. (a) Peroxide effect is observed only with HBr

29. (c)

30. (c) $CH_3 - CH = CH_2 + H-Br \xrightarrow{H_2O_2} CH_3 - CH_2 - CH_2-Br$