

Organic Chemistry

B.Sc First Year

Multiple Choice Question

1) IUPAC Nomenclature of Organic Compounds

- 1) Atom or group of atoms in a molecule which gives characteristics chemical properties to the molecule, called as ----
- a) **Functional group** b) Isomers c) Monomers d) None of these
- 2) Which of the following example containing alcohol functional group ?
- a) CH_3COCH_3 b) CH_3CHO c) $\text{CH}_3\text{-NH}_2$ **d) $\text{CH}_3\text{-OH}$**
- 3) Which of the following example containing aldehyde functional group ?
- a) CH_3COCH_3 **b) CH_3CHO** c) $\text{CH}_3\text{-NH}_2$ d) $\text{CH}_3\text{-OH}$
- 4) Which of the following example containing ketone functional group ?
- a) **CH_3COCH_3** b) CH_3CHO c) $\text{CH}_3\text{-NH}_2$ d) $\text{CH}_3\text{-OH}$
- 5) Which of the following example containing ether functional group ?
- a) CH_3COCH_3 b) CH_3CHO **c) $\text{CH}_3\text{-O-CH}_3$** d) $\text{CH}_3\text{-OH}$
- 6) Which of the following example containing carboxylic acid functional group ?
- a) **$\text{CH}_3\text{-COOH}$** b) CH_3CHO c) $\text{CH}_3\text{-NH}_2$ d) $\text{CH}_3\text{-OH}$
- 7) Which of the following example containing ester functional group ?
- a) CH_3COOH b) CH_3CHO c) $\text{CH}_3\text{-NH}_2$ **d) $\text{CH}_3\text{COOCH}_3$**
- 8) Which of the following example containing amide functional group ?
- a) $\text{CH}_3\text{-NH}_2$ b) CH_3CHO **c) $\text{CH}_3\text{-CONH}_2$** d) $\text{CH}_3\text{COOCH}_3$
- 9) Compounds which consists of open chain carbon atoms are called ---- compounds.
- a) **aliphatic** b) aromatic c) heterocyclic d) alicyclic
- 10) The compounds which contains one or more benzene rings or physical and chemical properties of compound resemble like benzene are called ---- compounds.
- a) aliphatic **b) aromatic** c) heterocyclic d) alicyclic
- 11) Cyclic compounds which contain at least one hetero atom other than carbon are called ----- compounds.
- a) aliphatic b) aromatic **c) heterocyclic** d) alicyclic
- 12) Cyclic compounds which consists of only carbon atoms are called ---- compounds.
- a) aliphatic b) aromatic c) heterocyclic **d) alicyclic**

- 13) Saturated hydrocarbons are called as :
- a) Alkene **b) Alkane** c) Alkyne d) None of these
- 14) Unsaturated hydrocarbons containing one carbon-carbon double bond is called as :
- a) Alkyne b) Alkane **c) Alkene** d) None of these
- 15) Unsaturated hydrocarbons containing one carbon-carbon triple bond is called as :
- a) Alkyne** b) Alkene c) Alkane d) None of these
- 16) Hydrocarbons are---
- a) Composed of carbon and nitrogen b) Composed of carbon, hydrogen and oxygen
c) Composed of carbon and oxygen **d) Composed of carbon and hydrogen**
- 17) General molecular formula of alkane is
- a) C_nH_{2n+2}** b) C_nH_{2n} c) C_nH_{2n-2} d) None of these
- 18) General molecular formula of alkene is
- a) C_nH_{2n-2} **b) C_nH_{2n}** c) C_nH_{2n+2} d) None of these
- 19) General molecular formula of alkyne is
- a) C_nH_{2n-2}** b) C_nH_{2n} c) C_nH_{2n+2} d) None of these
- 20) Alkanes are also called as----
- a) Olefins **b) Paraffins** c) Allenes d) None of these
- 21) Alkenes are also called as ---
- a) Olefins** b) Paraffins c) Allenes d) None of these
- 22) Alkynes are also called as ---
- a) Olefins b) Paraffins **c) Acetylenes** d) None of these
- 23) The carbon-carbon bond length in alkane is
- a) 1.54 Å** b) 1.34 Å c) 1.28 Å d) None of these
- 24) The carbon-carbon bond length in alkene is
- a) 1.54 Å **b) 1.34 Å** c) 1.28 Å d) None of these
- 25) The carbon-carbon bond length in alkyne is
- a) 1.54 Å b) 1.34 Å **c) 1.28 Å** d) None of these
- 26) Cycloalkanes are also called as -----
- a) Paraffin **b) Cycloparaffins** c) Olefins d) None of these
- 27) IUPAC name of $CH_3-CH(CH_3)-CH_3$ is
- a) 2-ethyl propane b) 3-methyl propane
c) 2-methyl propane d) None of these

- 28) IUPAC name of $\text{CH}_2=\text{CH}-\text{CH}_2-\text{CH}_3$ is
 a) **1-Butene** b) 2-Butene c) 3-Butene d) None of these
- 29) IUPAC name of $\text{CH}_3-\text{C}\equiv\text{CH}$ is
 a) 3-propyne **b) 1-propyne** c) 2-propyne d) None of these
- 30) Select correct structure of 2-Butyne
 a) $\text{CH}_3-\text{CH}_2-\text{CH}=\text{CH}_2$ b) $\text{CH}_3-\text{CH}=\text{CH}-\text{CH}_3$
 c) **$\text{CH}_3-\text{C}\equiv\text{C}-\text{CH}_3$** d) None of these
- 31) Select correct structure of 1-Butyne
 a) $\text{CH}_3-\text{CH}_2-\text{CH}=\text{CH}_2$ b) $\text{CH}_3-\text{CH}=\text{CH}-\text{CH}_3$
 c) $\text{CH}_3-\text{C}\equiv\text{C}-\text{CH}_3$ **d) $\text{CH}_3-\text{CH}_2-\text{C}\equiv\text{CH}$**
- 32) IUPAC name of $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$ is -----
 a) 1-butene b) 2-butene **c) 1,3-butadiene** d) 1,2-butadiene
- 33) Select correct structure of propadiene
 a) **$\text{CH}_2=\text{C}=\text{CH}_2$** b) $\text{CH}_2=\text{CH}-\text{CH}_3$ c) $\text{CH}_3-\text{C}\equiv\text{CH}$ d) None of these
- 34) IUPAC name of $(\text{CH}_3)_3\text{C}-\text{OH}$ is -----
 a) t-butyl alcohol b) 3-propanol **c) 2-methyl 2-propanol** d) None of these
- 35) Select correct structure of 2-propanol
 a) $(\text{CH}_3)_3\text{C}-\text{OH}$ **b) $(\text{CH}_3)_2\text{CH}-\text{OH}$** c) $\text{CH}_3\text{CH}_2\text{CH}_2-\text{OH}$ d) None of these
- 36) Methanol is known as -----
 a) Rubbing alcohol b) Grain alcohol
c) Wood alcohol d) Denatured alcohol
- 37) Ethanol is known as -----
 a) Rubbing alcohol **b) Grain alcohol**
 c) Wood alcohol d) Denatured alcohol
- 38) IUPAC name of $\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{OH}$ is ----
 a) t-butyl alcohol b) 2-propanol c) 2-methyl 2-propanol **d) 1-propanol**
- 39) IUPAC name of $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$ is
 a) 1-Butanol b) 3-propanol **c) 2-Butanol** d) None of these
- 40) IUPAC name of $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2-\text{OH}$ is
 a) **1-Butanol** b) 3-propanol c) 2-Butanol d) None of these
- 41) IUPAC name of CH_3-CHO is -----
 a) Methanal b) Propanal c) Ethanol **d) Ethanal**

- 42) IUPAC name of $\text{CH}_3\text{-CH}_2\text{-CHO}$ is ---
 a) Methanal **b) Propanal** c) Ethanol d) Ethanal
- 43) IUPAC name of $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CHO}$ is ---
a) Butanal b) Propanal c) Ethanol d) Ethanal
- 44) Select correct structure of 2-methyl propanal :
 a) CH_3CHO b) $\text{CH}_3\text{CH}_2\text{CHO}$ **c) $\text{CH}_3\text{CH}(\text{CH}_3)\text{CHO}$** d) None of these
- 45) IUPAC name of CH_3COCH_3 is ---
 a) Propane b) Propanal c) Propanol **d) Propanone**
- 46) IUPAC name of $\text{CH}_3\text{CH}_2\text{COCH}_3$ is ---
 a) 1-Butanone **b) 2-Butanone** c) 1-Butanal d) 2-Butanal
- 47) Select correct structure of 3-Pentanone :
 a) $\text{CH}_3\text{CH}_2\text{COCH}_3$ b) $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CHO}$
c) $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$ d) None of these
- 48) Select correct structure of 2-Pentanone
a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{COCH}_3$ b) $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CHO}$
 c) $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$ d) None of these
- 49) IUPAC name of CH_3OCH_3 is ---
a) Methoxy methane b) Methoxy ethane c) Ethoxy methane d) None of these
- 50) IUPAC name of $\text{CH}_3\text{CH}_2\text{OCH}_3$ is ---
 a) Methoxy methane **b) Methoxy ethane** c) Ethoxy methane d) None of these
- 51) IUPAC name of $\text{CH}_3\text{OCH}(\text{CH}_3)_2$ is ---
 a) 1-Methoxy propane b) Methoxy ethane **c) 2-Methoxy propane** d) None of these
- 52) Select correct structure of 1-Methoxy propane
a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_3$ b) $\text{CH}_3\text{OCH}(\text{CH}_3)_2$ c) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ d) None of these
- 53) Select correct structure of Ethoxy ethane :
 a) $\text{CH}_3\text{CH}_2\text{OCH}_3$ b) $\text{CH}_3\text{OCH}(\text{CH}_3)_2$ **c) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$** d) None of these
- 54) IUPAC name of $\text{CH}_3\text{CH}(\text{NH}_2)\text{CH}_3$ ---
 a) 1-propanamine **b) 2-propanamine** c) iso-propyl amine d) None of these
- 55) IUPAC name of $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$ ---
a) 1-propanamine b) 2-propanamine c) iso-propyl amine d) None of these
- 56) IUPAC name of CH_3NHCH_3 ---
 a) N-methyl ethanamine b) N-ethyl ethanamine
c) N-methyl methanamine d) None of these

- 72) Select correct structure of Methyl propanoate :
- a) $\text{CH}_3\text{COOC}_2\text{H}_5$ b) $\text{CH}_3\text{CH}_2\text{COOC}_2\text{H}_5$ **c) $\text{CH}_3\text{CH}_2\text{COOCH}_3$** d) None of these
- 73) IUPAC name of $\text{C}_6\text{H}_5\text{NH}_2$ is ---
- a) Anisole **b) Aniline** c) Toluene d) None of these
- 74) IUPAC name of $\text{C}_6\text{H}_5\text{OCH}_3$ is ---
- a) Anisole** b) Aniline c) Toluene d) None of these
- 75) IUPAC name of $\text{C}_6\text{H}_5\text{CH}_3$ is ---
- a) Anisole b) Aniline **c) Toluene** d) None of these
- 76) IUPAC name of $\text{C}_6\text{H}_5\text{NO}_2$ is ---
- a) Anisole **b) Nitrobenzene** c) Toluene d) None of these
- 77) Which is not an example of Aldehyde ?
- a) HCHO b) CH_3CHO c) $\text{C}_2\text{H}_5\text{CHO}$ **d) CH_3COCH_3**
- 78) Which is not an example of ketone ?
- a) $\text{C}_2\text{H}_5\text{COC}_2\text{H}_5$ **b) CH_3CHO** c) $\text{C}_2\text{H}_5\text{COCH}_3$ d) CH_3COCH_3
- 79) Which is not an example of alcohol ?
- a) H-CHO** b) $\text{CH}_3\text{-OH}$ c) $\text{C}_2\text{H}_5\text{-OH}$ d) $\text{CH}_3\text{CH}_2\text{-OH}$
- 80) Which is not an example of ether ?
- a) $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$ b) CH_3OCH_3 c) $\text{C}_2\text{H}_5\text{OCH}_3$ **d) CH_3COCH_3**
- 81) Which is not an example of ester ?
- a) HCOOCH_3 b) $\text{CH}_3\text{COOC}_2\text{H}_5$ c) CH_3OCH_3 d) $\text{CH}_3\text{COOCH}_3$

2) Mechanism Of Organic Reaction

- 1) Homolytic bond fission of covalent bond will produce---
- a) Carbanion ions b) Electrophiles **c) Free radicals** d) Carbocations
- 2) Heterolytic bond fission of covalent bond will produce---
- a) Carbanion b) Carbocation c) Free radicals **d) Both a & B**
- 3) A reagent which can accept electron pair in a chemical reaction is called as
- a) Electrophile** b) Nucleophile c) Free radicals d) None of these
- 4) A reagent which can donate electron pair in a chemical reaction is called as
- a) Electrophile **b) Nucleophile** c) Free radicals d) None of these
- 5) The order of stability of carbocation is :
- a) Secondary > tertiary > primary **b) Tertiary > secondary > primary**
 c) Tertiary > primary > secondary d) primary > secondary > tertiary

- 6) The order of stability of carbanion is :
- a) Secondary > tertiary > primary b) Tertiary > primary > secondary
 c) Tertiary > secondary > primary **d) Primary > secondary > tertiary**
- 7) The order of stability of Free radicals is :
- a) Tertiary > secondary > primary** b) Primary > secondary > tertiary
 c) Secondary > primary > tertiary d) None of these
- 8) Neutral carbon atom having two bonds and two electrons is called as ---
- a) Nitrene **b) Carbene** c) Aryne d) None of these
- 9) Monovalent nitrogen having two lone pair of electrons is called as---
- a) Aryne b) Carbene **c) Nitrene** d) None of these
- 10) Aromatic compound containing one formal carbon-carbon triple bond is called as---
- a) Aryne** b) Carbene c) Benzene d) None of these
- 11) Symmetrical breaking of covalent bond is called as ---
- a) Heterolysis b) Thermolysis c) photolysis **d) Homolysis**
- 12) Unsymmetrical breaking of covalent bond is called as ---
- a) Thermolysis **b) Heterolysis** c) Homolysis d) Photolysis
- 13) Electrophiles are called as---
- a) Lewis acids** b) Lewis bases c) Both a & b d) None of these
- 14) Nucleophiles are called as ---
- a) Lewis acids **b) Lewis bases** c) Both a & b d) None of these
- 15) Positively charged ions or neutral species having electron deficient centers is called as
- a) Carbocation b) Carbanion c) Nucleophile **d) Electrophile**
- 16) Neutral species or negatively charged ions having electron rich centers is called as --
- a) Nucleophiles** b) Electrophiles c) Carbocation d) Carbanions
- 17) A chemical reaction, reacting species is called---
- a) Reagent **b) Substrate** c) Product d) None of these
- 18) A chemical reaction, attacking species is called---
- a) Product b) Substrate **c) Reagent** d) None of these
- 19) Which of the following carbonium ion will be more stable ?
- a) $^+\text{CH}_3$ b) $\text{CH}_3\text{-CH}_2^+$ c) $(\text{CH}_3)_2\text{CH}^+$ **d) $(\text{CH}_3)_3\text{C}^+$**
- 20) The least stable Carbanion is---
- a) $\text{C}_6\text{H}_5\text{CH}_2^-$ **b) $(\text{CH}_3)_3\text{C}^-$** c) $(\text{CH}_3)_2\text{CH}^-$ d) CH_3^-

21) Which of the following free radical will be more stable ?

- a) $\dot{\text{C}}\text{H}_3$ b) $\text{C}\dot{\text{H}}_3\text{C}\dot{\text{H}}_2$ **c) $(\text{C}\dot{\text{H}}_3)_3\text{C}$** d) $(\text{C}\dot{\text{H}}_3)_2\dot{\text{C}}\text{H}$

22) Which of the following is an Electrophile ?

- a) $\text{C}\dot{\text{H}}_3^+$** b) $\text{C}\dot{\text{H}}_3^-$ c) $\text{N}\dot{\text{H}}_3$ d) $\text{C}\dot{\text{H}}_4$

23) Which of the following is not an Nucleophile ?

- a) $\text{B}\dot{\text{r}}^+$ b) $\text{B}\dot{\text{F}}_3$ c) H_3O^+ **d) $\text{N}\dot{\text{H}}_3$**

24) Which of the following is a Nucleophile ?

- a) $\text{A}\dot{\text{l}}\text{C}\dot{\text{l}}_3$ b) $\text{B}\dot{\text{F}}_3$ c) H_3O^+ **d) $\text{C}\dot{\text{N}}^-$**

25) Which of the following is not a Nucleophile ?

- a) $\text{N}\dot{\text{H}}_3$ b) $\text{H}\text{S}\dot{\text{O}}_4^-$ **c) $\text{A}\dot{\text{l}}\text{C}\dot{\text{l}}_3$** d) $\text{O}\dot{\text{H}}^-$

26) Which of the following is a Lewis acid ?

- a) $\text{A}\dot{\text{l}}\text{C}\dot{\text{l}}_3$** b) $\text{C}\dot{\text{H}}_3\text{O}\dot{\text{H}}$ c) $\text{N}\dot{\text{H}}_3$ d) H_2O

27) Which of the following is a Lewis base ?

- a) $\text{A}\dot{\text{l}}\text{C}\dot{\text{l}}_3$ b) $\text{B}\dot{\text{F}}_3$ **c) $\text{N}\dot{\text{H}}_3$** d) H_3O^+

28) Carbene is ---

- a) +vely charged ion b) -vely charged ion
c) Neutral species d) None of these

29) Hybridization of carbon in carbocation is ---

- a) SP hybridized **b) SP_2 hybridized** c) SP_3 hybridized d) None of these

30) Hybridization of carbon in carbanion is ---

- a) SP hybridized b) SP_2 hybridized **c) SP_3 hybridized** d) None of these

31) Nitrogen atom in nitrene is ---

- a) Monovalent** b) Divalent c) Trivalent d) Tetravalent

32) No-bond character in the adjacent C-H bond is called :

- a) Resonance b) Inductive effect c) Field effect **d) Hyperconjugation**

33) Permanent polarization of electron in a covalent bond is called :

- a) Resonance **b) Inductive effect** c) Field effect d) Hyperconjugation

34) Mesomeric effect is shown by ----

- a) Toluene b) Acetic acid **c) Aniline** d) None of these

35) Which of the following is an example of Carbene ?

- a) $^- \text{C}\dot{\text{H}}_3$ b) $^+ \text{C}\dot{\text{H}}_3$ **c) $^- \text{C}\dot{\text{H}}_2$** d) $^- \text{C}\dot{\text{H}}_3$

- 36) Which of the following is an example of Aryne ?
a) Benzynes b) Benzene c) Benzenol d) Phenol
- 37) Which of the following is an example of Carbonium ion ?
 a) $\cdot\text{CH}_3$ b) $\cdot\text{CH}_3$ **c) $^+\text{CH}_3$** d) $\cdot\text{CH}_2$
- 38) Which of the following is an example of Carbanion ?
a) $-\text{CH}_3$ b) $\cdot\text{CH}_3$ c) $^+\text{CH}_3$ d) $\cdot\text{CH}_2$
- 39) Which of the following is an example of Free radical ?
 a) $-\text{CH}_3$ **b) $\cdot\text{CH}_3$** c) $^+\text{CH}_3$ d) $\cdot\text{CH}_2$
- 40) Homolytic bond fission can be carried out in the presence of
 a) Polar solvent b) Non polar solvent **c) U.V.light** d) None of these
- 41) Heterolytic bond fission can be carried out in the presence of ---
a) Polar solvent b) Non polar solvent c) U.V.light d) None of these

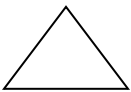
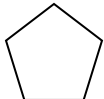


3) Alkane, Alkene and Alkynes

- 1) Methyl magnesium bromide on hydrolysis with water gives ---
a) Methane b) Ethene c) Propane d) None of these
- 2) Ethyl magnesium bromide on hydrolysis with water gives ---
 a) Methane **b) Ethene** c) Propane d) None of these
- 3) Electrolysis of concentrated solution of sodium acetate gives ----
 a) Methane **b) Ethene** c) Propane d) None of these
- 4) Higher alkanes converted into benzene or its homologous at high temp. in presence of catalyst is known as -----
 a) Cyclization b) Dehydration **c) Aromatization** d) None of these
- 5) When n-hexane is passed over $\text{Cr}_2\text{O}_3/\text{Al}_2\text{O}_3$ catalyst at 600°C , 15 atm. pressure to give -----
 a) Phenol b) Aniline c) Toluene **d) Benzene**
- 6) Saturated hydrocarbons containing one carbon-carbon single bond is called as :
 a) Alkyne **b) Alkane** c) Alkene d) None of these
- 7) Unsaturated hydrocarbons containing one carbon-carbon double bond is called as :
 a) Alkyne b) Alkane **c) Alkene** d) None of these

- 8) General molecular formula of alkene is :
- a) C_nH_{2n+2} b) C_nH_{2n+1} c) C_nH_{2n+2} d) None of these
- 9) The carbon atom involved in the double bond of an alkene are ---
- a) SP hybridized **b) SP^2 hybridised** c) SP^3 hybridised d) None of these
- 10) General molecular formula of alkene is :
- a) C_nH_{2n} b) C_nH_{2n+1} c) C_nH_{2n+2} d) None of these
- 11) The carbon-carbon bond length in alkene is :
- a) 1.54 \AA **b) 1.34 \AA** c) 1.28 \AA d) None of these
- 12) The carbon-carbon double bond in alkene is made up of ----
- a) Two sigma & one pi bond b) One sigma & two pi bonds
- c) One sigma & one pi bond** b) None of these
- 13) 1- Butyne on reduction with Pd/ $CaCO_3$, quinoline (Lindlar's catalyst) gives ---
- a) 1-Butene** b) 2-Butene c) 2-Methyl propene d) 2-Butanol
- 14) Acid catalyzed dehydration of 2-butanol with conc. H_2SO_4 gives ---
- a) 1-Butene **b) 2-Butene** c) 2-Methyl propene d) 2-Butanol
- 15) Electrophilic addition of HBr on Propene gives ----- according to Markownikoffs rule.
- a) Bromoethane b) 1-Bromo propane **c) 2-Bromo propane** d) None of these
- 16) Addition of HBr on propene in presence of peroxide gives ----- according to antimarkownikoffs rule.
- a) Bromoethane **b) 1-Bromo propane** c) 2-Bromo propane d) None of these
- 17) Electrophilic addition of Br_2 on ethene gives ----
- a) 1,2-dibromo ethane** b) 1,1-dibromo ethane
- c) Ethyl bromide d) None of these
- 18) Ethene,propene and butene are -----
- a) Liquids b) Solids **c) Gases** d) None of these
- 19) Markovnikov rule can apply when addition of ----
- a) Unsymmetrical reagent & Symmetrical alkene
- b) Symmetrical reagent & Unsymmetrical alkene
- c) Symmetrical reagent & Symmetrical alkene
- d) Unsymmetrical reagent & Unsymmetrical alkene**

- 31) Hydrolysis of calcium carbide with water gives -----
 a) **Acetylene** b) Ethane c) Ethylene d) None of these
- 32) Addition of two moles of Br₂ on Acetylene gives ----
 a) 1,1-dibromo ethane b) 2,2-dibromo ethane
 c) 1,2-dibromo ethane **d) 1,1,2,2-tetrabromo ethane**
- 33) Addition of two moles of HBr on Acetylene gives ---
 a) 1-bromo ethane b) 1,2-dibromo ethane
c) 1,1-dibromo ethane d) 1,1,2,2-tetrabromo ethane
- 34) Addition of one mole of HBr on Acetylene gives ----
 a) 1-bromo ethane **b) Vinyl bromide**
 c) 1,1-dibromo ethane d) 1,1,2,2-tetrabromo ethane

4) Cycloalkanes, Cycloalkenes and Dienes

- 1) General molecular formula of cycloalkane is :
 a) C_nH_{2n+2} b) C_nH_{2n-2} **c) C_nH_{2n}** d) None of these
- 2) Cyclic compounds containing closed saturated hydrocarbons are called as ----
 a) Cycloalkenes **b) Cycloalkanes** c) Cycloalkynes d) None of these
- 3) Cycloalkanes are also called as -----
 a) Paraffin **b) Cycloparaffins** c) Olefins d) None of these
- 4) Select correct structure of cyclopropane ----
 a)  b)  c)  d) 
- 5) Calcium salt of adipic acid (calcium adipate) on dry distillation followed by Clemenson reduction gives ----
a) Cyclopentane b) Cyclobutane c) Cyclopropane d) None of these
- 6) Benzene on reduction with H₂/Ni catalyst at 423-473 K temperature to give ----
 a) Cyclopentane b) Cyclobutane c) Cyclopropane **d) Cyclohexane**
- 7) When cyclopropane heated with H₂ in the presence of nickel gives ----
 a) pentane b) butane **c) propane** d) hexane
- 8) When cyclopropane react with HI gives -----
a) n-propyl iodide b) butane c) propane d) hexane

- 9) Adolf Baeyer proposed a theory to explain the relative stability of first few ----
 a) cycloalkenes **b) cycloalkanes** c) ethers d) alcohols
- 10) Angle strain in cyclopropane ----
 a) $0^{\circ} 44'$ b) $9^{\circ} 44'$ **c) $24^{\circ} 44'$** d) None of these
- 11) Angle strain in cyclobutane ----
 a) $0^{\circ} 44'$ **b) $9^{\circ} 44'$** c) $24^{\circ} 44'$ d) None of these
- 12) Angle strain in cyclopentane ----
a) $0^{\circ} 44'$ b) $9^{\circ} 44'$ c) $24^{\circ} 44'$ d) None of these
- 13) Stability of cyclohexane and higher cycloalkanes are explained by ----
 a) Baeyer b) Huckel **c) Sachtel Mohr** d) None of these
- 14) Cyclohexane can exist in two non-planer puckered structures chair & boat form, out of which ----- form of cyclohexane is more stable.
a) chair b) boat c) chair & boat d) None of these
- 15) Cyclohexane can exist in two non-planer puckered structures chair & boat form, out of which ----- form of cyclohexane is less stable.
 a) chair **b) boat** c) chair & boat d) None of these
- 16) Alicyclic hydrocarbons having one carbon-carbon double bond are called as ---
a) cycloalkenes b) cycloalkanes c) cycloalkynes d) None of these
- 17) Cyclohexanol on heating with 85% phosphoric acid at $165-170^{\circ}\text{C}$ forms -----
 a) cyclopropene b) cyclobutene c) cyclopentene **d) cyclohexene**
- 18) Chlorocyclohexane on refluxed with alcoh. NaOH undergo elimination reaction to give ---
 a) cyclopropene b) cyclobutene **c) cyclohexene** d) cyclopentene
- 19) Cyclohexene react with m-chloro perbenzoic acid gives -----
 a) ether **b) epoxide** c) alcohol d) phenol
- 20) Cyclohexene react with N-bromo succinamide in the presence of CCl_4 solvent gives ----
 a) cyclopropene b) cyclobutene **c) 3-bromo cyclohexene** d) cyclopentene
- 21) General molecular formula of diene is :
 a) $\text{C}_n\text{H}_{2n+2}$ b) C_nH_{2n} **c) $\text{C}_n\text{H}_{2n-2}$** d) None of these
- 22) Dienes are also called as ---
 a) Olefins b) Paraffins c) Allenes **d) Alkadiene**
- 23) How many sigma bonds in $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$?
 a) 3 b) 6 **c) 9** d) 12

- 23) How many Pi bonds in $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$?
 a) **2** b) 4 c) 9 d) 5
- 24) 1,3-Butadiene is ----
 a) Cumulated diene b) Isolated diene **c) Conjugated diene** d) None of these
- 25) Propadiene is ---
 a) **Cumulated diene** b) Isolated diene c) Conjugated diene d) None of these
- 26) 1,4-Pentadiene is ----
 a) Cumulated diene **b) Isolated diene** c) Conjugated diene d) None of these
- 27) All carbon atoms in 1,3-Butadiene are ----
 a) SP hybridized **b) SP² hybridised** c) SP³ hybridised d) None of these
- 28) Which of the following compound is conjugated diene ?
 a) $\text{CH}_2=\text{C}=\text{CH}_2$ b) $\text{CH}_2=\text{CH}-\text{CH}_2-\text{CH}=\text{CH}_2$ **c) $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$** d) None of these
- 29) Dehydrohalogenation of 1,4-dibromobutane with alco.KOH gives ---
 a) **1,3-Butadiene** b) 1,2-Butadiene c) 1-Butene d) None of these
- 30) Acid catalyzed dehydration of 1,4-butanediol gives ----
 a) 1,2-Butadiene **b) 1,3-Butadiene** c) 1-Butene d) None of these
- 31) 1,3-Butadiene react with bromine to mainly gives ---
 a) 3,4-dibromo 1-butene b) 4-bromo 1-butene
c) 1,4-dibromo 2-butene d) None of these
- 32) 1,3-Butadiene react with HBr to at low temp. gives ---
 a) **3-bromo 1-butene** b) 4-bromo 1-butene
 c) 1-bromo 2-butene d) None of these
- 33) 1,3-Butadiene react with HBr to at high temp. gives
 a) 3-bromo 1-butene b) 4-bromo 1-butene
c) 1-bromo 2-butene d) None of these
- 34) Cycloaddition of $(4\pi + 2\pi)$ electrons is called as ---
 a) Fries Reaction **b) Diel's Alder Reaction** c) Aldol Condensation d) None of these
- 35) 1,3-Butadiene react with ethane at 200°C gives
 a) **Cyclohexene** b) Cyclohexane c) Cyclopentene d) None of these