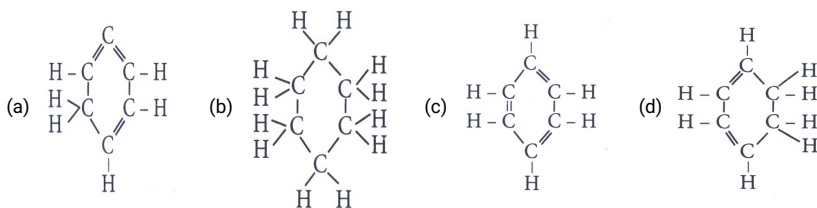
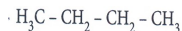


- 1) A molecule of ammonia (NH<sub>3</sub>) has
  - (a) only single bonds    (b) only double bonds    (c) only triple bonds    (d) two double bonds and one single bond
- 2) Buckminsterfullerene is an allotropic form of
  - (a) Phosphorous    (b) Sulphur    (c) Carbon    (d) Tin
- 3) In which of the following compounds, -OH is the functional group?
  - (a) Butanone    (b) Butanol    (c) Butanoic acid    (d) Butanal
- 4) The soap molecule has a
  - (a) hydrophilic head and a hydrophobic tail    (b) hydrophobic head and a hydrophilic tail    (c) hydrophobic head and a hydrophobic tail
  - (d) hydrophilic head and a hydrophilic tail
- 5) Identify the unstructured compounds from the following
  - (i) Propane
  - (ii) Propene
  - (iii) Propyne
  - (iv) Chloropropane
  - (a) (i) and (ii)    (b) (ii) and (iv)    (c) (iii) and (iv)    (d) (ii) and (iii)
- 6) The heteroatoms present in CH<sub>3</sub> - CH<sub>2</sub> - O - CH<sub>2</sub> - CH<sub>2</sub>Cl are
  - i) oxygen
  - ii) carbon
  - iii) hydrogen
  - iv) chlorine
  - (a) (i) and (ii)    (b) (ii) and (iii)    (c) (iii) and (iv)    (d) (i) and (iv)
- 7) Which of the following represents saponification reaction?
  - (a)  $\text{CH}_3\text{COONa} + \text{NaOH} \xrightarrow{\text{CaO}} \text{CH}_4 + \text{Na}_2\text{CO}_3$     (b)  $\text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH} \xrightarrow{\text{H}_2\text{SO}_4} \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$     (c)  $2\text{CH}_3\text{COOH} + 2\text{Na} \rightarrow 2\text{CH}_3\text{COONa} + \text{H}_2$
  - (d)  $\text{CH}_3\text{COOC}_2\text{H}_5 + \text{NaOH} \rightarrow \text{CH}_3\text{COONa} + \text{C}_2\text{H}_5\text{OH}$
- 8) Which of the following is the correct representation of electron dot structure of nitrogen?
  - (a)  $\cdot\ddot{\text{N}} : \ddot{\text{N}} \cdot$     (b)  $\cdot\ddot{\text{N}} : : \ddot{\text{N}} \cdot$     (c)  $\cdot\ddot{\text{N}} : \ddot{\text{N}} \cdot$     (d)  $\cdot\text{N} :: \text{N} \cdot$
- 9) Structural formula of benzene is



10) Which among the following are unsaturated hydrocarbons?

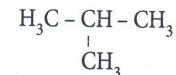
(i)



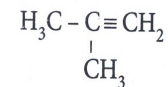
(ii)



(iii)



(iv)



(a) (i) and (iii)    (b) (ii) and (iii)    (c) (ii) and (iv)    (d) (iii) and (iv)

11) Identify the product formed when methane reacts with chlorine in the presence of sunlight is

(a)  $\text{C}_2\text{Cl}_6$     (b)  $\text{CH}_3\text{Cl}$     (c)  $\text{CHCl}_4$     (d) None of these

12) Which is denatured spirit?

(a) ethanol only    (b) ethanol and methanol (50%)    (c) ethanol and methanol (5%)    (d) methanol only

13) Drinking alcohol and driving may cause serious accidents. To discourage this, police randomly test drivers for alcohol using a breath analyser. The breath analyser works because

(a) Alcohol makes the breath dry and the machine registers moisture    (b) Alcohol makes the breath hotter which changes the machine reading  
(c) Alcohol causes more saliva which the machine checks.    (d) Alcohol in the breath cause a chemical change registered by the machine

14) The by product of soap is

(a) isoprene    (b) glycerol    (c) butene    (d) ethylene glycol

15) Covalent compounds

(a) have high melting and boiling points    (b) are mostly soluble in water    (c) are formed between atoms of metals and non-metals  
(d) are formed by the sharing of electrons in the bonding atoms

16) The upper and lower homologue of  $\text{C}_2\text{H}_5\text{OH}$  are respectively

(a) methyl alcohol and butyl alcohol    (b) ethyl alcohol and propyl alcohol    (c) butyl alcohol and propyl alcohol  
(d) propyl alcohol and methyl alcohol

17) Which is not true about homologous series?

(a) They have same general formula.    (b) They differ from other by  $\text{CH}_3$  group    (c) They have same functional group.  
(d) They have same chemical properties

3 x 1 = 3

18) **Assertion:** Covalent compounds are generally poor conductor of electricity.

**Reason:** They consist of molecules and not ions which can transfer charge.

**Codes**

(a) Both A and R are true, and R is correct explanation of the assertion.  
(b) Both A and R are true, but R is not the correct explanation of the assertion.  
(c) A is true, but R is false.  
(d) A is false, but R is true.

19) **Assertion:** Carbon possesses property of catenation.

**Reason:** Carbon atoms form double as well as triple bonds during catenation.

**Codes**

(a) Both A and R are true, and R is correct explanation of the assertion.  
(b) Both A and R are true, but R is not the correct explanation of the assertion.  
(c) A is true, but R is false.  
(d) A is false, but R is true.

20) **Assertion:** Two members of a homologous series have similar chemical properties.

**Reason:** Propane and butane are members of same homologous series.

**Codes**

- (a) Both A and R are true, and R is correct explanation of the assertion.
- (b) Both A and R are true, but R is not the correct explanation of the assertion.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

6 x 4 = 24

21) Draw the structures for the following compounds.

- (i) Ethanoic acid
- (ii) Bromopentane\*
- (iii) Butanone
- (iv) Hexanal

Are structural isomers possible for bromopentane?

22) Draw the electron dot structures for

- (a) Ethanoic acid
- (b)  $\text{H}_2\text{S}$
- (c) Propanone