

# CARBON COMPOUNDS

## ½ Mark Questions

- The following is not correct about carbon
  - It is non metal
  - it belongs to 14<sup>th</sup> group
  - Its electronic configuration is  $1S^22S^22P^2$
  - It's valence is 3
- What is the IUPAC name of ethylene ?
- Which of the following molecules undergo  $Sp$  hybridization.
  - $CH_4$
  - $C_2H_4$
  - $C_2H_6$
  - $C_2H_2$
- Who discovered Nano tubes?
- Diamond : Tetrahedral environment : : Graphite: \_\_\_\_\_
- Find odd one out
  - Valence of carbon is 4
  - Valence of hydrogen 2
  - Valence of Oxygen -2
  - Valence of Sulphur 2
- X:** The electronic configuration of carbon is  $1S^22S^22P^2$   
**Y:** Carbon valence is 4  
Which of the statement are correct?
- Assertion (A) :** Graphite is a good conductor of electricity  
**Reason (R) :** It has delocalized  $\pi$  electron system
  - A and R are correct, R is correct explanation of A
  - A and R are correct, R is not correct explanation of A
  - A is correct and R is incorrect
  - A is incorrect but R is correct
- Who among the following disproved vitalism theory ?
  - Berzelius
  - Linus pauling
  - Aufbau
  - Wholer
- What is formula of urea?
- Which among these is uses of graphite
  - Lubricant
  - Lead in pencils
  - good conductor of electricity
- Find odd one (based on amorphous nature)
  - charcoal
  - Gas carbon
  - Graphite
  - Petroleum coke
- Statement I :** In Ethylene carbon is  $SP^2$  hybridized  
**Statement II :** In acetylene carbon is  $SP^3$  hybridized  
Which statement is correct.
- Match the following
  - Methane
  - Ethene
  - Ethyne
  - $180^\circ$
  - $109^\circ28'$
  - $120^\circ$
- What are the number of hexagonal and pentagonal focus in buck minister fullerene?
- Which of the following are uses of nano tubes
  - used as molecular wire
  - used as integrated circuits instead of copper
  - Bimolecular are inserted on nano tubes to inject them into a single cell.
- The formula of ammonium cyanate is \_\_\_\_\_
- Assertion (A) :** Diamond is hardest material known.  
**Reason (R) :** C-C bonds are very weak any attempt to distort diamond structure requires large amount of energy

- A) Both A and R are correct and R is correct explanation of A  
 B) Both A and R are correct and R is not correct explanation of A  
 C) A is correct and R is incorrect  
 D) A is incorrect and R is correct

19. Match the following

- |              |                    |
|--------------|--------------------|
| 1) Methane   | p) Sp              |
| 2) Ethylene  | q) Sp <sup>2</sup> |
| 3) Acetylene | r) Sp <sup>3</sup> |

20. The ability to form largest chains with own atoms is \_\_\_\_\_

21. Which of the following is not a hydrocarbon

- A) R-CH<sub>3</sub>      B) R-CH=CH<sub>2</sub>      C) R-CH<sub>2</sub>-OH      D) CH<sub>3</sub>-C=C-H

22. Find odd one based its structure.

- A) Cyclo butane      B) Cyclo pentane      C) Hexane      D) Cyclo propane

23. Butane : Iso butane :: Pentane : \_\_\_\_\_

- i) isopentane      ii) neopentane      iii) isobutene  
 A) only I      B) both I and ii      C) ii and iii      D) I, ii, iii

24. Which of the properties which made carbon versatile element?

- A) Tetra valancy      B) Cationation      C) Isomerism      D) Formation of multiple bonds

25. Find odd one based on homologous series

- A) CH<sub>4</sub>      B) C<sub>2</sub>H<sub>4</sub>      C) C<sub>3</sub>H<sub>8</sub>      D) C<sub>4</sub>H<sub>10</sub>

26. The IUPAC name of alkane containing 3 carbon atoms is \_\_\_\_\_

27. The catalyst used in hydrogenation of oils \_\_\_\_\_

- A) pd      B) pt      C) Ni      D) Co

28. What is name given to very dilute solution of ethanoic acid?

29. The simplest ketane among these is

- A) CH<sub>3</sub>COCH<sub>3</sub>      B) CH<sub>2</sub>COCH<sub>2</sub>CH<sub>3</sub>  
 C) CH<sub>3</sub>COCH<sub>2</sub>COCH<sub>2</sub>CH<sub>3</sub>      D) CH<sub>3</sub>CH<sub>2</sub>CHO

30. But -2-yne reacts with H<sub>2</sub> in the presence of Ni catalyst to form But-2-ene this reaction is example for \_\_\_\_\_

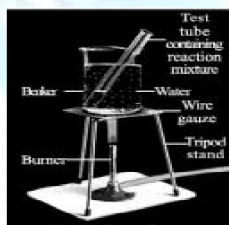
31. Which of the following impurity is present in denaturated alcohol?

- A) Methanol      B) Methyl isobutyl Ketane  
 C) aviation gasoline

32. Which of the following undergo substitution reaction?

- A) Alkanes      B) Alkenes      C) Alkynes      D) All of these

33.



The activity conducted in the figure is \_\_\_\_\_

34. IUPAC name of  $\text{CH}_3 - \underset{\text{Cl}}{\text{CH}} - \underset{\text{Cl}}{\text{CH}} - \text{CH}_3$  \_\_\_\_\_

35. The polar end of micelle is \_\_\_\_\_ in nature.

- A) hydrophilic      B) Hydrophobic      C) isochoric      D) isothermal

36. Which of the four tubes containing chemicals show the brisk effervescence

Which dilute acetic acid is added to them?

- i) KOH                      ii) NaHCO<sub>3</sub>                      iii) K<sub>2</sub>CO<sub>3</sub>                      iv) NaCl

37. What is the structure of given compound

1-3-chloro-4-hydroxy-5-methyl hexanoic acid

38. **X:** The formula of ester COOR

**Y:** The secondary suffix for ketone is – one

Which of the statement is correct?

39. **Assertion (A) :** When a coal or charcoal is burnt sometimes they just glow red without flame.

**Reason (R) :** To get a flame gaseous fuels should burn.

A) A and R are correct, R is correct explanation of A

B) A and R are correct and R is not correct explanation of A

C) A is correct and R is incorrect

D) A is incorrect and R is correct

40. Match the following

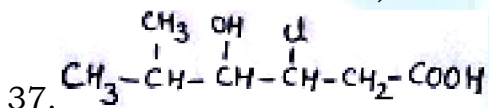
- |                   |   |
|-------------------|---|
| 1) Butanol        | p) CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>2</sub> -CH <sub>2</sub> -COOL                 |
| 2) Pentanoic acid | q) CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>2</sub> -CH <sub>2</sub> -CH <sub>2</sub> -CHO |
| 3) Propanone      | r) CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>2</sub> -CH <sub>2</sub> -OH                   |
| 4) Hexanal        | s) CH <sub>3</sub> COCH <sub>3</sub>  |

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### KEY

- |                    |                         |                                       |                              |
|--------------------|-------------------------|---------------------------------------|------------------------------|
| 1. D               | 2. Ethene               | 3. D                                  | 4. Sumi Li Jima              |
| 5. Hexagonal       | 6. B                    | 7. Both X and Y are correct           |                              |
| 8. A               | 9. D                    | 10. CO(NH <sub>2</sub> ) <sub>2</sub> | 11. A,B,C                    |
| 12. C              | 13. Statement I         | 14. 1-q, 2-r, 3-p                     | 15. 20,12                    |
| 16. 1,2,3          | 17. NH <sub>4</sub> CNO | 18. C                                 | 19. 1-r, 2-q, 3-p            |
| 20. Catenation     | 21. C                   | 22. C                                 | 23. B                        |
| 24. I,ii,iii,iv    | 25. B                   | 26. Propane                           | 27. C            28. Vinegar |
| 29. A              | 30. Addition reaction   | 31. A,B,C                             | 32. A                        |
| 33. Esterification | 34. 2,3-dichlorobutane  | 35. A                                 | 36. Ii,iii                   |



38. X

39. A

40. 1-r, 2-p, 3-s, 4-q

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