

### Chemistry [ DPP ]

#### Basics of Organic & Classification of Organic Compounds

#### DPP - 1

- Which of the following statement is false -  
(A) Primary carbon atom is bonded to one or no other carbon atom.  
(B) Secondary carbon atom is bonded to two other carbon atoms.  
(C) Tertiary carbon atom is bonded to three other carbon atoms.  
(D) None of above.
- Which alkane would have only the primary and tertiary carbon -  
(A) Pentane  
(B) 2-Methylbutane  
(C) 2,2-Dimethylpropane  
(D) 2,3-Dimethylbutane
- Vital force theory of the origin of organic compounds was discarded by  
(A) Kolbe's synthesis  
(B) Haber's synthesis  
(C) Wohler's synthesis  
(D) Berthelot's synthesis
- The simplest set of hydrocarbons containing equal number of tertiary carbons is  
(A) Isopentane, Mesitylene  
(B) Isopentane, Methylcyclopropane  
(C) Isopentane, Cyclobutane  
(D) Isobutane, Cyclopropane
- Which of the following substances contains only secondary carbon atoms:  
(A) Acetophenone (B) Acetone  
(C) Cyclopentadiene (D) Glycol
- Which of the following groups of compounds is composed of only primary carbon atoms  
(A) Ethyne, Propyne, Ethanamide  
(B) Glycol, Glyoxal, Oxalic acid  
(C) Glycerol, Glucose, Glyceric acid  
(D) Methanoic acid, Methanamide, Methanenitrile
- Which of the following molecules has three primary, three secondary and three tertiary carbon atoms:  
(A) Mesityl oxide (B) Trinitrotoluene  
(C) Picric acid (D) Mesitylene
- The simplest set of hydrocarbons containing primary, secondary and tertiary carbons is  
(A) Isopentane, trimethylbenzene  
(B) Isopentane, Methylcyclopropane  
(C) Isopentane, Methylcyclobutane  
(D) Isobutane, Methylcyclopropane
- A substance composed of quaternary carbon atoms only is  
(A) Neopentane  
(B) Diamond  
(C) Mesitylene  
(D) 2,2,3,3-tetramethylbutane
- The minimum number of carbon atoms in an alkyne having one quaternary carbon atom is  
(A) 5 (B) 6  
(C) 7 (D) 4
- All the following are composed of secondary carbon atoms only except  
(A) Propane (B) Cyclohexane  
(C) Aniline (D) Phenol
- Which of the following compounds does not contain an olefinic bond:  
(A) Acrylic acid (B) Pyruvic acid  
(C) Crotonic acid (D) Cinnamic acid
- The following are open chain compounds except  
(A) Phorone (B) Acetone  
(C) Dioxan (D) Pinacol
- Which of the following pairs is not that of heterocyclic compounds  
(A) Pyridine, Ethylene oxide  
(B) Dioxan, Parabanic acid  
(C) Paraldehyde, Metaldehyde  
(D) Aniline, Cyclohexylamine
- Which of the following sets of compounds is not of aromatic compounds  
(A) Benzyl alcohol, Phenol  
(B) Naphthalene, Toluene  
(C) Picric acid, Trinitrotoluene  
(D) Trinitroglycerine, Tetraethyllead

**Physics (DPP)**

**Basics of Organic & Classification of Organic Compounds**

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| <p><b>16.</b> Which of the following groups of compounds is alicyclic<br/>(A) Benzene, Benzophenone, Benzylamine<br/>(B) Pyridine, Pyrrole, Paraldehyde<br/>(C) Isoprene, Isopropyl alcohol, Isobutane<br/>(D) Cyclohexene, Cyclopentadiene, Cyclopentanol</p> <p><b>17.</b> Which of the following statements is false for isopentane -<br/>(A) It has three CH<sub>3</sub> groups<br/>(B) It has one CH<sub>2</sub> group<br/>(C) It has one CH group<br/>(D) It has a carbon which is not bonded to hydrogen</p> | <p><b>18.</b> Which of the following groups of compounds is aliphatic<br/>(A) Benzene, Benzophenone, Benzylamine<br/>(B) Pyridine, Pyrrole, Paraldehyde<br/>(C) Isoprene, Isopropyl alcohol, Isobutane<br/>(D) Cyclohexene, Cyclopentadiene, Cyclopentanol</p> |
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**ANSWER KEY**

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| <b>1. D</b>  | <b>2. C</b>  | <b>3. C</b>  | <b>4. B</b>  | <b>5. C</b>  | <b>6. B</b>  | <b>7. D</b>  |
| <b>8. B</b>  | <b>9. B</b>  | <b>10. B</b> | <b>11. A</b> | <b>12. B</b> | <b>13. C</b> | <b>14. D</b> |
| <b>15. D</b> | <b>16. D</b> | <b>17. D</b> | <b>18. C</b> |              |              |              |