



**ABHIGYAN  
ACADEMY**

# PYQs on Carbon and its Compound



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The most stable form of carbon is

- (a) diamond
- (b) graphite
- (c) fullerene
- (d) coal



Which of the following statements is correct?

- (a) Fullerenes have only six-membered carbon rings
- (b) Fullerenes are cage-like molecules
- (c) Diamond is thermodynamically the most stable allotrope of carbon
- (d) Graphite is slippery and hard, and is therefore used as a dry lubricant in machines



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An atom of carbon has 6 protons. Its mass number is 12. How many neutrons are present in an atom of carbon ?

- (a) 12
- (b) 6
- (c) 10
- (d) 14





. Which among the following statements is *not* correct with respect to allotropes of Carbon ?

- (a) Graphite is a good conductor of electricity.
- (b) Diamond is the hardest substance known.
- (c) Fullerene is one of the allotropes of carbon.
- (d) Next to diamond, graphite is the second hardest known substance.



Graphite is a much better conductor of heat and electricity than diamond. This is due to the fact that each carbon atom in graphite:

- (a) undergoes  $sp^2$  hybridization and forms three sigma bonds with three neighbouring carbon atoms
- (b) undergoes  $sp^3$  hybridization
- (c) is tetrahedrally bonded
- (d) is free from van der Waals force



Which one of the following statements is **not** correct?

- (a) All carbons in diamond are linked by carbon-carbon single bond.
- (b) Graphite is layered structure in which layers are held together by weak van der Waals forces.
- (c) Graphite layers are formed by hexagonal rings of carbon atoms.
- (d) Graphite layers are held together by carbon-carbon single bond.





The compound  $C_6H_{12}O_4$  contains

- (a) 22 atoms per mole
- (b) twice the mass percent of H as compared to the mass percent of C
- (c) six times the mass percent of C as compared to the mass percent of H
- (d) thrice the mass percent of H as compared to the mass percent of O





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$C_4H_8$  belongs to the homologous series of

(a) alkanes

✓ (b) alkenes

(c) alkynes

(d) cycloalkanes



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Which one of the following materials is ***not*** an allotrope of carbon ?

- (a) Diamond
- (b) Graphene
- (c) Fly ash
- (d) Fullerene



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• Which one of the following is the purest form of Carbon ?

- (a) Charcoal
- (b) Coke
- (c) Fullerene
- (d) Carbon black





• Which one of the following properties is NOT true for graphite ?

- (a) Hybridisation of each carbon atom is  $sp^3$
- (b) Hybridisation of each carbon atom is  $sp^2$
- (c) Electrons are delocalized over the whole sheet of atoms
- (d) Each layer is composed of hexagonal rings



How is carbon black obtained ?

- (a) By heating wood at high temperature in absence of air
- (b) By heating coal at high temperature in absence of air
- (c) By burning hydrocarbons in a limited supply of air
- (d) By heating coal at high temperature in presence of air



• Which one of the following carbon compounds will ***not*** give a sooty flame ?

- (a) Benzene
- (b) Hexane
- (c) Naphthalene
- (d) Anthracene