NCERT ANNEXURE

Here are subjective type questions and answers for reference:

1. Two argon atoms will not form a covalent bond to give a molecule. Why?

Ans. Two argon atoms do not form a covalent bond, because an argon atom with electronic configuration-K(2), L(8), M(8), already has 8 electrons in its outermost shell and hence is very stable or unreactive. As such, it is capable of independent existence and shows no tendency to combine with itself to form an argon molecule.

2. Why two carbon atoms cannot be linked by more than three covalent bonds?

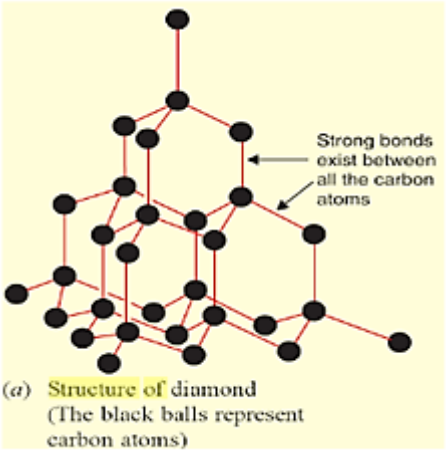
Ans. Since the maximum angle strain is obtained when the two carbon atoms are linked by three covalent bonds, therefore, two carbon atoms cannot be linked to each other by more than three covalent bonds. Moreover, this will increase the repulsion between the electron pairs which makes the compound highly unstable.

3. (a) Compare the properties of diamond and graphite.
(b) Why do they have different properties?

Ans. (a)

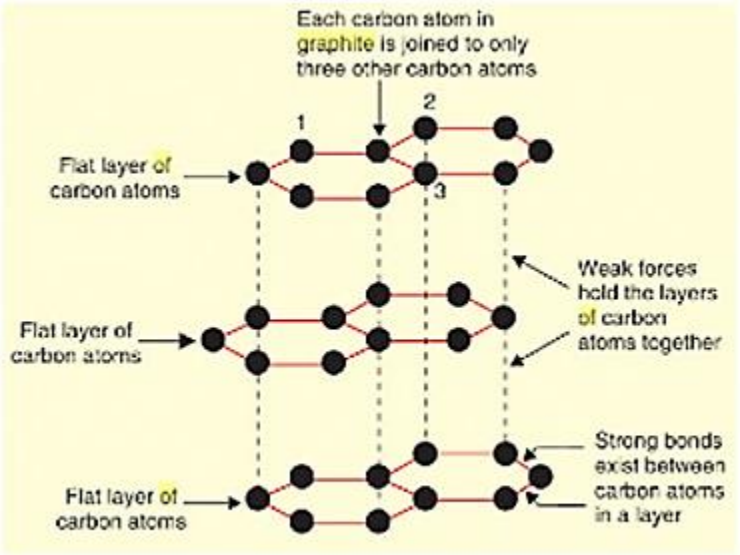
Diamond	**Graphite**
(i) It is the hardest natural substance. ∴ used for cutting and drilling.	(i) It is soft and greasy ∴ used as solid lubricant for heavy machines operating at high temperatures.
(ii) It is a bad conductor of electricity.	(ii) It is a good conductor of electricity used for making electrodes of batteries and arcs.
(iii) It is transparent with a high refractive index used for making jewellery.	(iii) It is an opaque, greyish black substance used for making pencil leads.

(b) Diamond and graphite have different properties due to different arrangements of carbon atoms in them. In diamond the carbon atoms are in tetrahedral arrangements with other four carbon atoms forming a three dimensional rigid network structure.



Structure of diamond

In graphite each carbon atom is joined with three other carbon atoms forming two dimensional hexagonal sheets which are held together one over the other by weak Vander Waals' forces.



Structure of graphite (The black balls represent carbon atoms)

4. Why is agitation necessary to clean the clothes while washing?

Ans. Micelle decreases the surface tension of water and stable emulsion of oil in water is formed. Oily or greasy dirt remains sticking to the cloth. When the surface of cloth is scrubbed or agitated, then only loosely held oily dirt particles get removed from cloth along with micelle and the cloth gets cleaned.

5. Why are carbon and its compounds used as fuels for most applications?

Ans. When carbon and its compounds are heated in presence of excess air or oxygen, they release a large amount of heat and light along with other products. Further, once ignited, carbon and its compounds keep on burning without needing additional heat energy. Due to these reasons, carbon and its compounds are used as fuels for most applications.

NCERT EXEMPLAR

Here are multiple type questions and answers for reference:

1. Carbon exists in the atmosphere in the form of

(a) Carbon monoxide only
(b) Carbon monoxide in traces and carbon dioxide
(c) Carbon dioxide only
(d) Coal

Ans: (B)

2. Which of the following statements are usually correct for carbon compounds? These

(i) Are good conductors of electricity
(ii) Are poor conductors of electricity
(iii) Have strong forces of attraction between their molecules
(iv) Do not have strong forces of attraction between their molecules

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

Ans: (D)

3. Identify the unsaturated 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)

Ans: (D)

4. Chlorine reacts with saturated hydrocarbons at room temperature in the

(a) Absence of sunlight
(b) Presence of sunlight
(c) Presence of water
(d) Presence of hydrochloric acid

Ans: (B)

5. In the soap micelles

(a) The ionic end of soap is on the surface of the cluster while the carbon chain is in the interior of the cluster.

(b) Ionic end of soap is in the interior of the cluster and the carbon chain is out of the cluster.

(c) Both ionic end and carbon chain are in the interior of the cluster

(d) Both ionic end and carbon chain are on the exterior of the cluster

Ans: (A)