

CARBON AND ITS COMPOUNDS

DPP-1

1. Fill in the blank spaces by choosing the correct words from the given list:

(List: allotropy, conductors, graphite, carat, diamonds.)

- Black diamonds are used for cutting and polishing other.....
- The phenomenon, due to which an element exhibits different physical forms, which have same chemical properties is known as.....
- The weight of diamond is measured in
- Some fullerenes are super..... of electricity.
-is the only crystalline form of carbon which is a good conductor of electricity.

2. Statements given below are incorrect. Write the correct statements.

- Black diamond is not very hard and is used for making cheap jewellery.
- Graphite is good conductor of heat and bad conductor of electricity.
- Pure diamond is transparent to visible light, but not to X-rays.
- In buckminsterfullerene, each molecule has sixty atoms arranged in rectangles and triangles.
- Graphite is used in nuclear reactors to speed up the excess neutrons.

3. Match the statements in column A, with those in column B.

	Column A		Column B
1	A free state of carbon	A	petroleum
2	A combined state of carbon	B	Buckminsterfullerene
3	A form of carbon which is a good conductor of heat and electricity	C	Allotropy
4	A free form of carbon whose one molecule has 60 carbon atoms.	D	Graphite
5.	Name of various physical form of elements having same chemical properties.	E	diamond

4. Tick the most appropriate answer.

A. When the diamond is heated in vacuum for a very long time, it changes into:

- Graphite
- lampblack
- charcoal
- carbon dioxide

B. fullerene molecule [C₆₀] is named after:

- H.W. Kroto
- R.F. Curl
- R.B. Fuller
- R.E. Samallery

C. Graphite is used as a lubricant because it is :

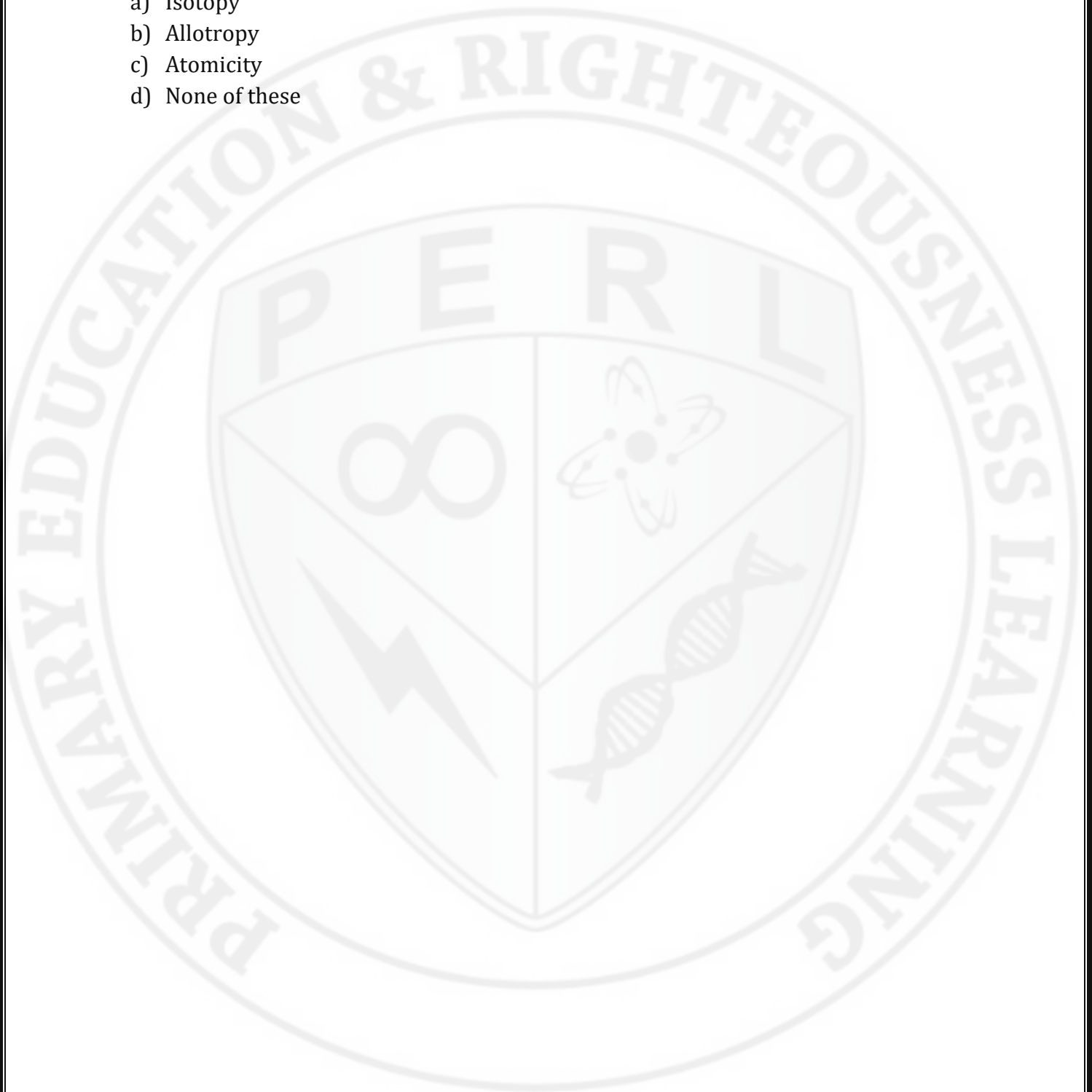
- Good conductor of heat
- Good conductor of electricity
- Very soft and slippery
- Soluble in oil

D. The property due to which, the gases and the liquids accumulate on the outer surface of solid is called:

- Adhesion
- Adsorption
- Cohesion
- Absorption

E. The property due to which an element exhibits various physical forms which has same chemical properties is called:

- a) Isotopy
- b) Allotropy
- c) Atomicity
- d) None of these



CARBON AND ITS COMPOUNDS

DPP-2

1. Fill in the blank spaces by choosing the correct words from the given list:

(List: Bacteria, cell, reducing, hydrogen, anaerobic.)

- Wood charcoal is an excellentagent.
- Gas carbon is used for making positive electrode of a
- Activated charcoal is used for removingfrom drinking water.
- Coal is formed due to the gradual removal of hydrogen from the forests buried deep in the earth bybacteria.

2. Match the statements in column A, with those in column B.

	Column A		Column B
1	An amorphous allotrope of carbon used in gas masks.	A	Coal
2	An amorphous allotrope of carbon used for making electrodes of dry cells	B	Ammonia liquor
3	Name of a mixture of gases obtained by passing steam through white hot charcoal.	C	Gas carbon
4	A naturally occurring substance used for making coke.	D	Activated charcoal
5.	A colourless liquid obtained during the destructive distillation of coal and used for making artificial fertilisers.	E	Water gas

3. Study Questions

- How is wood charcoal prepared on large scale?
- State four physical properties of wood charcoal.
- How does wood charcoal react with the following? (a)Oxygen (b) Steam (c)Copper oxide Support your answer with balanced chemical equations.
- State four uses of wood charcoal.
- (a)How is bone charcoal prepared?
(b) State the composition of bone charcoal.
(c) State one important use of bone charcoal.
- (a) How is lamp black prepared on large scale?
(b) state three uses of lamp black.
- (a)Name the products formed when coal is subjected to destructive distillation.
(b)State one use of each of the product obtained during destructive distillation of coal.
- How is coal formed in nature?
- What are various varieties of coal? Discuss each regarding the amount of carbon content in them.
- State four important uses of coal

CARBON AND ITS COMPOUNDS

DPP-3

1. Fill in the blank spaces by choosing the correct words from the given list:

(List: Coke, carbonic acid, heavier, sodium, carbonate, colourless.)

- Sodium hydrogen carbonate on strong heating decomposes to form.....water and carbon dioxide gas.
- Carbon dioxide gas isthan air
- When carbon dioxide gas is passed in excess through limewater, the limewater initially turns milky and then forms a Solution.
- Carbon dioxide gas on passing through red hot..... forms carbon monoxide gas.

2. Tick the most appropriate answer

I. When carbon dioxide is passed through limewater, it turns:

- | | |
|---------------|-----------------|
| a. Light blue | c. Light pink |
| b. Milky | d. Light yellow |

II. The gas evolved by the action of hydrochloric acid on marble is:

- | | |
|-------------------|--------------------|
| a. Nitrogen | c. Sulphur dioxide |
| b. Carbon dioxide | d. Hydrogen |

III. Dry ice is:

- | | |
|-------------------------|-----------------|
| a. Solid carbon dioxide | c. Crushed ice |
| b. Super cooled ice | d. Solid oxygen |

IV. Sodium hydrogen carbonate on strong heating forms:

- Sodium carbonate and water only
- Water and carbon and water only
- Water and carbon dioxide only
- Sodium carbonate, and carbon dioxide only
- Sodium carbonate, water and carbon dioxide only

V. The solubility of carbon monoxide gas in blood is:

- 100 times more than oxygen
- 200 times more than oxygen
- 300 times more than oxygen
- 1000 times more than oxygen

3. Study Questions

- 1) Write chemical equations for the preparation of carbon dioxide from the following
 - a. Calcium carbonate only
 - b. Sodium hydrogen carbonate only.
 - c. Sodium hydrogen carbonates and dilutes acetic acid.
 - d. Sodium carbonate and dilute sulphuric acid.
- 2) Draw a neat and fully labeled diagram for the preparation of carbon dioxide gas in laboratory.(Details of procedure not require).
- 3) Why is sulphuric acid not used in the preparation of carbon dioxide form the marble chips?
- 4) State four physical properties of carbon dioxide.
- 5) By writing chemical equations explain how carbon dioxide reacts with
 - a. Water
 - b. Red hot coke
 - c. Magnesium
- 6) Explain the action of carbon dioxide on following solutions when
 - a. Carbon dioxide is passed in limited amount
 - b. Carbon dioxide is passed in excess amount.
 - i. Sodium hydroxide solution
 - ii. Limewater(calcium hydroxide solution)
- 7) What is dry ice? State two uses of dry ice.
- 8) Briefly stare four uses of carbon dioxide.
- 9) How will you test carbon dioxide gas?
- 10) Carbon monoxide is not present in atmosphere naturally. How is carbon monoxide added to the atmosphere?
- 11) Carbon monoxide is an excellent reducing agent. Support your answer by two chemical reactions.
- 12) Explain, why is carbon monoxide poisonous to living being.