



Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 32

1 Key words**[4]**

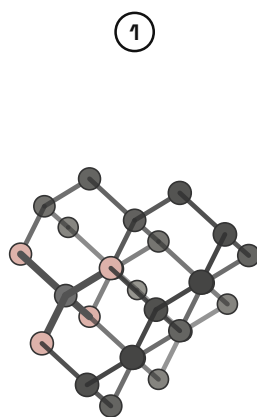
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

allotropes amorphous carbon dioxide carbon monoxide catenation inorganic organic
reducing agent sublimation water gas

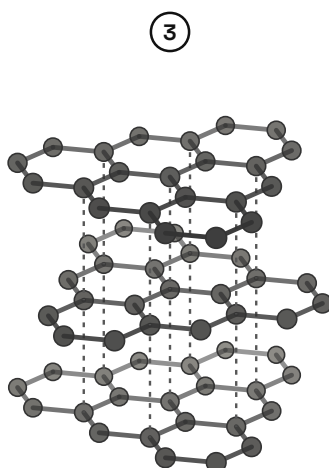
The ability of carbon atoms to join with one another in long chains and rings is called _____. Different forms of the same element, such as diamond and graphite, are its _____. Coal, charcoal and soot have no regular pattern of atoms: they are _____ forms of carbon. On strong heating, carbon turns straight from solid to gas: this is _____. When carbon burns in too little oxygen, it forms _____. Carbon takes oxygen away from metal oxides, so it is a good _____. A mixture of carbon monoxide and hydrogen is called _____. Methane, sugar and urea are _____ compounds.

2 Label the diagram**[2]**

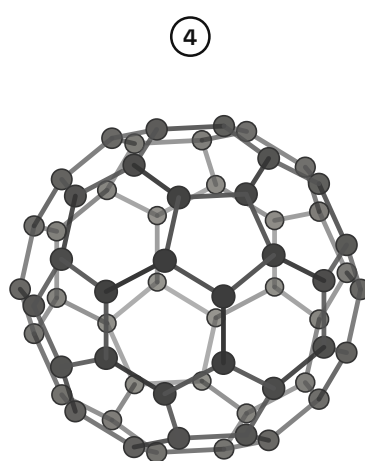
The diagram shows three allotropes of carbon. Write the names of the allotropes, and in the other place how each atom of that allotrope is bonded. Each carries 0.5 mark.



②



sheets of hexagons; weak forces (dashed) between them



a hollow ball of 20 hexagons and 12 pentagons (red)

1. _____

2. _____

3. _____

4. _____



3 Multiple choice

[5]

Choose the correct option for each of the following questions.

- i. Which of the following is a property of carbon? [1]
a. It is found as a solid, a liquid and a gas.
b. It dissolves in water.
c. It turns from solid to gas at a high temperature.
d. It is lustrous.
- ii. Polythene is made from carbon compounds. Which property of carbon is this related to? [1]
a. allotropy
b. catenation
c. reducing property
d. combustibility
- iii. Which of the following is a group of organic compounds only? [1]
a. protein, carbohydrate, ammonia, methane
b. glycerine, phenol, alcohol, carbon dioxide
c. ether, ammonia, methane, insulin
d. methane, methanol, chloroform, urea
- iv. The outside of a pot used to cook food on a firewood fire turns black (sooty). What does this show? [1]
a. Firewood contains carbon.
b. The pot is burning.
c. The firewood is wet.
d. Burning firewood causes pollution.
- v. In a room with all the windows closed, a charcoal fire slowly runs short of oxygen. Which gas does it start to make, and why is it dangerous? [1]
a. carbon dioxide, because it smells bad
b. oxygen, because the fire releases it
c. carbon monoxide, because it stops the blood carrying oxygen
d. hydrogen, because it explodes

4 Very short answers

[3]

Write very short answers to the following questions.

- a. What is the "lead" of a pencil made of? [1]

- b. Name one compound that contains carbon but is counted as inorganic. [1]

- c. Write the balanced equation for calcium heated with carbon. [1]



5 Short answers

[8]

Write short answers to the following questions.

- a. Give a reason: in winter, we should not burn coal or firewood in a room with the windows and doors closed. [2]

- b. Give a reason: graphite powder can be used as a dry lubricant. [2]

- c. Give a reason: graphite and diamond are both allotropes of carbon, yet graphite conducts electricity and diamond doesn't. [2]

- d. When sugar is heated for a long time, it gives a black mass. What can we conclude from this? [2]

6 Long answer

[4]

Write a long answer to the following question.

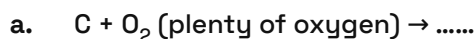
Rohan couldn't clean a grease stain from his clothes with soap and water. His mother advised him to rub a little petrol on the stain. Will this solve Rohan's problem? Explain the cause of his problem and the solution, using scientific facts.



7 Reactions of carbon

[4]

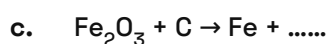
Complete and balance these equations.



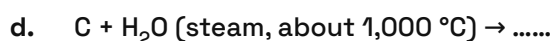
[1]



[1]



[1]



[1]

8 Think

[2]

Think, then answer.

Diamond and graphite look nothing alike. How could you show, by an experiment, that both are made of carbon only?

9 Activity: Organic or inorganic? (Activity 18.4)

(not marked)

With an adult, test each substance. Put a pinch in water and stir; heat a little of each solid in an old spoon. Fill in the table.

Substance	Dissolves in water?	On heating: melts, chars or neither?	Organic or inorganic?
sugar			
ghee			
candle wax			
common salt			
baking soda			
chalk			

