

CHEMISTRY**BOOKS - CHEMISTRY AND BIOLOGY FOR NDA/NA IN ENGLISH****CARBON AND DIFFERENT FORMS, CARBON DIOXIDE****MCQs**

1. How many milligrams is 1 carat of diamond equal to ?

- A. 100 mg
- B. 150 mg
- C. 200 mg
- D. 250 mg

Answer: C

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2. Which gas is responsible for the swelling of bread ?

- A. Oxygen
- B. Carbon monoxide

C. Carbon dioxide

D. Ammonia

Answer: C

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3. Graphite is used as lubricant due to

A. a rigid structure

B. low viscosity

C. layered structure

D. low melting point

Answer: C

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4. The oxide of which of the following elements is used as a coolant ?

A. Silicon

B. Nitrogen

C. Carbon

D. Phosphorus

Answer: C

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5. Which one of the following pairs of elements is most essential for building cells in the human body ?

- A. Nitrogen and aluminium
- B. Carbon and calcium
- C. Nitrogen and carbon
- D. Calcium and phosphorus

Answer: C

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6. Which of the following is not an allotrope of carbon

- A. Soot
- B. Graphite
- C. Diamond
- D. Carborundum

Answer: D

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7. Which of the statements regarding carbon dioxide is/are correct ?

1. It is prepared on large scale by the action of water on lime.
2. In the solid form it can be used as a refrigerant .

Select the correct answer using the code given below :

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

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8. Vinegar is the trade name of

- A. acetic acid
- B. chloroform
- C. carbon tetrachloride
- D. ethyl alcohol

Answer: A

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9. Consider the following statements regarding diamond ,

1. It I an allotrope of silicon
2. It is a bad conductor of heat and electricity .
3. It is the hardest substance.
- 4.It burns to produce carbon dioxide.

Which of the statements given above are correct ?

- A. 1,2,3 and 4
- B. 2,3 and 4
- C. 1 and 2
- D. 1,3 and 4

Answer: B

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10. The major combustibe components of gobar (cow-dung) gas is

- A. methane
- B. carbon dioxide
- C. hydrogen
- D. propane

Answer: A

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11. Dry ice is used for making cold-baths in laboratories by mixing with volatile organic solvents. Identify the form of dry ice from the following .

- A. Gaseous carbon dioxide
- B. Liquid carbon dioxide
- C. Solid hydrogen oxide
- D. Solid hydrogen oxide

Answer: C

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12. Diamond is a

- A. good conductor and soft
- B. non-conductor and soft
- C. non-conductor and hard
- D. good conductor and hard

Answer: C

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13. Following statements are mae in connection with carbon dioxide(CO_2)

1. CO_2 is a poisonous gas

2. `CO_(2)` is an acidic oxide.

3. `CO_(2)` turns limewater milky.

Which of the statements given above is /are correct ?

A. 1 and 2

B. 2 and 3

C. 3 only

D. 1 and 3

Answer: B

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14. Vinegar is produced from

A. ethanoic acid

B. valeric acid

C. methanoic acid

D. butanoic acid

Answer: A

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15. Match the list -I and the list -II and select the correct answer using the codes given below the lists :

{:(,"List-I",,"List-II"),(A,,"Ozone gas",1,,"Combines with haemoglobin"),(B,,"Nitrous oxide",2,,"Ultraviolet

radiation"),(C,,"Carbon dioxide",3,,"Component of air in small quantity"),(D,,"Carbon monoxide",4,,"Visible radiation"),(,5,,"Infrared radiation");}`

A. `:(A,B,C,D),(1,4,5,3):}`

B. `:(A,B,C,D),(2,3,5,1):}`

C. `:(A,B,C,D),(1,4,5,2):}`

D. `:(A,B,C,D),(2,5,3,1):}`

Answer: B

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16. Which one among the following statements is not correct about graphite ?

A. It is the most stable allotrope of carbon

B. It is an electrically conducting material

C. Crystalline spherical beads of graphite have very good lubricating property under dry conditions

D. It is the higher grade of coal

Answer: D

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17. A bee-sting leaves an acid which causes pain and irritation. The injected acid is

A. acetic acid

- B. sulphuric acid
- C. citric acid
- D. methanoic acid

Answer: D

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18. A student by chance mixed acetone with alcohol. This mixture of acetone and alcohol can be separated by

- A. filtration
- B. separating funnel
- C. fractional crystallisation
- D. fractional distillation

Answer: D

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19. Which of the following statements about diamond are correct ?

1. It is used as a gem in jewellery because of its ability to reflect light.
2. It is good conductor of electricity .
3. It is used for cutting glass, marble stones and other hard materials.

4.It is used for drilling of rocks.

Select the correct answer using the codes given below.

A. 1,3 and 4

B. 2,3 and 4

C. 1,2 and 3

D. 2 and 4

Answer: A

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20. The main constituent of vinegar is

A. Citric acid

B. Acetic acid

C. Ascorbic acid

D. Tartaric acid

Answer: B

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21. Consider the following statements :

1. Diamond is hard and graphite is soft.

2. Diamond is soft and graphite is hard.

3. Diamond is a bad conductor but graphite is a good conductor .

4. Diamond is a good conductor but graphite is a bad conductor.

Which of the statements given above is/are correct ?

A. 1 and 3

B. 1 only

C. 2 and 3

D. 1 and 4

Answer: A

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22. The pure form of carbon is

A. diamond

B. graphite

C. charcoal

D. fullerene

Answer: A

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23. The acid contained in vinegar is

- A. acetic acid
- B. ascorbic acid
- C. citric acid
- D. Tartaric acid

Answer: A

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24. Assertion (A): Carbon dioxide is a compound

Reason (R) : Carbon and Oxygen combine together in the ratio 3:8 by mass.

- A. Both A and R are individually true and R is the correct explanation of A
- B. Both A and R are individually true and R is NOT the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

Answer: A

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25. Assertion (A) : Diamond is a good conductor of electricity

Reason (R) : Diamond and graphite are two allotrope carbon and graphite is a good conductor of electricity

- A. Both A and R are individually true and R is the correct explanation of A

B. Both A and R are individually true and R is NOT the correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: D

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26. Assertion (A) : Carbon can form more compounds than any other element

Reason (R) : Carbon can exist in various allotropes

A. Both A and R are individually true and R is the correct explanation of A

B. Both A and R are individually true and R is NOT the correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: B

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27. Statement I : Limestone decomposes when it is heated in air .

Statement II : Increase in the content of CO_2 in the atmosphere in recent years is mainly due to the using of limestone in the manufacture of cement.

A. Both the statements are individually true and Statement II is the correct explanation of Statement I

- B. Both the statements are individually true but Statement II is not correct explanation of Statement I
- C. Statement I is true and Statement II is false
- D. Statement I is false but Statement II is true

Answer: C

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28. Biogas consists of mainly

- A. methane
- B. Ethane
- C. Butane
- D. Carbon dioxide

Answer: A

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29. Thermodynamically the most stable form of carbon is

- A. diamond
- B. Graphite
- C. fullerenes
- D. coal

Answer: A

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30. 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 it therefore used as a dry lubricant in machines

Answer: D

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31. Why is graphite used in electrolytic cells ?

- A. Graphite is soft and can be easily moulded into electrodes
- B. Graphite is made of layers of carbon atoms which can slide
- C. Graphite is inert to most of the chemicals and remains intact in electrolytic cells
- D. Graphite is a good conductor of electricity

Answer: D

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32. 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 bond with three neighbouring carbon atoms
- B. undergoes sp^2 hybridization
- C. is tetrahedrally bonded
- D. is free from van der Waals force

Answer: A

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33. Molecules of which of the following has cage like structure ?

1. Diamond
2. Graphite
3. Fullerenes

Select the correct answer using the code given below :

- A. 1,2 and 3
- B. 2 and 3 only
- C. 2 only
- D. 3 only

Answer: D

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34. Which of the following elements forms highest number of compounds

- A. Oxygen
- B. Hydrogen
- C. Chlorine
- D. Carbon

Answer: D

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35. Which one of the following elements is used in penicil-lead

- A. Zinc
- B. Lead
- C. Carbon (Graphite)
- D. Tin

Answer: C

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36. How much CO_2 is produced on heating of 1 kg of carbon ?

- A. $\frac{11}{3}$ kg

B. $\frac{3}{11}$ kg

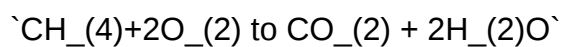
C. $\frac{4}{3}$ kg

D. $\frac{3}{4}$ kg

Answer: A

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37. Consider the following reaction :



Which of the following about the reaction given below is/are correct ?

1. Carbon is oxidized
2. Hydrogen is oxidized
3. Hydrogen is reduced
4. Carbon is reduced

Select the correct answer using the code given below :

A. 1 only

B. 1 and 2 only

C. 2 and 3 only

D. 2 and 4 only

Answer: B

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38. 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

Answer: C

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39. Which one of the following properties is NOT true for graphite /

- A. Hybridisation of each carbon atom of 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.

Answer: A

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40. Which one of the following is the purest form of carbon ?

- A. Charcoal
- B. Coke

C. fullerence

D. Carbon black

Answer: C

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41. The Poisonous nature of carbon monoxide (CO) is due ot its

A. insolubility in water

B. ability of form a complex with haemoglobin

C. ability to reduce some metal oxides

D. property of having one sigma bond

Answer: B

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42. Which one of the following statements is not correct ?

A. All carbons is diamonds are linked by carbon-carbon single bond

B. Graphite is layered structure in which layers are held together by weak van der Walls forces.

C. Graphite layers are formed by hexagonal rings of carbon atoms

D. Graphite layers are held together by carbon-carbon single bond

Answer: D

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43. Which one of the following will NOT produce carbon dioxide on reacting with an aqueous solution of hydrochloric acid ?

A. Limestone

B. Quick Lime

C. Chalk

D. Marble

Answer: C

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