



CHEMISTRY

BOOKS - NDA PREVIOUS YEARS

CARBON AND DIFFERENT FORMS, CARBON DIOXIDE

Mcqs

1. How many milligrams is 1 carat of diamond equal to ?(1 कैरेट मे कितना मिलीग्राम हीरा होगा ?

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 (ग्रेफ़ाइट स्नेहक के रूप में क्यों उपयोग में लिया जाता है)

- 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 element s is used as a coolant ? (शीतलक के रूप में किसे प्रयोग में लिया जाता है)

- 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 ?(मानव शरीर के निर्माण मे कौनसे तत्वों का युग्म सबसे ज्यादा महत्वपूर्ण है

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: B



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8. Vinegar is the trade name of (विनेगर किसका व्यापारिक नाम है)

- 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 is 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 combustible components of gobar (cow-dung) gas is (गोबर के सबसे मुख्य दहनशील घटक कौनसे हैं)

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 made 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 (विनेगर किससे निर्मित होता है)

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.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	4	5	2

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	5	3	1

Answer: B



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16. Which one among the following statements is not correct about graphite ? (ग्रेफाईट के बारे कौन सा कथन सही नहीं है)

A. It is the most stable allotrope of carbon(यह कार्बन का सबसे स्थायी अपररूप है)

B. It is an electrically conducting material (यह विद्युत सुचालक होता है)

C. Crystalline spherical beads of graphite have very good lubricating property under dry conditions (यह स्नेहक के रूप में प्रयुक्त होता है)

D. It is the higher grade of coal (यह उच्च किस्म का कोयला है)

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 (बायोगेस में मुख्यतः होता है)

A. methane

B. Ethane

C. Butane

D. Carbon dioxide

Answer: A



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29. Thermodynamically the most stable form of carbon is (ऊष्मागतिकीय रूप से सबसे अधिक स्थायी कार्बन का कौनसा रूप है)

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

Answer: B



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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 ? (ग्रेफ़ाइट का उपयोग विद्युत अपघट्य सेल में क्यों किया जाता है)

A. Graphite is soft and can be easily moulded into electrodes
(यह मुलायम होता है जिससे आसानी से इलेक्ट्रोड में बदला जा सकता है)

- B. Graphite is made of layers of carbon atoms which can slide (ग्रेफ़ाइट परतीय संरचना का होता है जो एक दूसरे पर स्लाइड करती है)
- C. Graphite is inert to most of the chemicals and remains intact in electrolytic cells (ग्रेफ़ाइट अक्रिय होता है ,किसी से कोई क्रिया नहीं करता है)
- D. Graphite is a good conductor of electricity (ग्रेफ़ाइट धारा का सुचालक होता है)

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:(ग्रेफ़ाइट ऊष्मा और धारा का चालक होता है , क्यों ?)

- 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 (

पिंजरे नुमा संरचना किसकी है) ?

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 (किसके सबसे अधिक यौगिक पाए जाते हैं)

- A. Oxygen

B. Hydrogen

C. Chlorine

D. Carbon

Answer: D



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

पेंसिल लेड में कौनसा पदार्थ प्रयुक्त किया जाता है)

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 ? (

1 kg कार्बन के तपन से कितनी CO_2 उत्पन्न होगी)

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

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

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

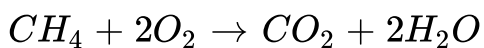
D. $\frac{3}{4}$ kg

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 (कार्बन का ऑक्सीकरण)
2. Hydrogen is oxidized (हाइड्रोजन का ऑक्सीकरण)
3. Hydrogen is reduced (हाइड्रोजन का अपचयन)
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. (कौनसा कथन सत्य नहीं है)

A. Hybridisation (संकरण) 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 (

इलेक्ट्रॉन परमाणुओं की पूरी शीट पर विस्थानीकृत है)

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. fullerenes

D. Carbon black

Answer: C



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41. The Poisonous nature of carbon monoxide (CO) is due to its
(CO जहरीली गैस है क्योंकि यह)

A. insolubility in water (जल में अघुलनशील है)

B. ability of form a complex with haemoglobin (इसमें
हीमोग्लोबिन के साथ संकुल बनाने की क्षमता होती है)

C. ability to reduce some metal oxides (कुछ धातुओं के अपचयन
की क्षमता होती है)

D. property of having one sigma bond (इसमें एक सिग्मा बंध होता है)

Answer: B



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42. Which one of the following statements is not correct ?
(कौनसा कथन सही नहीं है ?)

A. All carbons in diamonds are linked by carbon-carbon (single bond (हीरे में सभी कार्बन परमाणु एकल बंध के द्वारा जुड़े होते हैं)

B. Graphite is layered structure in which layers are held (together by weak van der Waals forces. (ग्रेफ़ाइट की परतीय

संरचना होती है जिनके बीच में वॉण्डर वाल बल लगता है

C. Graphite layers are formed by hexagonal rings of carbon atoms (ग्रेफ़ाइट में षटकोणीय वलय होती है)

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: B



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