



CHEMISTRY

BOOKS - ARIHANT PUBLICATION

GROUP 18 ELEMENTS NOBLE GASES

Questions For Practice Multiple Choice Type Questions

1. Which is the most easily liquefiable rare gas ?

A. Xe

B. Kr

C. Ar

D. Ne

Answer: A



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2. The inert gase producing maximum number of compounds is

A. He

B. Ne

C. Kr

D. Xe

Answer: D



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3. XeF_4 and XeF_6 are expected to be

A. oxidising

B. reducing

C. unreactive

D. strongly basic

Answer: D



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4. XeF_6 on complete hydrolysis gives

A. Xe

B. $XeOF_2$

C. XeO_2

D. XeO_3

Answer: D



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5. The noble gas used in at atomic reactor is

A. krypton

B. oxygen

C. neon

D. helium

Answer: D



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6. Which of the following noble gases is used in weather balloons ?

A. He

B. Xe

C. Ne

D. Kr

Answer: A



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7. Why has it been difficult to study chemistry of radon ?



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8. Account for the following . Noble gases have very low boiling points .



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9. How does xenon atom form compounds even through the xenon atom has a closed shell electronic configuration ?



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10. Why argon is monoatomic ?



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11. What inspired N Bartlett for carrying out reaction between Xe and PtF_6 ?



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12. Which type of hybridisation takes place in xenon during formation of XeF_2 ? What is its

shape ?



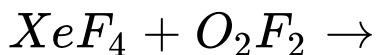
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13. Complete the following equation :



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14. Complete the following equation :



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15. Give reactions in which the xenon fluoride acts as

(i) fluoride donor

(ii) fluoride acceptor



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16. Shape of xenon hexafluoride is



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17. Why is helium used in diving apparatus ?



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18. Which noble gas is used in filling balloons for meteorological observation ?



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19. Why do noble gases have comparatively large atomic size in a particular period ?





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20. Which one of the following does not exist ?

Why ? $XeOF_4$, NeF_2 , XeF_2 , XeF_6



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21. Xenon does not form fluorides such as

XeF_3 and XeF_5 Why ?



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22. How xenon difluoride is prepared ?



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23. What type of hybridisation takes place in xenon during the formation of XeF_4 ? What is its shape ?



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24. Give the structure of XeF_6 .



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25. Suggest reasons why the only binary compounds of the noble gases are fluorides and oxides of Kr ,Xe and Rn ?



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26. Give one method of preparation of XeF_4 .
Mention one reaction in which it acts as an oxidising agent Give its structure



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27. Write the balanced chemical equations for obtaining XeO_3 and $XeOF_4$ from XeF_6 .

How are xenon fluorides

XeF_2 , XeF_4 and XeF_6 obtained ?



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28. List the uses of neon and argon gases .



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29. What are zero group elements ? Give the electronic configuration of first four of them. Why are they called gases ? How xenon difluoride is prepared ?



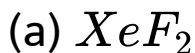
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30. Justify the position of noble gases in the periodic table .



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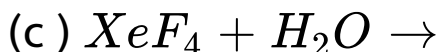
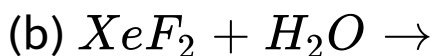
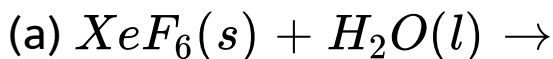
31. Discuss one method of preparation and the structure of the following compounds .

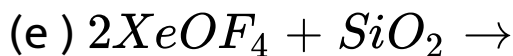
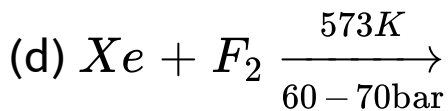


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32. Complete the following chemical equations

:





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33. No distinct chemical compound of helium is known Explain .



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Odisha Bureau S Textbook Solutions Multiple
Choice Type Questions

1. Noble gas used in radiotherapy is

A. Kr

B. Ar

C. Rn

D. Xe

Answer: C



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2. Deep sea dives respire in a mixture of

- A. oxygen and argon
- B. oxygen and helium
- C. oxygen and nitrogen
- D. oxygen and hydrogen

Answer: B



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3. Shape of XeF_4 is

- A. linear

B. trigonal pyramidal

C. pyramidal

D. square planar

Answer: D



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4. Which of the following is not correct about the rare gases ?

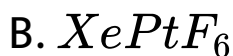
- A. They are used to provide inert atmosphere in many chemical reactions
- B. They are sparingly soluble in water
- C. They form diatomic molecules
- D. Some of them are used for advertising signboards

Answer: C



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5. What was the first noble gas compound and who prepared it?



Answer: B



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6. The valency of noble gas is

A. zero

B. one

C. two

D. three

Answer: A



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7. Which of the following noble gases is the least polarisable ?

A. He

B. Ne

C. Kr

D. Xe

Answer: A



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8. Which of the following fluorides of xenon is impossible ?

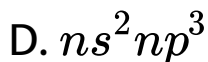
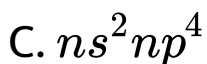
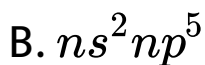
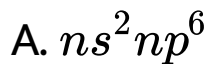


Answer: B



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9. The outermost shell of the elements of inert gases is characterised by



Answer: A



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10. The coloured discharge tubes for advertisement contain

A. xenon

B. helium

C. argon

D. neon

Answer: D



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11. Monazite on heating gives

A. Ra

B. Ar

C. He

D. Ne

Answer: C



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12. The inert gas producing maximum number of compounds is

A. He

B. Xe

C. Kr

D. Ne

Answer: B



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13. The inert gas abundantly found in atmosphere is

A. Xe

B. Kr

C. Ar

D. He

Answer: C



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14. Which of the following is called alum ?

A. Kr

B. Xe

C. He

D. Ne

Answer: B



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15. Which of the following rare gases shows least ionisation potential ?

A. Ar

B. Kr

C. He

D. Xe

Answer: D



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16. The noble gas which behaves abnormally in liquid state is

A. Xe

B. Ne

C. He

D. Ar

Answer: C



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17. Which of the following liquids can climb up the wall of the glass vessel in which it is placed ?

A. Alcohol

B. Liquid He

C. Liquid N_2

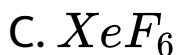
D. Water

Answer: B



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18. The compound that attacks pyrex glass is



D. None of these

Answer: C



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19. How many lone pairs are associated with xenon difluoride ?

A. 1

B. 2

C. 3

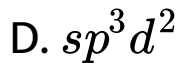
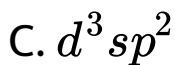
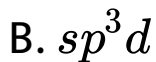
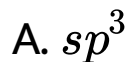
D. 4

Answer: C



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20. In XeO_3 molecule Xe atom shows which hybridisation



Answer: A



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Odisha Bureau S Textbook Solutions Very Short Answer Type Questions

1. Why sea divers use a mixture of helium and oxygen instead of air for respiration ?



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2. What lamp is used as beacon lights for ships and aeroplanes ?



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3. Two of the following are inert gases . Identify them Oxygen , neon , nitrogen and helium



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4. Why the noble gases , in general , are chemically inert ?



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5. Which of the following noble gases is abundant in air ?



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6. Why argon is monoatomic ?



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7. Which gas is used in beacon lights ?



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8. The most abundant noble gas present in the atmosphere is _____.



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9. Give one use of xenon tetrafluoride .



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10. Why zero group elements do not form diatomic molecules ?



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11. Give the electronic configuration of argon atom .



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12. Write any one use of xenon difluoride .



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13. Which of the noble gases is radioactive ?



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14. Which noble gas is used for treatment of cancer ?



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15. Show the product that is formed by the interaction of xenon with excess of O_2F_2 at 155K.



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16. Give one use of xenon tetrafluoride .



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17. Write two uses of Helium.



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18. Write the electronic configuration of krypton .



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19. Write the structure of XeO_2F_2 molecule .



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20. Write the shape of xenon difluoride.



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21. Which of the following noble gases is used in weather balloons ?



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22. Why has it been difficult to study chemistry of radon ?



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Odisha Bureau S Textbook Solutions Short Answer Type Questions

1. Explain why neon is monoatomic ?



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2. Mention one use of each of four noble gases

.



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3. Chemical activity of noble gases vary in the group , how ?



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4. Give a brief account of the preparation , properties of XeF_6 .



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5. Which inert gas contains less than eight electrons in its outer shell ? What is its atomic number ? Write down its electronic configuration .



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6. The inert gas molecules are monoatomic .Why it is so ?



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7. Write the electronic configuration of krypton. Why is it inert ?



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8. Name the zero group elements and give their atomic numbers .



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9. Give the preparation of XeF_2 and XeF_4 .





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10. Give the shapes of xenon di and tetrafluorides .



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11. Account for the following . Noble gases have very low boiling points .



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12. Noble gas atoms have highest atomic radius than other elements present in that period .Why ?



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13. Why does xenon form compounds only with fluorine and oxygen ?



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14. Which compound led to the discovery of noble gases ? How ?



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Odisha Bureau S Textbook Solutions Short Answer Type Ii Questions

1. Xenon forms fluorides easily .Explain in two or three sentences .



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2. Give the hybridisation of Xe in XeF_2 , XeF_4 and $XeOF_4$.



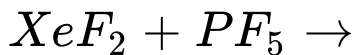
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3. Write down the structure of XeO_4 and XeF_4 .



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4. Complete the following chemical equations :

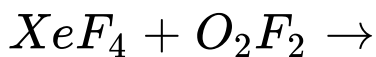


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6. Complete the following equation :





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7. Write the hybridisation and also draw the molecular structure of



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8. $XeOF_4$



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9. Write the structure of XeO_2F_2 molecule .



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Odisha Bureau S Textbook Solutions Long
Answer Type li Questions

1. Write a short account of the fluorides of xenon stating their preparation and properties .



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2. What are zero group elements ? Give the electronic configuration of first four of them.

Why are they called gases ? How xenon difluoride is prepared ?



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3. Name the zero group elements and give their atomic numbers .



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4. On the basis of electronic configuration discuss the position of inert gases in the periodic table .



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5. How will you account for the formation of xenon fluorides ? Give the preparation and structures of xenon difluoride and xenon tetrafluoride .



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Chapter Practice Multiple Choice Type Questions

1. The forces acting between noble gas atoms are

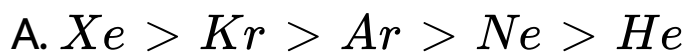
- A. van der Waal 's force
- B. ion - dipole forces
- C. London -dispersion forces
- D. magnetic forces

Answer: A



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2. The correct order of solubility in water for He , Ne, Ar, Kr, Xe is



Answer: A



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3. Which of the following is monoatomic ?

A. Sulphur

B. helium

C. Phosphorus

D. Chlorine

Answer: B



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4. Which of the following compound of xenon has pyramidal geometry ?

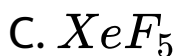


Answer: C



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5. Which of the following is formed by xenon ?



Answer: B



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1. The inert gas found in sun 's atomosphere is

.....



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2. Hydrogen is the lightest element but helium has lowest boiling point why ?



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3. Write the nuclear reaction which produces a radioactive inert gas .



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4. Explain why XeF_2 exists but not XeH_2 ?



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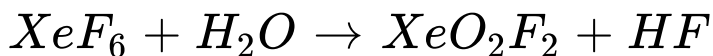
5. Complete the following reaction :





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6. Balance the following equation .



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7. Write the geometry of XeO_4 molecule .



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8. Xenon has complete shell configuration but forms compounds with fluorine why ?



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9. He_2 does not exist why ?



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10. Does the hydrolysis of XeF_6 lead to redox reaction ?



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11. Explain the following :

Xe shows +8 oxidation state (e.g XeO_4) but XeF_8 is not known why ?



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12. Helium and neon do not form compounds with fluorine .



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Chapter Practice Short Answer Type Ii Questions

1. Write the main reasons which are responsible for the inertness of group 18 elements .



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2. Why does Xe form fluorides and not chlorides ?



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3. Explain the following situations :

XeF_2 has a straight linear structure and not a bent angular structure .



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4. $XeF_4 + H_2O \rightarrow$



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5. How is XeO_3 prepared from xenon fluorides ? Describe the structure of XeO_3 on the basis of hybridisation.



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6. Which noble gas is used in atomic reactor ?



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7. What is the oxidation state and bond angle of Xe in XeF_2 ?



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Chapter Practice Long Answer Type Questions

1. Draw the structural formula of the compound XeF_4



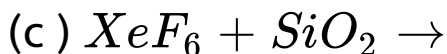
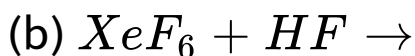
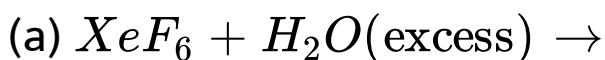
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2. How would you account for the following ,
 XeF_2 is linear molecule without a bend ?



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3. Complete the following chemical reaction equations



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4. Which of the following statement is wrong for gases ?



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5. No distinct chemical compound of helium is known Explain .



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6. Write the structure of XeO_2F_2 molecule .



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