



CHEMISTRY

BOOKS - SURA CHEMISTRY (TAMIL ENGLISH)

P-BLOCK ELEMENTS - II

Evaluation Choose The Correct Answer

1. In which of the following, NH_3 is not used ?

A. Nessler's reagent

B. Reagent for the analysis of IV group
basic radical

C. Reagent for the analysis of III group
basic radical

D. Tollen's reagent

Answer: A



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2. Which is true regarding nitrogen ?

A. least electronegative element

B. has low ionisation enthalpy than oxygen

C. d- orbitals available

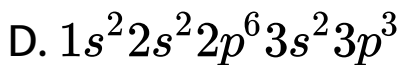
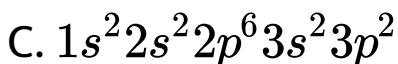
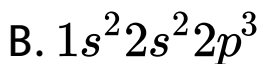
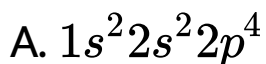
D. ability to form $p\pi - p\pi$ bonds with itself

Answer: A::B::D



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3. An element belongs to group 15 and 3rd period of the periodic table, its electronic configuration .



Answer: A::B::C::D



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4. Solid (A) reacts with strong aqueous NaOH liberating a foul smelling gas (B) which spontaneously burn in air giving smoky rings.

A and B are respectively

A. P_4 (red) and PH_3

B. P_4 (white) and PH_3

C. S_8 and H_2S

D. P_4 (White) and H_2S

Answer: A::B::C::D



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5. In the brown ring test, brown colour of the ring is due to

A. a mixture of NO and NO_2

B. Nitroso ferrous sulphate

C. Ferrous nitrate

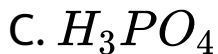
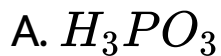
D. Ferric nitrate

Answer: A::B



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6. On hydrolysis, PCl_3 gives

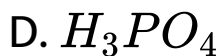
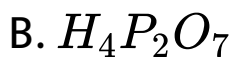
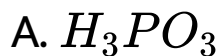


Answer: A::C



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7. P_4O_6 reacts with cold water to give



Answer: A



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8. The basicity of pyrophosphorous acid ($H_4P_2O_5$) is

A. 4

B. 2

C. 3

D. 5

Answer: B



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9. The molarity of given orthophosphoric acid solution is 2M. its normality

A. 6N

B. 4N

C. 2N

D. none of these

Answer: A



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10. Assertion : bond dissociation energy of fluorine is greater than chlorine gas.

Reason : chlorine has more electronic repulsion than fluorine.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true but reason is not the correct explanation of assertion .

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::D



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11. Among the following, which is the strongest oxidizing agent ?

A. Cl_2

B. F_2

C. Br_2

D. I_2

Answer: B



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12. The correct order of the thermal stability of hydrogen halide is

A. $HI > HBr > HCl > HF$

B. $HF > HCl > HBr > HI$

C. $\text{HCl} > \text{HF} > \text{HBr} > \text{HI}$

D. $\text{HI} > \text{HCl} > \text{HF} > \text{HBr}$

Answer:



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13. Which one of the following compounds is not formed ?

A. XeOF_4

B. XeO_3

C. XeF_2

D. NeF_2

Answer: B::D



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14. Which is the most easily liquifiable rare gas

A. Ar

B. Ne

C. He

D. Kr

Answer: C



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15. XeF_6 on complete hydrolysis produces

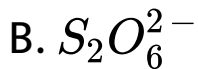
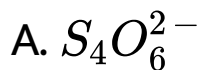


Answer: C



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16. On oxidation with iodine, sulphite ion is transformed to



Answer: B::C::D



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17. Which of the following is strongest acid among all ?

A. HI

B. HF

C. HBr

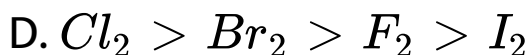
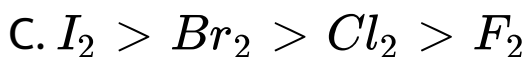
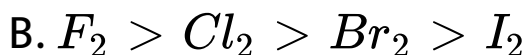
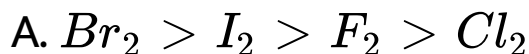
D. HCl

Answer: A



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18. Which one of the following orders is correct for the bond dissociation enthalpy of halogen molecules ?

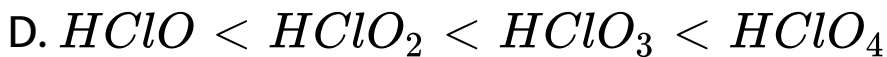
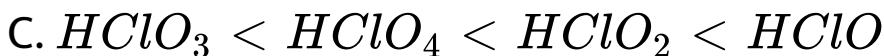
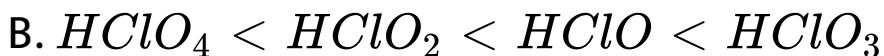
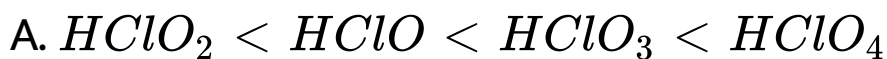


Answer: B::C::D



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19. Among the following the correct order of acidity is

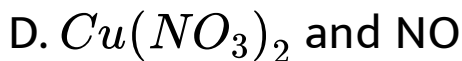
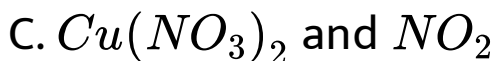
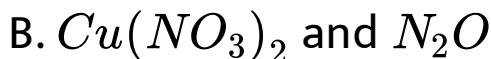
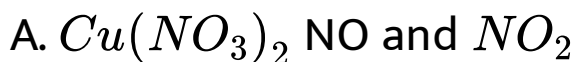


Answer: B::C::D



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20. When copper is heated with conc HNO_3 it produces



Answer: C



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Evaluation Answer The Following Questions

1. What is inert pair effect ?



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2. Chalcogens belongs to p-block. Give reason.





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3. Explain why fluorine always exhibit an oxidation state of -1 ?



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4. Give the oxidation state of halogen in the following .

(a) OF_2 (b) O_2F_2 (c) Cl_2O_3 (d) I_2O_4



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5. What are interhalogen compounds ? Give examples .



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6. Why fluorine is more reactive than other halogens ?



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7. Give the uses of helium .



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8. What is the hybridisation of iodine in IF_7 ?

Give its structure .



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9. Give the balanced equation for the reaction between chlorine with cold NaOH and hot NaOH.



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10. How will you prepare chlorine in the laboratory?



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11. Give the uses of sulphuric acid .



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12. Give a reason to support that sulphuric acid is a dehydrating agent.



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13. Write the reason for the anomalous behaviour of nitrogen .



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14. Write the molecular formula and structural formula for the following molecules.

(a) Nitric acid

(b) dinitrogen pentoxide

(c) phosphoric acid

(d) phosphine



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15. Give the uses of argon.



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16. Write the valence shell electronic configuration of group-15 elements.



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17. Give the equations to illustrate the chemical behaviour of phosphine .



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18. Give a reaction between nitric acid and a basic oxide.



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19. What happens when PCl_5 is heated ?



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20. Why is boric acid considered as a weak acid ?



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21. Deduce the oxidation number of oxygen in hypofluorous acid - HOF.



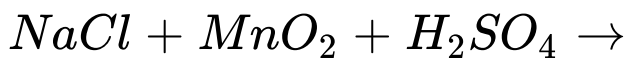
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22. Hybridisation and shape of BrF_5 is :



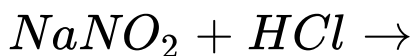
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23. Complete the following reactions .



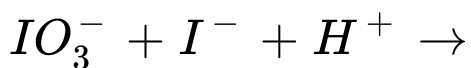
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24. Complete the following reactions .



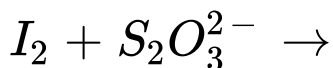
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25. Complete the following reactions .



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26. Complete the following reactions .



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27. Complete the following reactions .



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28. Complete the following reactions .



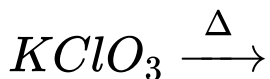
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29. Complete the following reactions .



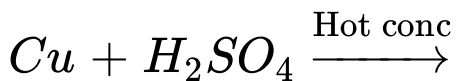
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30. Complete the following reactions .



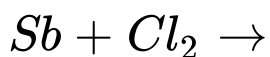
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31. Complete the following reactions .



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32. Complete the following reactions .



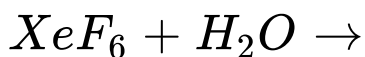
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33. Complete the following reactions .



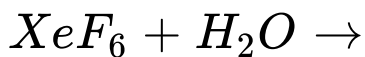
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34. Complete the following reactions .



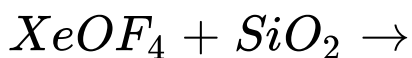
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35. Complete the following reactions .



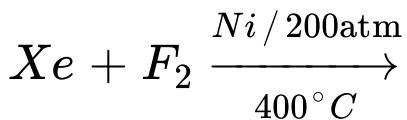
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36. Complete the following reactions .



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37. Complete the following reactions .



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Evaluation Evaluate Yourself



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Additional Questions And Answers Choose The Correct Answer

1. Which of the following is correct ?

A. H_3PO_3 is dibasic and reducing

B. H_3PO_3 is dibasic and non-reducing

C. H_3PO_4 is tribasic and reducing

D. H_3P_3 is tribasic and non-reducing

Answer: A::B::C::D



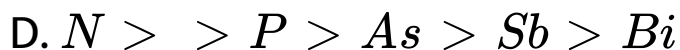
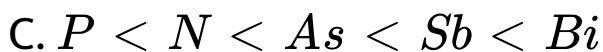
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2. Catenation property of group 15 elements

follow the order

A. $N < P < As < Sb < Bi$

B. $P > N > As > Sb > Bi$

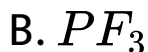


Answer: A:B



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3. Which of the following halides of group 15 is not hydrolysed ?



C. NI_3

D. Both (a) and (b)

Answer: A::B::D



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4. Which is dibasic ?

A. Orthophosphoric acid

B. Pyrophosphoric acid

C. Orthophosphorus acid

D. Hypophosphorus acid

Answer: A::C::D



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5. The hybridisation and shape of SF_6 is respectively

A. sp^3d^2 , square planar

B. sp^3d^2 , octahedral

C. sp^3d , see-saw

D. sp^3d , trigonal bipyramidal

Answer: A::B::C::D



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6. Allotrope of sulphur which shows paramagnetic behaviour

A. S_8 - Rhombic

B. S_8 - Monoclinic

C. S_2 - In vapour phase

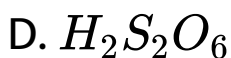
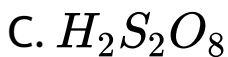
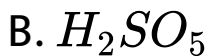
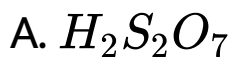
D. Not possible

Answer: A::B::C



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7. $S - S$ bond is present in



Answer: B::D



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8. Pick the wrong one among the following

A. F_2 - Yellow

B. Br_2 - Red

C. Cl_2 - Colourless

D. I_2 - Violet

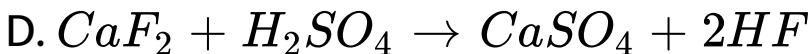
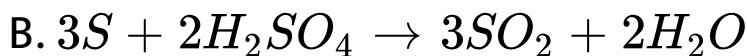
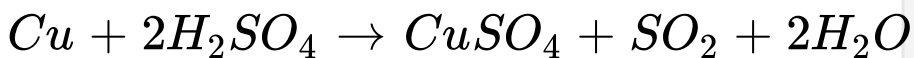
Answer: B::C



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9. Hot concentrated H_2SO_4 is moderately strong oxidising agent which of the following reactions does not show oxidising behaviour ?

A.

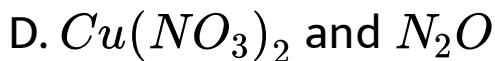
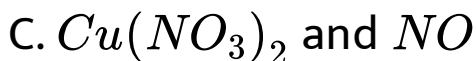
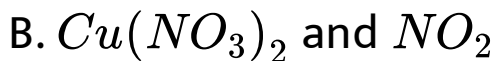
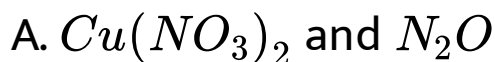


Answer: A::B::C::D



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10. When copper is heated with conc HNO_3 it produces



Answer: A::B::C::D



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11. Least volatile hydrogen halide is

A. HF

B. HCl

C. HBr

D. HI

Answer: A



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12. Oxalic acid on heating with conc. H_2SO_4 gives

A. CO only

B. CO_2 only

C. $CO_2 + H_2O$

D. $CO + CO_2 + H_2O$

Answer: B::C::D



13. Which one of the following orders is not in accordance with the property stated against it ?

A. $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation energy

B. $HI > HBr > HCl > HF$: Acidic property in water

C. $F_2 > Cl_2 > Br_2 > I_2$: Oxidising power

D. $F_2 > Cl_2 > Br_2 > I_2$:

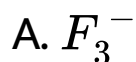
Electronegativity

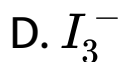
Answer: A::B::C::D



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14. Which among the following ion is not formed?





Answer: A::C



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Additional Questions And Answers Fill In The Blanks

1. Orthophosphorus acid on heating gives

- A. Hypophosphorus
- B. Orthophosphoric acid
- C. Phosphine gas
- D. both (b) and (c)

Answer: B::C::D



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2. The incorrect statement among the following is _____

A. Reducing character of hydrides of group

15 increases down the group

B. Basicity of hydrides of group 15

increases down the group

C. NCl_5 does not exist

D. Phosphorus and arsenic can form

$P\pi - d\pi$ bond but not nitrogen

Answer: A::B::C::D



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3. The incorrect statement regarding structure of ozone is _____

A. Bond angle is less than 120°

B. It is linear

C. The two oxygen-oxygen bond length in ozone are identical

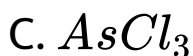
D. Both (b) and (c).

Answer: A::B



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4. Maximum covalent character is shown by



Answer: B::C



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5. Strong reducing behaviour of H_3PO_2 is due to _____

A. High oxidation state of phosphorus

B. High electro gain enthalpy of phosphorus

C. Presence of two-OH groups and one P-H bond

D. Presence of one-OH groups and two P-H bonds

Answer: A::B::C::D



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6. Repeated use of which one of the following fertilizers would increase the activity of the soil _____

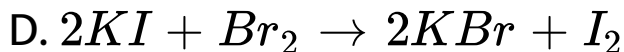
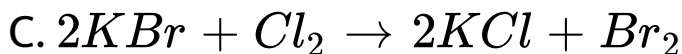
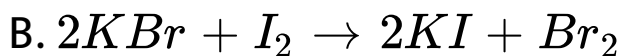
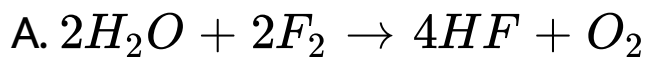
- A. Ammonium sulphate
- B. Superphosphate of lime
- C. Urea
- D. Potassium nitrate

Answer: A



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7. Which reaction is not feasible _____



Answer: A::B



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8. Oxidation states of P in $H_4P_2O_5$, $H_4P_2O_6$, $H_4P_2O_7$ are respectively

A. +3, +4, +5

B. +3, +5, +4

C. +5, +3, +4

D. +5, +4, +3

Answer: A::C::D



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9. The ionisation energy of Ga is higher than that of Al because of _____

A. more effective nuclear charge of Ga

B. smaller atomic size of Ga

C. larger size of Ga

D. both (a) and (b)

Answer: A::B::D



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10. Helium is used in balloons in the place of hydrogen because it is _____

A. incombustible

B. radioactive and detected easily

C. lighter than hydrogen

D. both (a) and (c)

Answer: A::B::C::D



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11. The high reactivity of fluorine is due to

- A. high ionisation energy
- B. low bond dissociation energy
- C. low electron affinity
- D. high electronegativity

Answer: A::B::C::D



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Additional Questions And Answers Assertion Reason

1. Assertion : H_2O is the only hydride of chalcogen family .

Reason : Acidic nature of hydrides of chalcogen family increases down the group .

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C::D



View Text Solution

2. Assertion : PF_5 and IF_5 have similar shapes.

Reason : All the bond lengths are equal in PF_5 .

.

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::D



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3. Assertion : Noble gases have highest ionization energies in their respective periods.

Reason : The outermost sub-shell of noble gases in which electron enters is completely filled.

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C::D



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4. Assertion : The valency and oxidation number of sulphur in S_8 respectively are 2 and 0.

Reason : S_8 rhombic is the most stable allotropic form a sulphur.

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C::D



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5. Assertion : Dissolution of concentrated H_2SO_4 in water is highly exothermic process.

Reason : Sulphuric acid is always diluted by adding acid to water slowly.

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C::D



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6. Assertion : N_2 is more stable than O_2 .

Reason : Bond order of N_2 is more than that of O_2 .

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C::D



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7. Assertion : PH_5 is not possible.

Reason : -5 oxidation state of phosphorus is not possible.

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C::D



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8. Assertion : Cl_2 on reaction with NaOH (cold and dilute) gives $NaClO_3$

Reason : Cl_2 get oxidised only in this reaction

.

- A. Both assertion and reason are true and reason is the correct explanation of the assertion
- B. Both assertion and reason are true and reason is not the correct explanation of the assertion.
- C. Assertion is true but reason is false
- D. Both assertion and reason are false.

Answer: A::B::D



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9. Assertion : H_3PO_4 is less acidic than H_3PO_3

Reason : Oxidation state of phosphorus in $H_3PO_4 < H_3PO_3$

A. Both assertion and reason are true and reason is the correct explanation of the assertion

B. Both assertion and reason are true and reason is not the correct explanation of

the assertion.

C. Assertion is true but reason is false

D. Both assertion and reason are false.

Answer: A::B::C



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Additional Questions And Answers Correct Statement S

1. Which of the following is correct ?

- A. In PF_5 , axial and equatorial bonds are interchanged known as pseudo rotation
- B. In solid state PF_5 remains covalent
- C. PH_5 cannot be obtained - because H is not sufficiently electronegative to make the d-orbitals contact sufficiently
- D. All the above

Answer: A::B::C::D



View Text Solution

2. About " Ammonia"

I. Ammonia is formed by the hydrolysis of urea.

II. It is heavier than air.

III. It can readily liquefied by at about atmospheric pressure.

IV. Liquid ammonia resembles water in its physical properties.

A. I, III and IV only

B. II, I , III and IV

C. II, I , IV and III

D. I, II, III and IV

Answer: A::D



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3. About "Nitric acid "

I. It is prepared in large scales by ostwald's process.

II. It completely miscible with water forming a constant boiling mixture.

III. It boils at 56°C .

A. I, II only

B. I, II and III only

C. I and III

D. I, III only

Answer: A



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4. About "White phosphorous"

I. It's ignition temperature is very high.

II. It glows in the dark due to oxidation.

III. White phosphorous is poisonous in nature.

IV. It has pungent smell .

A. II and III only

B. II and IV only

C. II, I, IV and III

D. I, II, III and IV

Answer: A::D



View Text Solution

5. I. Nitric acid is used in the preparation of aquaregia.

II. Salts of nitric acid are used in photography.

III. About 50% of earth atmosphere contains dinitrogen gas.

IV. CO_2 is the principle gas of atmosphere.

A. I and II only

B. III and IV only

C. III, II, IV and I

D. I, II, III and IV

Answer: A::D



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6. I. When phosphine is heated with air, it burns to give meta phosphoric acid.

II. Nitrogen is used for the manufacture of ammonia.

III. Phosphine is weakly basic and forms phosphonium salts with acids.

IV. Phosphine forms coordination compound with Lewis base.

A. I and III only

B. II and IV only

C. I, II and III only

D. I, II, III and IV

Answer: A::C::D



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**Additional Questions And Answers Incorrect
Statement S**

1. Ammonia

A. Forms ammonium salts when treated with acids.

B. Forms metal hydroxides when it reacts with metallic salts.

C. It is soluble in water.

D. Ammonia molecule is octahedral in shape

Answer: A::C::D



[View Text Solution](#)

2. Ammonia

A. Ammonia molecule is pyramidal in shape

B. Ammonia and water are linked by hydrogen bonds.

C. Nitric acid decomposes on exposure to sunlight.

D. Metal nitrate is formed with the release of nitrogen.

Answer: A::D



View Text Solution

3. Ammonia

A. Yellow phosphorous catches fire in air.

B. Red phosphorous also reacts with oxygen on heating.

C. Phosphorous has a layer structure.

D. Only 2 atoms in phosphorous have polymeric structure.

Answer: A::B::C::D



View Text Solution

4. About "Phosphine"

A. It is prepared by heating nitric acid.

B. It reacts with halogen to give phosphorous penta halides.

C. It is a poisonous gas with rotten fish smell.

D. It is used in Homles signal.

Answer: A::B::C::D

 [View Text Solution](#)

5. Which among the following is mismatched regarding the shape ?

A. XeF_4 - square planar

B. $XeOF_4$ - square pyramidal

C. XeF_6 - Distorted octahedral

D. XeO_3 - Bent T shape

Answer: A::B::C



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Additional Questions And Answers Very Short Answer

1. How is nitrogen prepared from liquid air ?

A.

B.

C.

D.

Answer:



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2. Give two uses of nitrogen.

A.

B.

C.

D.

Answer:



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3. How is ammonia prepared in the lab?

A.

B.

C.

D.

Answer:



Watch Video Solution

4. Give two uses of nitric acid.

A.

B.

C.

D.

Answer:



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5. What is phosphorescence ?

A.

B.

C.

D.

Answer:



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6. What is the reaction of Phosphorous with alkali ?

A.

B.

C.

D.

Answer:



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7. Discuss the oxidising power of fluorine.

A.

B.

C.

D.

Answer:



[View Text Solution](#)

8. Elements of group 16 show lower value of first ionization enthalpy compared to group 15, why ?

A.

B.

C.

D.

Answer:



[View Text Solution](#)

9. Although ΔH of fluorine is less negative than that of chlorine, but fluorine is a stronger oxidising agent than chlorine, why ?

A.

B.

C.

D.

Answer:



[View Text Solution](#)

10. (i) Give correct order of boiling point of hydride of group 17.

(ii) Fluorine exhibits only -1 oxidation state whereas other halogens show +1, +3, +5 and +7 oxidation state also Explain.

A.

B.

C.

D.

Answer:



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11. How would you account for the following ?

The electron gain enthalpy with negative sign is less for oxygen than that of sulphur.

A.

B.

C.

D.

Answer:



View Text Solution

12. There is a huge difference between the melting and boiling points of oxygen and sulphur. Why ?

A.

B.

C.

D.

Answer:



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13. Why does ozone act as a powerful oxidising agent ?

A.

B.

C.

D.

Answer:



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14. How is SO_2 an air pollutant ?

A.

B.

C.

D.

Answer:



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15. Acidic character increases from HF to HI.

State whether the above statement is True or false and give reason for your answer.

A.

B.

C.

D.

Answer:



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16. Give the reason for bleaching action of Cl_2 .

A.

B.

C.

D.

Answer:



View Text Solution

17. Give reason for the following :

F_2 is more reaction than ClF_2 but ClF_3 is more reactive than Cl_2 .

A.

B.

C.

D.

Answer:



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18. Arrange the following as indicated below :

F_2, Cl_2, Br_2, I_2 - increasing bond dissociation enthalpy.

A.

B.

C.

D.

Answer:



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19. Arrange the following as indicated below :

HF, HCl , HBr, HI - increasing acidic strength .

A.

B.

C.

D.

Answer:



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20. Account for the following :

O - O bond lengths in ozone molecule are identical.

A.

B.

C.

D.

Answer:



View Text Solution

21. Account for the following :

Most of the reactions in fluorine are exothermic.

A.

B.

C.

D.

Answer:



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22. Explain Why inspite of nearly the same electronegativity, nitrogen forms hydrogen bonding while chlorine does not - Give reason.

A.

B.

C.

D.

Answer:



View Text Solution

23. Why hydrides of oxygen is a liquid whereas hydride of sulphur is a gas?

A.

B.

C.

D.

Answer:



View Text Solution

24. Nitric oxide becomes brown when released in air. Why ?

A.

B.

C.

D.

Answer:



View Text Solution

25. $BiCl_3$ is more stable than $BiCl_5$. Why ?

A.

B.

C.

D.

Answer:



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Additional Questions And Answers Short Answer

1. What is Haber's process? (or) How is ammonia synthesized by Haber's process ?

A.

B.

C.

D.

Answer:



View Text Solution

2. Explain the reaction of ammonia with chlorine and chlorides different conditions.

A.

B.

C.

D.

Answer:



View Text Solution

3. Explain the structure of ammonia .

A.

B.

C.

D.

Answer:



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4. Explain the commercial method of preparation of nitric acid. (or) How nitric acid is prepared by Ostwald's process.

A.

B.

C.

D.

Answer:



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5. Name a reaction for the estimation of Ozone.

A.

B.

C.

D.

Answer:



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6. Give a test for sulphates.

A.

B.

C.

D.

Answer:



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7. Why do noble gases form compounds with fluorine and oxygen only?

A.

B.

C.

D.

Answer:



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8. An element A occupies group number 17 and period number 2, is the most electronegative element. Element A reacts with another element B, which occupies group number 17

and period number 4, to give a compound C. Compound C undergoes sp^3d^2 hybridisation and has octahedral structure. Identify the elements A and B and the compound C. Write the reactions.

A.

B.

C.

D.

Answer:



9. Explain the characteristic properties of hydrogen halides.

A.

B.

C.

D.

Answer:



View Text Solution

10. Discuss the anomalous nature of fluorine.

A.

B.

C.

D.

Answer:



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11. Write the order of thermal stability of the hydrides of group 16 elements.

A.

B.

C.

D.

Answer:



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12. Out of H_2O and H_2S which one has higher bond angle and why ?

A.

B.

C.

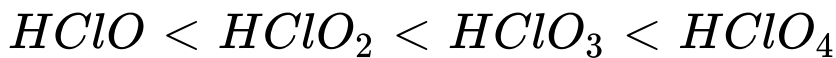
D.

Answer:



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13. Explain why the stability of oxoacids of chlorine increases in the order given below ?



A.

B.

C.

D.

Answer:



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14. CIF_3 exists but FCl_3 does not. Why ?

A.

B.

C.

D.

Answer:



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15. ClF_3 molecule has a T-shaped structure and not a trigonal planar one. Why ?

A.

B.

C.

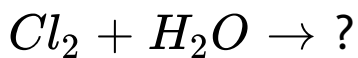
D.

Answer:



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16. Complete the following reactions :



A.

B.

C.

D.

Answer:



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17. Complete the following reactions :



A.

B.

C.

D.

Answer:



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18. Complete the following reactions :



A.

B.

C.

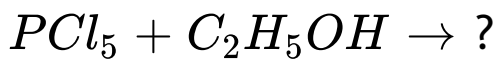
D.

Answer:



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19. Predict the product :



A.

B.

C.

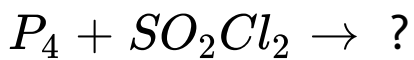
D.

Answer:



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20. Predict the product :



A.

B.

C.

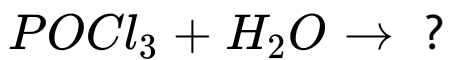
D.

Answer:



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21. Predict the product :



A.

B.

C.

D.

Answer:



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22. Predict the product :



A.

B.

C.

D.

Answer:



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23. Predict the product :



A.

B.

C.

D.

Answer:



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Additional Questions And Answers Long Answer

1. Give a detailed account of the interhalogen compounds with special reference to the compounds involving iodine. Draw their structures.

A.

B.

C.

D.

Answer:



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2. Explain the structure of inter halogen compounds.

A.

B.

C.

D.

Answer:



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3. Mention the uses of helium .

A.

B.

C.

D.

Answer:



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4. Give a detailed account on allotropes of sulphur.

A.

B.

C.

D.

Answer:



5. Why is dioxygen a gas but sulphur a solid ?

A.

B.

C.

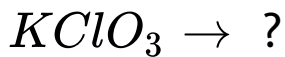
D.

Answer:



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6. Complete the following reactions :



A.

B.

C.

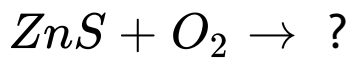
D.

Answer:



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7. Complete the following reactions :



A.

B.

C.

D.

Answer:



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8. Complete the following reactions :



A.

B.

C.

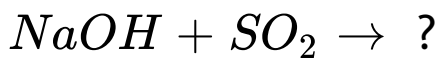
D.

Answer:



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9. Complete the following reactions :



A.

B.

C.

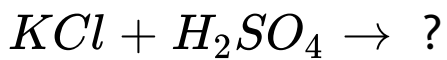
D.

Answer:



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10. Complete the following reactions :



A.

B.

C.

D.

Answer:



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11. An amorphous solid (A) burns in air to form a gas (B) which turns lime water milky. The gas is also produced as a byproduct during roasting of sulphide ore. This gas decolourises acidified aqueous $KMnO_4$ solution and reduces Fe^{3+} to Fe^{2+} . Identify the solid 'A' and the gas 'B' and write the reactions involved.

A.

B.

C.

D.

Answer:



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12. Give reason for the following :

N_2O_5 is more acidic than N_2O_3 .

A.

B.

C.

D.

Answer:



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13. Give reason for the following :

Thermal stability decreases from H_2O to H_2

Te.

A.

B.

C.

D.

Answer:



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14. Give reason for the following :

Fluoride ion has higher hydration enthalpy than chloride ion .

A.

B.

C.

D.

Answer:



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15. Account for the following :

Reducing character decreases from SO_2 to TeO_2 .

A.

B.

C.

D.

Answer:



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16. Account for the following :

Xenon forms compounds with fluorine and oxygen only.

A.

B.

C.

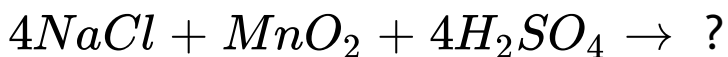
D.

Answer:



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17. Complete the following equations :



A.

B.

C.

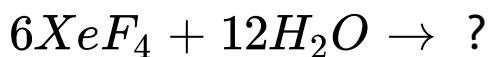
D.

Answer:



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18. Complete the following equations :



A.

B.

C.

D.

Answer:



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19. Explain the oxidising and reducing property of SO_2 .

A.

B.

C.

D.

Answer:



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20. How is sulphuric acid manufacture by contact process ?

A.

B.

C.

D.

Answer:



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21. Explain the oxidising property of sulphuric acid .

A.

B.

C.

D.

Answer:



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22. How does sulphuric acid react with metals at various conditions.

A.

B.

C.

D.

Answer:



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23. How is chlorine manufactured by the electrolysis of brine.

A.

B.

C.

D.

Answer:



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24. Explain the Deacon's process.

A.

B.

C.

D.

Answer:



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25. Explain the bleaching action of Chlorine .

A.

B.

C.

D.

Answer:



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26. What are the properties of inter halogen compounds ?

A.

B.

C.

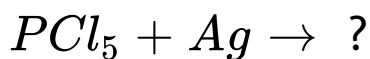
D.

Answer:



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27. Complete the following reactions .



A.

B.

C.

D.

Answer:



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28. Complete the following reactions .



A.

B.

C.

D.

Answer:



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29. Complete the following reactions .



A.

B.

C.

D.

Answer:



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30. Complete the following reactions .



A.

B.

C.

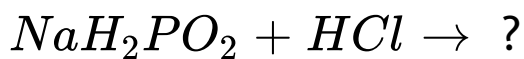
D.

Answer:



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31. Complete the following reactions .



A.

B.

C.

D.

Answer:



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Additional Questions And Answers Numerical Problems

1. An element A occupies group number 15 and period number 3, exhibits allotropy and it is

tetra atomic. A reacts with caustic soda to give B which is having rotten fish odour. A reacts with chlorine to give C which has a pungent odour. Identify A, B and C. Write the reactions.

A.

B.

C.

D.

Answer:



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2. An element 'A' occupies group number 15 and period number 3. It reacts with chlorine to give B which further reacts with chlorine to give C at 273 K. Both B and C are chlorinating agents for organic compounds. C is a better chlorinating agent because it chlorinates metals also. B reacts with SO_3 and reduces it to SO_2 . B has a pyramidal shape. C has trigonal bipyramidal shape by sp^3d hybridisation. Identify the element A and the compounds B and C. Write the reactions.

A.

B.

C.

D.

Answer:



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3. An element A occupies group number 15 and period number 3, reacts with chlorine to give compound B. The compounds B on hydrolysis

gives a dibasic acid C. The compound C on heating undergoes auto oxidation and reduction to give a tribasic acid D. Identify the elements A, compounds B, C and D. Write the reactions.

A.

B.

C.

D.

Answer:



Unit Test I Choose The Correct Answer

1. Which of the following is strongest acid among all ?

A. HI

B. HF

C. *HBr*

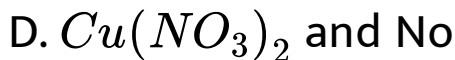
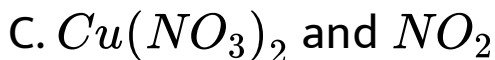
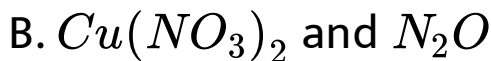
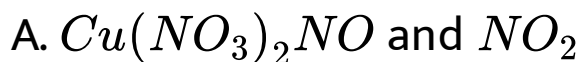
D. HCl

Answer: A



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2. When copper is heated with conc HNO_3 it produces

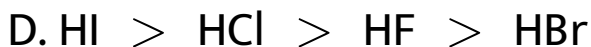
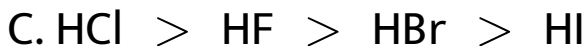
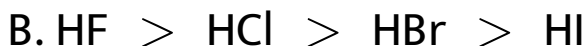
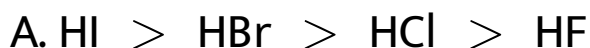


Answer: A::B::C::D



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3. The correct order of the thermal stability of hydrogen halide is

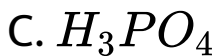
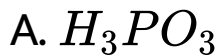


Answer: B



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4. On hydrolysis, PCl_5 gives _____

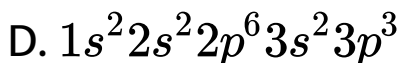
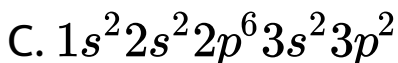
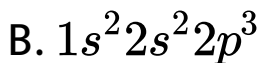
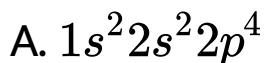


Answer: C::D



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5. An element belongs to group 15 and 3rd period of the periodic table, its electronic configuration .



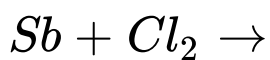
Answer: D



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Unit Test Ii Answer The Following Briefly

1. Complete the following :



A.

B.

C.

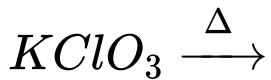
D.

Answer:



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2. Complete the following :



A.

B.

C.

D.

Answer:



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3. Give a reaction between nitric acid and a basic oxide.

A.

B.

C.

D.

Answer:



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Unit Test Iii Answer In A Paragraph

1. Give a test for sulphates.

A.

B.

C.

D.

Answer:



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2. Draw the structure of

Sulphurous acid

A.

B.

C.

D.

Answer:

(##SURCHEXIIV01C03E03010 - A01##)



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3. Draw the structure of

Hypophosphoric acid

A.

B.

C.

D.

Answer:

(##SUR_CHE_XII_V01_C03_E03₀₁₁ – A01##)



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4. Draw the structure of

Nitric acid

A.

B.

C.

D.

Answer:

(##SURCHEXIIV01C03E03012 - A01##)



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5. Explain the bleaching action of Chlorine .

A.

B.

C.

D.

Answer:



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6. Give a detailed account on allotropes of sulphur.

A.

B.

C.

D.

Answer:



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