



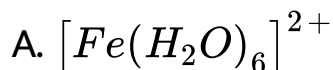
CHEMISTRY

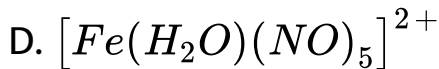
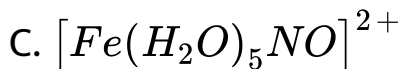
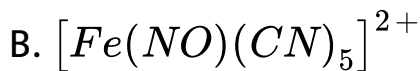
BOOKS - DISHA CHEMISTRY (HINGLISH)

THE p-BLOCK ELEMENTS (GROUP 15, 16, 17 AND 18)

Mcq

1. The brown ring test for NO_2^- and NO_3^- is due to the formation of complex ion with a formula



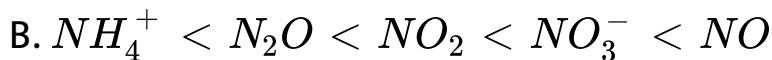
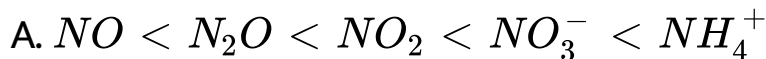


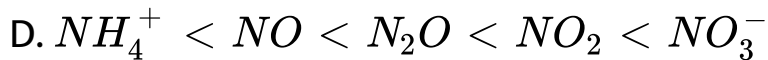
Answer: C



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2. Which of the following shows nitrogen with its increasing order of oxidation number ?



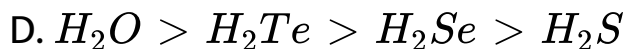
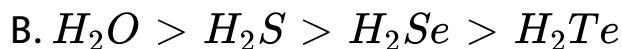
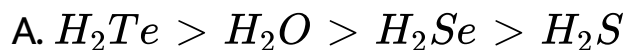


Answer: C



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3. Which one of the following is the correct decreasing order of boiling point ?



Answer: D

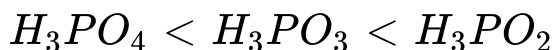


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4. The true statement for the acids of phosphorus.

H_3PO_2 , H_3PO_3 and H_3PO_4 is :

A. the order of their acidity is



B. all of them are reducing in nature

C. all of them are tribasic acids

D. the geometry of phosphorus is tetrahedral in all

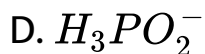
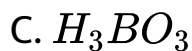
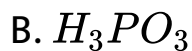
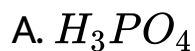
the three

Answer: D



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5. The acid which forms two series of salts is



Answer: B



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6. The nitrogen oxides that contain(s) N-N bond(s) is / are

(i) N_2O (ii) N_2O_3 (iii) N_2O_4 (iv) N_2O_5

A. (i), (ii)

B. (ii),(iii),(iv)

C. (iii),(iv)

D. (i),(ii) and (iii)

Answer: D



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7. The geometry of ClO_3^- according to valence shell electron pair repulsion (VSEPR) theory will be

A. planar triangle

B. pyramidal

C. ictrahcdral

D. square planar

Answer: B



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8. It is possible to obtain oxygen from air by fractional distillation because

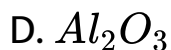
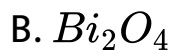
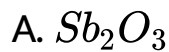
- A. oxygen is in a different group of the periodic table from nitrogen
- B. oxygen is more reactive than nitrogen
- C. oxygen has higher b.p. than nitrogen
- D. oxygen has a lower density than nitrogen

Answer: C



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9. Which of the following is the most basic oxide /

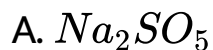


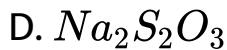
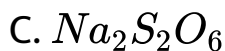
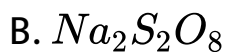
Answer: B



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10. Which compound is used in photography ?





Answer: D



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11. The oxyacid of phosphorous in which phosphorous has the lowest oxidation state is

A. hypophosphorous acid

B. orthophosphoric acid

C. pyrophosphoric acid

D. metaphosphoric acid

Answer: A



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12. Which of the following statements is not valid for oxoacids of phosphorus?

A. Orthophosphoric acid is used in the manufacture of triple superphosphate.

B. Hypophosphorous acid is a diprotic acid.

C. All oxoacids contain tetrahedral four coordinated phosphorus.

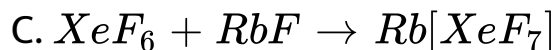
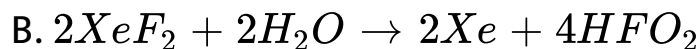
D. All oxoacids contain atleast one P= O an done P-OH group

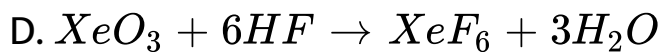
Answer: B

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13. Which one of the following reactions of xenon compounds is not feasible ?

A.



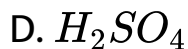
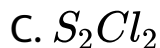


Answer: D



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14. The compound of sulphur that can be used as refrigerant is

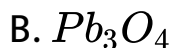
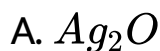


Answer: A



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15. Which of the following on thermal decomposition gives oxygen gas ?



D. All of these

Answer: D



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16. Which of the following statements are correct ?

(i) Arsenic and antimony are metalloids.

(ii) Phosphorus, arsenic and antimony are found

(iii) covalent radii increases equally from N to Bi.

(iv) Elements of group 15 have extra stability and higher ionisation energy due to exactly half filled ns^2np^3 electronic configuration.

(v) In group 15 elements only nitrogen is gas whereas all others are solids.

A. i, iv and v

B. ii, iii and iv

C. I, ii and iii

D. ii, iii and v

Answer: A



View Text Solution

17. The formation of $O_2^+ [PtF_6]^-$ is the basis for the formation of xenon fluorides. This is because

A. O_2 and Xe have comparable sizes

B. both O_2 and Xe are gases

C. O_2 and Xe have comparable ionisation energies

D. Both a and c

Answer: D



View Text Solution

18. Oxidation of thiosulphate by iodine gives

A. tetrathionate ion

B. sulphide ion

C. sulphate ion

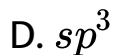
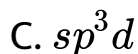
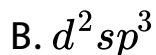
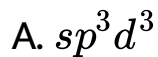
D. sulphite ion

Answer: A



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19. The hybridization in Icl_7 is



Answer: A



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20. Which one of the following arrangements does not give the correct picture of the trends indicated against

it ?

(i) $F_2 > Cl_2 > Br_2 > I_2$: Oxidizing power

(ii) $F_2 > Cl_2 > Br_2 > I_2$: Electron gain enthalpy

(iii) $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation energy

(iv) $F_2 > Cl_2 > Br_2 > I_2$: Electronegativity.

A. ii and iv

B. I and iii

C. ii and iii

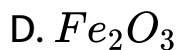
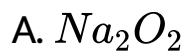
D. ii, iii and iv

Answer: C



View Text Solution

21. Which of the following is a saline oxide ?



Answer: C



View Text Solution

22. Shape of $XeOF_4$ is

A. octahedral

B. square pyramidal

C. pyramidal

D. T-shaped

Answer: B



[View Text Solution](#)

23. Which among the following is paramagnetic ?

A. Cl_2O

B. ClO_2

C. Cl_2O_7

D. Cl_2O_6

Answer: B



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24. The molecule having smallest bond angle is :

A. NCl_3

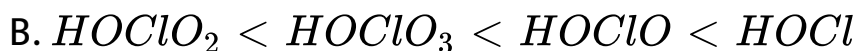
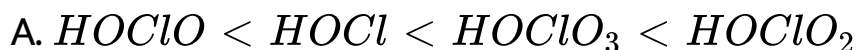
B. $AsCl_3$

C. $SbCl_3$

D. PCl_3

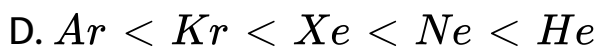
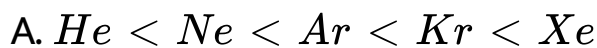
Answer: C

25. Which one of the following orders correctly represents the increasing acid strengths of the given acids ?



Answer: D

26. The ease of liquefaction of noble gases increases in the order

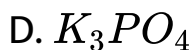
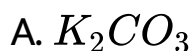


Answer: A



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27. A certain compound (X) when treated with copper sulphate solution yields a brown precipitate. On adding hypo solution, the precipitate turns white. The compound is



Answer: B



View Text Solution

28. Which of the following species is not a pseudo halide



Answer: B



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29. Which of the following is used to produce and sustain powerful superconducting magnets to form an

essential part of NMR spectrometer?

A. Ar

B. Ne

C. Rn

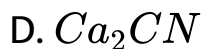
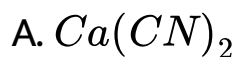
D. He

Answer: D



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30. The product obtained as a result of a reaction of nitrogen with CaC_2 is



Answer: A



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31. Which of the following noble gases has the highest negative electron gain enthalpy value ?

A. Helium

B. Krypton

C. Argon

D. Neon

Answer: D



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32. Gaseous HCl is a poor conductor of electricity while its aqueous solution is a good conductor this is because

A. H_2O is a good conductor of electricity

B. a gas cannot conduct electricity but a liquid can

C. HCl gas does not obey Ohm's law, whereas the solution does

D. HCl ionises in aqueous solution

Answer: D



View Text Solution

33. Density of nitrogen gas prepared from air is slightly greater than that of nitrogen prepared by chemical reaction from a compound of nitrogen due to the presence of

A. argon

B. carbon dioxide

C. some N_3 molecules analogous to O_3

D. greater amount of N_2 molecules derived from N-

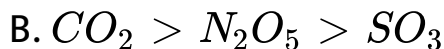
15 isotope

Answer: A



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34. The correct order of acidic strength is



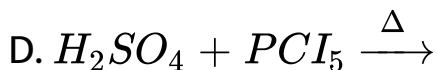
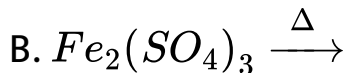
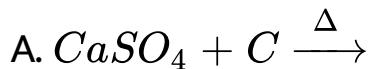


Answer: A



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35. Sulphur trioxide can be obtained by which of the following reaction :

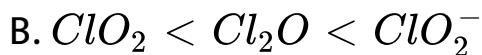


Answer: B



View Text Solution

36. The correct order of increasing bond angles in the following species are :

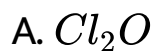


Answer: C



View Text Solution

37. Which one of the following oxides of chlorine is obtained by passing dry chlorine over silver chlorate at $90^{\circ}C$?



Answer: C



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38. The shape of XeO_2F_2 molecule is

A. trigonal bipyramidal

B. square planar

C. tetrahedral

D. see-saw

Answer: D



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39. Number of lone pairs of electrons on Xe atoms

XeF_2 , XeF_4 and XeF_6 molecules are respectively

A. 3,2 and 1

B. 4,3 and 2

C. 2, 3 and 1

D. 3,2 and 0

Answer: A



View Text Solution

40. Match the interhalogen compounds of column-I with the geometry in column II and assign the correct code .



A. A-III, B-I, C-IV, D-II

B. A-V , B-IV, C-III, D-II

C. A-IV, B-III, C-II, D-I

D. A-III, B-IV, C-I, D-II

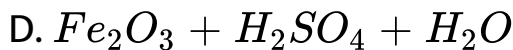
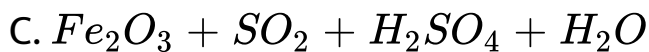
Answer: A



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41. The crystals of ferrous sulphate on heating give :





Answer: C



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42. One mole of fluorine is reacted with two moles of hot and concentrated KOH. The products formed are KF, H_2O and O_2 . The molar ratio of KF, H_2O and O_2 respectively is

A. 1 : 1 : 2

B. 2 : 1 : 0.5

C. 1 : 2 : 1

D. 2 : 1 : 2

Answer: B



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43. A greenish yellow gas reacts with an alkali metal hydroxide to form a halate which can be used in fire works safety matches. The gas and halate respectively are

A. $Br_2, KBrO_3$

B. $Cl_2, KClO_3$



Answer: B



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44. Yellow ammonium sulphide is



Answer: C



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