



CHEMISTRY

BOOKS - VK JAISWAL CHEMISTRY (HINGLISH)

TYPES OF REACTIONS

LEVEL 1

1.
$$Pb(NO_3)_2$$
 + 2NaOH → $Pb(OH)_2$ ↓ + 2NaNO_3

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: A



2. $Zn(OH)_2 \downarrow + 2NaOH \rightarrow Na_2ZnO_2 + 2H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: B

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3.
$$2Na[Al(OH)_4] + CO_2 \rightarrow 2Al(OH)_3 \downarrow + Na_2CO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: a



4.
$$CuSO_4 + 2NaOH(excess) \rightarrow Cu(OH)_2 \downarrow + Na_2SO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: A



5. $Fe(OH)_3 \downarrow$ + NaOH(excess) \rightarrow No reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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6. $Mg(OH)_2 \downarrow + 2HCl \rightarrow MgCl_2 + 2H_2O$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



7.
$$Mn(NO_3)_2$$
 + 2NaOH → $Mn(OH)_2$ ↓ + 2NaNO₃

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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8. CH_3COOAg ↓ + $HNO_3 \rightarrow AgNO_3 + CH_3COOH$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: b



9.
$$Hg(NO_3)_2 + NH_3(\text{soln.}) \rightarrow MgO \cdot HgNH_2NO_3 \downarrow$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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10.
$$Cu(OH)_2 \downarrow + 4NH_3(\text{soln.}) \rightarrow \left[Cu(NH_3)_4\right]^{2+} + 2OH^{-1}$$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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11. $CaC_2O_4 \downarrow + CH_3COOH \rightarrow$ No reaction

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d



12. BaC_2O_4 ↓ + 2 $AcOH \rightarrow Ba(AcO)_2 + H_2C_2O_4$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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13.
$$Fe(CN)_2 \downarrow + 4KCN \rightarrow K_4 [Fe(CN)_6]$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

Answer: b



14.
$$SrC_2O_4 \downarrow + 2HCl \rightarrow SrCl_2 + H_2C_2O_4$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



15.
$$Fe(CN)_2 \downarrow + KCN \rightarrow K_3Fe(CN)_6$$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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16.
$$CaSO_3 \downarrow + SO_2 + H_2O \rightarrow Ca(HSO_3)_2$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

$$\mathbf{17.} K_4 \Big[Fe(CN)_6 \Big] + ZnSO_4 \rightarrow Zn_2 \Big[Fe(CN)_6 \Big] \downarrow$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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18. 3PbS ↓ + 8HNO₃(dil.) → 3Pb
$$\left(NO_3\right)_2$$
 + 3S + 2NO ↑

A. For precipitate formation reaction

B. For precipitate dissolution reaction

Answer: b



19.
$$K_4[Fe(CN)_6] + 2CuSO_4 \rightarrow Cu_2[Fe(CN)_6] \downarrow$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



20.
$$MnS \downarrow + 2HCl \rightarrow MnCL_2 + H_2S$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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21.
$$AgCl \downarrow + 2KCN \rightarrow K[Ag(CN)_2] + KCl$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



22.
$$HgS \downarrow + Na_2S \Leftrightarrow Na_2 | HgS_2 |$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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23.
$$CuSO_4 + 2KCN \rightarrow CuCN \downarrow + (CN)_2 \uparrow + K_2SO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: a



24.
$$FeS \downarrow + 2HCl \rightarrow FeCl_2 + H_2S \uparrow$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



25.
$$Cd(CN)_2 \downarrow + 2KCN \rightarrow K_2[Cd(CN)_4]$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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26.
$$2AgF + MgCl_2 \rightarrow MgF_2 \downarrow + 2AgCl \downarrow$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



27.
$$Pb(NO_3)_2 + 2KI \rightarrow PbI_2 \downarrow + 2KNO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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28.
$$PbCl_2$$
 + hot water $\rightarrow Pb^2(aq.) + 2Cl^-(aq.)$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

Answer: b

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29.
$$HgI_2 \downarrow + KI \Leftrightarrow K_2[HgI_4]$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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30.
$$AgI \downarrow + 2Na_2S_2O_3 \rightarrow Na_3\left[Ag\left(S_2O_3\right)_2\right] + NaI$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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31.
$$CuSO_4 + 2KI \rightarrow CuI \oint + \frac{1}{2}I_2 + K_2SO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



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32. KNO_2 + AgF \rightarrow AgNO_2 \downarrow + KF
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B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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33.
$$BaSO_4 \downarrow + Na_2CO_3 \rightarrow BaCO_3 \downarrow + Na_2SO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: c



34.
$$FeCl_3 + Na_3PO_4 \rightarrow FePO_4 \downarrow + 3NaCl$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



35. $BaSO_4 \downarrow + dil. HCl (excess) \rightarrow No reaction$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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36.
$$2AgNO_3 + Na_2C_2O_4 \rightarrow Ag_2C_2O_4 \downarrow + 2NaNO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



37. $2BaCrO_4 \downarrow + 4HCl \rightarrow 2BaCl_2 + H_2Cr_2 + H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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38.
$$PbCrO_4 \downarrow + 4NaOH(excess) \rightarrow Na_2 \left[Pb(OH)_4 \right]$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

Answer: b



39. $BaCrO_4 \downarrow + CH_3COOH(excess) \rightarrow No reaction$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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40.
$$PbCl_2 \downarrow + H_2SO_4 \Leftrightarrow PbSO_4 \downarrow + 2HCL$$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: c

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41.
$$Ba(NO_3)_2 + Na_2SO_4 \rightarrow BaSO_4 \downarrow + 2NaNO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

$$42.Pb\left(NO_3\right)_2 + H_2SO_4 \rightarrow PbSO_4 \downarrow + 2HNO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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43. $SrCrO_4 \downarrow + 2AcOH(excess) \rightarrow Sr(ArO)_2 \rightarrow No dissolution$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: b

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44.
$$MCrO_4 \downarrow (M^{2+} = Ba^{2+}Pb^{2+}) + AcOH \rightarrow \text{No dissolution}$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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45. $CaCl_2 + Na_2C_2O_4 \rightarrow CaC_2O_4 \downarrow + 2NaCl$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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46.
$$CaSO_4 + Pb(NO_3)_2 \rightarrow PbSO_4 \downarrow + Ca(NO_3)_2$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

47. $Hg_{20} \left(NO_3 \right)_2 + NH_3 (\text{solution}) \rightarrow Hg \downarrow + HgO \cdot NH_3NO_3 \downarrow$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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48. $BaCO_3 \downarrow + 2HCl \rightarrow BaCl_2 + CO_2 \uparrow + H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: b



49.
$$AlCl_3 + 3NaOH \rightarrow Al(OH)_3 \downarrow + 3NaCl$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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50.
$$BaCO_3 \downarrow + CO_2 + H_2O \rightarrow Ba(HCO_3)_2$$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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51.
$$ZnS \downarrow + 2HCl \rightarrow ZnCl_2 + H_2S \uparrow$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



 $\mathbf{52.} \operatorname{NiCl}_{2} + 2dmg \rightarrow \operatorname{Ni}(dmg)_{2} \checkmark$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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53.
$$CaCl_2 + Na_2SO_4 \rightarrow No$$
 reaction

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: d



54.
$$BaCO_3 \downarrow + 2AcOH \rightarrow Ba(AcO)_2 + CO_2 \uparrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



55.
$$Na_2S_2O_3 + BaCl_2 \rightarrow BaS_2O_3 \downarrow + 2NaCl$$

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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56.
$$Ba(AcO)_2 + K_2CrO_4 \rightarrow BaCrO_4 \downarrow + 2AcOK$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



57. $3AgNO_3 + Na_3PO_4 \rightarrow Ag_3PO_4 \downarrow + 3NaNO_3$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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58. $Ag_2CO_3 \downarrow + 2HCl \rightarrow AgCl \downarrow + CO_2 \uparrow + H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

Answer: c



59.
$$BaSO_3 \downarrow + H_2SO_4 \rightarrow BaSO_4 \downarrow + SO_2 \uparrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: c



60. $HgS \downarrow + HNO_3(\text{conc.}) \rightarrow \text{No dissolution.}$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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61.
$$Sr(ACO)_2 + Ag_2SO_4 \rightarrow 2AcOAg \downarrow + SrSO_4 \downarrow$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction



62. $Ca(OH)_2 + 2FH \rightarrow CaF_2 \downarrow + 2H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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63.
$$Ca(OH)_2 + CO_2 \rightarrow CaCO_3 \downarrow + 2H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



64.
$$CaSO_3 \downarrow + H_2SO_4 \rightarrow CaSO_4 + SO_2 \uparrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



65.
$$Ca(OH)_2 + SO_2 \rightarrow CaSO_3 \downarrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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66.
$$Na_2SO_3 + BaCl_2 \rightarrow BaSO_3 \downarrow + 2NaCl$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction



67. $Pb(AcO)_2 + H_2S \rightarrow PbS \downarrow + 2AcOH$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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68. $NaCl + AbNO_3 \rightarrow AgCl \downarrow + NaO_3$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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69.
$$HgI_2 \downarrow + 2HI \rightarrow K_2[HgI_4]$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



70. $PbO_2 + HNO_3(dil.) \rightarrow No dissolution.$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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71.
$$PbO_2 + HNO_3$$
(Conc.) → $Pb(NO_3)_2 + H_2O + [O]$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



72. $K_2[Cd(CN)_4] + H_2S \rightarrow CdS \downarrow + 2KCN + 2HCN$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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73.
$$Pb(AcO)_2 + Na_2CrO_4 \rightarrow PbCrO_4 \downarrow + 2AcONa$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



74.
$$NaBr + AgNO_3 \rightarrow AgBr \downarrow + NaNO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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75.
$$\underline{B}_{2}O_{3} + H_{2}O \rightarrow H_{3}BO_{3} + H_{2}O \Leftrightarrow H[B(OH)_{4}] + H^{+}$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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76. $\underline{SO}_2 + H_2O \rightarrow H_2SO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



77.
$$\underline{BF}_3 + H_2O \rightarrow H_3BO_3 + H\left[BF_4\right]$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



78.
$$\underline{T}eF_6$$
 – (6) + $H_2O \rightarrow H_6TeO_6$ + HF

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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79. $H_4P_2O + H_2O \rightarrow H_3PO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



80. $\underline{C}O + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d



81.
$$\underline{SO}_3 + H_2O \rightarrow H_2SO_4$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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82. $H_4 P_2 O_6 + H_2 O \rightarrow H_3 P O_3 + H_3 P O_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: c



83.
$$\underline{B}Cl_3 + H_2O \rightarrow H_3BO_3 + HCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



84.
$$\underline{IF}_7 + H_2O \rightarrow HIO_4 + HF$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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85. $\underline{C}O_2 + H_2O \rightarrow H_2CO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



86. $\underline{C}l_2O + H_2O \rightarrow HClO$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b



87.
$$H_4 P_2 O_7 + H_2 O \rightarrow 2H_3 PO_4$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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88. $\underline{C}Cl_4 + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: d



89.
$$\underline{C}IF_5 + H_2O \rightarrow HClO_3 + HF$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



90.
$$N_2O + H_2O \rightarrow \text{No reaction}$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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91. $\underline{C}lO_2 + H_2O \rightarrow HClO_2 + HClO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: c



92.
$$H_4 P_2 O_8 + H_2 O \rightarrow H_3 P O_4 + H_2 O_2$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



93.
$$\underline{NF}_3 + H_2O \rightarrow \text{No reaction}$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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94. $\underline{B}rF_5 + H_2O \rightarrow HBrO_3 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



95. $\underline{N}O + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d



96.
$$\underline{C}lO_3 + H_2O \rightarrow HClO_3 + HClO_4$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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97. $H\underline{N}O_4 + H_2O \rightarrow HNO_3 + H_2O_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



98.
$$\underline{N}Cl_3 + 3H_2O \rightarrow NH_3 + 3HOCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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99.
$$IF_5 + H_2O \rightarrow HIO_3 + HF$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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100. $N_2O_3 + H_2O \rightarrow HNO_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



101.
$$\underline{C}l_2O_7 + H_2O \rightarrow HClO_4$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



102.
$$H_3\underline{P}O_5 + H_2O \rightarrow H_3PO_4 + H_2O_2$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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103. $\underline{S}iF_4 + H_2O \rightarrow H_4SiO_4 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



$$\mathbf{104.}\underline{I}Cl_3 + H_2O \rightarrow HIO_2 + HCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b



105.
$$N_2O_4 + H_2O \rightarrow HNO_3 + HNO_2$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: c

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106. $I_2O_5 + H_2O \rightarrow HIO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



107.
$$H_2 \underline{SO}_5 + H_2 O \rightarrow H_2 \underline{SO}_4 + H_2 O_2$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



108.
$$\underline{SiCl}_4 + H_2O \rightarrow H_4SiO_4 + HCl$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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109. $\underline{C}rO_2Cl_2 + 2H_2O \rightarrow H_2CrO_4 + 2HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



 $110. N_2 O_5 + H_2 O \rightarrow HNO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix



111.
$$\underline{P}Cl_3 + H_2O \rightarrow H_3PO_3 + HCl$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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112. $\underline{C}lF_3 + H_2O \rightarrow HClO_2 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



```
113. \underline{SiO}_2 + H_2O \rightarrow \text{No reaction}
```

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d



114.
$$H_4B_2O_5 + H_2O \rightarrow 2H_3BO_3$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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115. $H_4S_2O_6 + H_2O \rightarrow H_2SO_3 + H_2SO_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: c



116.
$$\underline{P}Cl_5 + H_2O \rightarrow H_3PO_4 + 5HCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



117.
$$\underline{C}lF + H_2O \rightarrow HOCl + HF$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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118. $P_4O_6 + 6H_2O \rightarrow 4H_3PO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



119.
$$H_4B_2O_6 + H_2O \rightarrow H_3BO_3 + H_2O_2$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



120.
$$H_6Si_2O_7 + H_2O \rightarrow H_4SiO_4$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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121. $\underline{SF}_4 + H_2O \rightarrow H_2SO_3 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



122. $\underline{B}rF + H_2O \rightarrow HBrO + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b



$$123. H_2 S_2 O_7 + H_2 O \rightarrow H_2 SO_4$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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124. $H_2S_2O_8 + H_2O \rightarrow H_2SO_4 + H_2O_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



```
125. \underline{SF}_6 + H_2O \rightarrow \text{No reaction}
```

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d



126. $Icl + H_2O \rightarrow HIO + HCl$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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 $127.\underline{I}Cl + H_2O \rightarrow HIO + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



128.
$$P_4O_{10} + H_2O \rightarrow H_3PO_4$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



129.
$$\underline{P}OCl_3 + H_2O \rightarrow H_3PO_4 + HCl$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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130. $\underline{I}OF_5 + H_2O \rightarrow HIO_4 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



- **131.** $P_4 + H_2 O \rightarrow \text{No reaction}$
 - A. If product is oxy acid with -ic suffix.
 - B. If product is oxy acid with -ous suffix
 - C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d



132.
$$NaH + H_2O \rightarrow NaoH + H_2$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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$$\mathbf{133.} B_{\underline{2}}H_6 + H_2O \rightarrow H_3BO_3 + H_2 \uparrow$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: a



134.
$$\underline{Cl}_2 + H_2O \rightarrow HOCl + HCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b



135.
$$S_{\underline{8}} + H_2 O \rightarrow \text{No reaction.}$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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136. $\underline{S}Ocl_2 + H_2O \rightarrow H_2SO_3 + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: b



137.
$$\underline{SO}_2Cl_2 + H_2O \rightarrow H_2SO_4 + HCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



138.
$$\underline{SiH}_4 + H_2O \rightarrow H_4SiO_4 + H_2$$

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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139. $I_2 + H_2 O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

Answer: d



140.
$$\underline{S}OF_4 + H_2O \rightarrow H_2SO_4 + HF$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



141. $F_2 + H_2O \rightarrow HF + O_2$ (Ozonide oxygen)

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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142.
$$C(s) + O_2(g) \xrightarrow{\Delta} CO_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: d



143.
$$3Mg(s) + N_2(g) \rightarrow Mg_3N_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d



144.
$$NaH + H_2O \rightarrow NaoH + H_2$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: bc

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145. $CuSO_4(aq.) + Zn(s) \rightarrow ZnSO_4 + Cu^{\uparrow}$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



 $146. Na(s) + H_2O(l) \rightarrow NaOH + H_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



^{*R*.*T*.}
147. *Ca*(*s*) +
$$H_2O(l) \rightarrow Ca(OH)_2 + H_2$$
 ↑

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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warm
148.
$$Mg(s) + H_2O(l) \rightarrow Mg(OH)_2 + H_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: c



 $149. Fe(s) + H_2O(l) \rightarrow Fe_3O_4 + H_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c



150.
$$Zn(s) + 2HCl \rightarrow ZnCl_2 + H_2$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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151. $Mg(s) + 2HCl \rightarrow MgCl_2 + H_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: c



```
152. Fe(s) + 2HCl \rightarrow FeCl_2 + H_2
```

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



153.
$$Cl_2(g) + KI(aq.) \rightarrow KCl + I_2$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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154.
$$H_2O_2 \xrightarrow{R.T.} H_2O + \frac{1}{2}O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: ad



155.
$$P_4 + NaOH \rightarrow PH_3 \uparrow + NaH_2PO_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D.For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a



156.
$$S_8 + NaOH \rightarrow Na_2S + Na_2S_2O_3$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

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157. Cl_2 + NaoH \rightarrow NaCl + NaOCl

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: a



158. I_2 + NaOH \rightarrow NaI + NaOI

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a



159.
$$Pb_3O_4 + HCl(dil.) \xrightarrow{warm} PbCl_2 \downarrow + Cl_2 + H_2O$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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$$160. Pb_{3}O_{4} + HNO_{3}(dil.) \xrightarrow{R.T.} Pb(NO_{3})_{2} + PbO_{2} \downarrow$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: a



$$161. PbO_2 + HCl(dil.) \xrightarrow{warm} PbCl_2 \downarrow + Cl_2 \uparrow + H_2O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



162.
$$Cr_2O_7^{2^-} + H^+ + SO_3^{2^-} \rightarrow Cr^{3^+}(aq.) + SO_4^{2^-}$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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163.
$$MnO_4^- + H^+ + Br^- \rightarrow Mn^{3+}(aq.) + Br_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: c



164.
$$Fe^{2+}(aq.) + Cr_2O_7^{2-} + H^+ \rightarrow Fe^{3+}(aq.) + Cr^{3+}$$

A. For disproportionation reaction.

B. For comproportionation reaction.

- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



165.
$$I_2 + S_2 O_3^{2^-} \rightarrow I^- + S_4 O_6^{2^-}$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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166.
$$Cu^{2+}(aq) + 2I^{-} \rightarrow CuI \checkmark + \frac{1}{2}I_{2}$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

Answer: c



167. What is redox reaction ? Identify the substance oxidised and the substance reduced in the following reactions :

(i) $MnO_2 + 4HCl \rightarrow MnCl_2 + 2H_2O + Cl_2$

(ii) $CuO + H_2 \rightarrow Cu + H_2O$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

168. $H_3PO_2 + AgNO_2 \rightarrow Ag \downarrow + H_3PO_4 + NO$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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169. $H_3PO_2 + CuSO_4 \rightarrow Cu \downarrow + H_3PO_4 + HNO_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

decomposition redox reaction.

Answer: c

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170.
$$NaNO_3 \rightarrow NaNO_2 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

 ${}^{R.T.}_{\mathbf{171.} N_2O_3} \rightarrow NO + NO_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: ad

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172.
$$Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2$$
 or $Ca(OCl)Cl$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: a

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173.
$$XeF_4 + H_2O \rightarrow Xe + XeO_3 + HF + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

174. *XO* + $I_2O_5(s)$ → $CO_2 + I_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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175.
$$FeCr_2O_4 + Na_2CO_3 + O_2 \rightarrow Fe_2O_3 \downarrow + Na_2CrO_4$$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: c



176.
$$MnO_2 + 2KOH + \frac{1}{2}O_2 \rightarrow K_2MnO_4 + H(2)O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

 $177. K_2 MnO_4 + H^+ \rightarrow KMnO_4 + MnO_2 \downarrow$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

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$$178. KMnO_4 \rightarrow K_2MnO_4 + MnO_2 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: d

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$$179. K_2 Cr_2 O_7 \xrightarrow{\Delta} K_2 Cr O_4 + Cr_2 O_3 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

180.
$$\left(NH_4\right)_2 Cr_2 O_7 \xrightarrow{\Delta} N_2 \xrightarrow{\uparrow} + Cr_2 O_3 \xrightarrow{\downarrow} + H_2 O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d

(D) Watch Video Solution

181.
$$NH_4Cl + NaNO_2 \xrightarrow{\Delta} N_2 \uparrow + NaCl + H_2O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: b

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182.
$$Ba\left(N_3\right)_2 \xrightarrow{\Delta} Ba + N_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

High temp. **183.** $N_2 + O_2 \rightarrow NO$ -Heat.

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: cd

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184. N_2 + $3H_2 \rightarrow NH_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: d

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$$185. NH_4 NO_3 \rightarrow N_2 O + H_2 O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: bd

186.
$$NaNO_2 + FeSO_4 + H_2SO_4 \rightarrow \left[Fe(H_2O)_5 NO\right]SO_4(\text{Ring complex})$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

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$$-11 \degree C$$
187. $NO + NO_2 \rightarrow N_2O_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: bd

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188.
$$Pb(NO_3)_2 \xrightarrow{\Delta} PbO + NO_2 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

189. $P_4 + 6Cl_2 \xrightarrow{\Delta} PCl_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: cd

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190.
$$P_4 + 10Cl_2 \rightarrow PCl_5$$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: cd

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$$\begin{array}{c} \Delta \\ \textbf{191.} Ag + PCl_5 \rightarrow AgCl + PCl_3 \end{array}$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

192. $Sn + PCl_5 \rightarrow SnCl_4 + PCl_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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$$\begin{array}{c} \Delta \\ \textbf{193.} PCl_5 \rightarrow PCl_3 + Cl_2 \end{array}$$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: d

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194. Red P+Alkali
$$\rightarrow Na_4P_2O_6 + P_2H_4$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

195.
$$H_3PO_3 \xrightarrow{\Delta} H_3PO_4 + PH_3$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: ad

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$$\begin{array}{c} \Delta \\ \textbf{196. } Se_2Cl_2 \rightarrow SeCl_4 + Se \end{array}$$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: ad

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197.
$$Na_2S + H_2SO_4(Conc.) \rightarrow S \downarrow + SO_2 + Na_2SO_4$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

198. $MnO_2 + NaCl + H_2SO_4(Conc.) \rightarrow MnSO_4 + Cl_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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199. $NaBr + MnO_2 + H_2SO_4(Conc.) \rightarrow MnSO_4 + Br_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: c

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200.
$$NaI + H_2SO_4(Conc.) \rightarrow Na_2SO_4 + SO_2 \uparrow + I_2 \uparrow$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

201.
$$NaI + MnO_2 + H_2SO_4(Conc.) \rightarrow MnSO_4 + I_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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$$Hot \qquad Hot \qquad 0$$
202. $NaNO_3 + H_2SO_4(Conc.) \rightarrow Na_2SO_4 + NO_2 \qquad 0$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: d

Watch Video Solution

203.
$$Na_2C_2O_4 + H_2SO_4(Conc.) \rightarrow Na_2SO_4 + CO + CO_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

204. 3*PbS* + 8*HNO*₃(*Dil.*) → 3*Pb* $(NO_3)_2$ + 3*S* ↓ + 2*NO* + 4*H*₂*O*

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

Watch Video Solution

205. $S + HNO_3(Dil.) \rightarrow H_2SO_4 + No^{\uparrow}$

A. For disproportionation reaction.

B. For comproportionation reaction.

decomposition redox reaction.

Answer: c

Watch Video Solution

206.
$$CuSO_4 + Zn(s) \rightarrow ZnSO_4 + Cu$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

Watch Video Solution

207. $2NaOH + Zn(OH)_2 \downarrow \rightarrow Na_2ZnO_2 + 2H_2O$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

Watch Video Solution

208. $Mn(OH)_2 + H_2SO_4 \rightarrow MnSO_4 + 2H_2O$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



209.
$$2AgNO_3 + 2NaOH \rightarrow Ag_2O \downarrow + 2NaNO_3 + H_2O$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

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210.
$$Cr(OH)_3 \downarrow + NH_3(Excess) \rightarrow \left[Cr(NH_3)_6\right]^{3+1}$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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211.
$$CuSO_4 + NH_3(excess) \rightarrow \left[Cu(NH_3)_4\right]^{2+}$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

Watch Video Solution

212.
$$NiCl_2 + NH_3(excess) \rightarrow \left[Ni\left(NH_3\right)_6\right]^{2+1}$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

Watch Video Solution

213. $FeCl_3 + NH_3(excess) \rightarrow Fe(OH)_3 \downarrow$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a



214.
$$Na_2[Zn(OH)_4] + 4HCl \rightarrow ZnCl_2 + NaCl + H_2O$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

Watch Video Solution

215.
$$\left[Cr(NH_3)_6\right]^{3+} + 6HCl \rightarrow Cr^{3+}(aq) + 6NH_4Cl$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

Watch Video Solution

216.
$$2KCN + Pb(NO_3)_2 \rightarrow Pb(CN)_2 \downarrow + 2KNO_3$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d



217. $4KCN + Fe(CN)_2 \downarrow \rightarrow K_4 [Fe(CN)_6]$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

Watch Video Solution

218.
$$3KCN + Fe(CN)_3 \downarrow \rightarrow K_3[Fe(CN)_6]$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



219.
$$CuSO_4 + KCN(excess) \rightarrow K_2 \left[Cu(CN)_4 \right] + \frac{1}{2} (CN)_2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



220. K_(3)[Fe(CN)_(6)]+FeCl_(3) to Fe[Fe(CN)_(6)]

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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221.
$$K_3[Fe(CN)_6] + FeCl_2 \rightarrow Fe_3[Fe(CN)_6]_2 \downarrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a



222. $KI + BiI_2 \downarrow \rightarrow K[BiI_4]$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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223. $2KI + HgI_2 \downarrow \rightarrow K_2[HgI_4]$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



224. $KI + AgNO_3 \rightarrow AgI \downarrow$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a



225. $2KI + FeCl_2 \rightarrow No$ reaction.

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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226.
$$2KI + CuSO_4 \rightarrow CuI \downarrow + \frac{1}{2}I_2 + K_2SO_4$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d



227.
$$BaCO_3 \downarrow + CO_2 + H_2O \rightarrow Ba(HCO_3)_2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

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228. $Ba(OH)_2 + CO_2 \rightarrow BaCO_3 \downarrow + H_2O$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d



229.
$$BaSO_3 \downarrow + SO_2 + H_2O \rightarrow Ba(HSO_3)_2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

Watch Video Solution

230. $Ba(OH)_2 + SO_2 \rightarrow BaSO_3 \downarrow + H_2O$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

Watch Video Solution

231. $Na_2CO_3 + PbSO_4 \rightarrow PbCO_3 \downarrow + Na_2SO_4$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

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232.
$$Na_2CO_3 + Pb(NO_3)_2 \rightarrow PbCO_3 \downarrow + NaNO_3$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

Watch Video Solution

233. $Na_2CO_3 + KNO_3 \rightarrow No$ reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



234.
$$Na_2CO_3 + AgNO_3 \rightarrow Ag_2CO_3 \downarrow + NaNO_3$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

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235.
$$Na_3PO_4 + Fe_2(SO_4)_3 \rightarrow FePO_4 \downarrow + Na_2SO_4$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

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236. $NiCl_2$ (solution) + $NaNO_3$ (solution) \rightarrow No reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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237. $CuSO_4$ (solution) + $ZnCl_2$ (solution) \rightarrow No reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

Watch Video Solution

238. $FeSO_4 + Na_2S \rightarrow FeS \downarrow$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a



239.
$$FeCl_3 + KI \rightarrow Fe^{2+}(aq.) + KI + I_2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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240. $AlCl_3 + Na_3PO_4 \rightarrow AlPO_4 \downarrow$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

Watch Video Solution

241. $CrCl_3$ (solution) + $ZnSO_4$ (Solution) \rightarrow No reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

Watch Video Solution

242. $Na_2CrO_4 + HCl \rightarrow H_2Cr_2O_7 + Na_2SO_4$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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243.
$$K_2 Cr_2 O_7 + NaoH \rightarrow CrO_4^2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



244.
$$Na_2CrO_4 + AgF \rightarrow Ag_2CrO_4 \downarrow + NaF$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

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245. $KMnO_4 + NaNO_3 \rightarrow No reaction$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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246.
$$MnSO_4 + Sr(NO_3)_2 \rightarrow SrSO_4 \downarrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d



247. $ZnSO_4$ (solution) + $MgCl_2$ (solution) \rightarrow No reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

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248. $AgNO_3$ (solution) + NaF(solution) \rightarrow No reaction.

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



249.
$$\left(NH_4\right)_2 SO_4 + Ba(OH)_2 \rightarrow BaSO_4 \downarrow + 2NH_3 \uparrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

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250.
$$\left(NH_4\right)_2 SO_4 + Sr(OH)_2 \rightarrow SrSO_4 \downarrow + 2NH_3 \uparrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

Watch Video Solution

251.
$$Pb(NO_3)_2 + 2NaOH \rightarrow Pb(OH)_2 \downarrow + 2NaNO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



252. $Zn(OH)_2 \downarrow + 2NaOH \rightarrow Na_2ZnO_2 + 2H_2O$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

Watch Video Solution

253.
$$2Na[Al(OH)_4] + CO_2 \rightarrow 2Al(OH)_3 \downarrow + Na_2CO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



254.
$$CuSO_4 + 2NaOH(excess) \rightarrow Cu(OH)_2 \downarrow + Na_2SO_4$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

Watch Video Solution

255. $Fe(OH)_3 \downarrow + NaOH(excess) \rightarrow No reaction$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

Watch Video Solution

256. $Mg(OH)_2 \downarrow + 2HCl \rightarrow MgCl_2 + 2H_2O$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

Watch Video Solution

257.
$$Mn(NO_3)_2 + 2NaOH \rightarrow Mn(OH)_2 \downarrow + 2NaNO_3$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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258. $CH_3COOAg \downarrow + HNO_3 \rightarrow AgNO_3 + CH_3COOH$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



259.
$$Hg(NO_3)_2 + NH_3(\text{soln.}) \rightarrow MgO \cdot HgNH_2NO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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260.
$$Cu(OH)_2 \downarrow + 4NH_3(\text{soln.}) \rightarrow \left[Cu(NH_3)_4\right]^{2+} + 2OH^{-1}$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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261. $CaC_2O_4 \downarrow + CH_3COOH \rightarrow$ No reaction

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

Watch Video Solution

262. $BaC_2O_4 \downarrow + 2AcOH \rightarrow Ba(AcO)_2 + H_2C_2O_4$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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263.
$$Fe(CN)_2 \downarrow + 4KCN \rightarrow K_4 [Fe(CN)_6]$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



264.
$$SrC_2O_4 \downarrow + 2HCl \rightarrow SrCl_2 + H_2C_2O_4$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

Watch Video Solution

265. $Fe(CN)_2 \downarrow + KCN \rightarrow K_3Fe(CN)_6$

A. For precipitate formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: b

Watch Video Solution

266.
$$CaSO_3 \downarrow + SO_2 + H_2O \rightarrow Ca(HSO_3)_2$$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: b



267.
$$K_4[Fe(CN)_6] + 2ZnSO_4 \rightarrow Zn_2[Fe(CN)_6] \downarrow + 2K_2SO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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268.
$$3PbS \downarrow + 8HNO_3(dil.) \rightarrow 3Pb(NO_3)_2 + 3S + 2NO^{\uparrow}$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



269.
$$K_4[Fe(CN)_6] + 2CuSO_4 \rightarrow Cu_2[Fe(CN)_6] \downarrow + 2K_2SO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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270. $MnS \downarrow + 2HCl \rightarrow MnCl_2 + H_2S \uparrow$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

Watch Video Solution

271.
$$AgCl \downarrow + 2KCN \rightarrow K[Ag(CN)_2] + KCl$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

Watch Video Solution

272. $HgS \downarrow + Na_2S \Leftrightarrow Na_2[HgS_2]$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

Watch Video Solution

273. $CuSO_4 + 2KCN \rightarrow CuCN \downarrow + (CN)_2 \uparrow + K_2SO_4$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a



274.
$$FeS \downarrow + 2HCl \rightarrow FeCl_2 + H_2S \uparrow$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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275.
$$Cd(CN)_2 \downarrow + 2KCN \rightarrow K_2[Cd(CN)_4]$$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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276. $2AgF + MgCl_2 \rightarrow MgF_2 \downarrow + 2AgCl \downarrow$

A. For precipitate formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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277.
$$Pb(NO_3)_2 + 2KI \rightarrow PbI_2 \downarrow + 2KNO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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278. $PbCl_2 \downarrow$ + hot water $\rightarrow Pb^2(aq.) + 2Cl^-(aq.)$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b



279.
$$HgI_2 \downarrow + KI \Leftrightarrow K_2 [HgI_4]$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

View Text Solution

280.
$$AgI \downarrow + 2Na_2S_2O_3 \rightarrow Na_3\left[Ag\left(S_2O_3\right)_2\right] + NaI$$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: b

Watch Video Solution

281.
$$CuSO_4 + 2KI \rightarrow CuI \downarrow + \frac{1}{2}I_2 + K_2SO_4$$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: a

282. $KNO_2 + AgF \rightarrow AgNO_2 \downarrow + KF$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

View Text Solution

283. $BaSO_4 \downarrow + Na_2CO_3 \rightarrow BaCO_3 \downarrow + Na_2SO_4$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: c



284.
$$FeCl_3 + Na_3PO_4 \rightarrow FePO_4 \downarrow + 3NaCl$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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285. $BaSO_4 \downarrow$ + dil. HCl (excess) \rightarrow No reaction

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: d

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286.
$$2AgNO_3 + Na_2C_2O_4 \rightarrow Ag_2C_2O_4 \downarrow + 2NaNO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

- C. For precipitate exchange reaction
- D. For no reaction

Answer: a

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287. $2BaCrO_4 \downarrow + 4HCl \rightarrow 2BaCl_2 + H_2Cr_2 + H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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288.
$$PbCrO_4 \downarrow + 4NaOH(excess) \rightarrow Na_2[Pb(OH)_4] + Na_2CrO_4$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: b



289.
$$BaCrO_4 \downarrow + CH_3COOH(excess) \rightarrow No reaction$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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290. $PbCl_2 \downarrow + H_2SO_4 \Leftrightarrow PbSO_4 \downarrow + 2HCL$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: c

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291.
$$Ba(NO_3)_2 + Na_2SO_4 \rightarrow BaSO_4 \downarrow + 2NaNO_3$$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: a

292.
$$Pb(NO_3)_2 + H_2SO_4 \rightarrow PbSO_4 \downarrow + 2HNO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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293. $SrCrO_4 \downarrow + 2AcOH(excess) \rightarrow Sr(ArO)_2 \rightarrow No dissolution$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: b



294.
$$MCrO_4 \downarrow (M^{2^+} = Ba^{2^+}Pb^{2^+}) + AcOH \rightarrow No dissolution$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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295. $CaCl_2 + Na_2C_2O_4 \rightarrow CaC_2O_4 \downarrow + 2NaCl$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: a

Watch Video Solution

296.
$$CaSO_4 + Pb(NO_3)_2 \rightarrow PbSO_4 \downarrow + Ca(NO_3)_2$$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: a

297. $Hg_2(NO_3)_2 + NH_3(\text{solution}) \rightarrow Hg \downarrow + HgO \cdot NH_3NO_3 \downarrow$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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298. $BaCO_3 \downarrow + 2HCl \rightarrow BaCl_2 + CO_2 \uparrow + H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: b



299.
$$AlCl_3 + 3NaOH \rightarrow Al(OH)_3 \downarrow + 3NaCl$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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300.
$$BaCO_3 \downarrow + CO_2 + H_2O \rightarrow Ba(HCO_3)_2$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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301. $ZnS \downarrow + 2HCl \rightarrow ZnCl_2 + H_2S \uparrow$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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 $302. NiCl_2 + 2dmg \rightarrow Ni(dmg)_2 \checkmark$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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303. $CaCl_2 + Na_2SO_4 \rightarrow No reaction$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: d



304.
$$BaCO_3 \downarrow + 2AcOH \rightarrow Ba(AcO)_2 + CO_2 \uparrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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305. $Na_2S_2O_3 + BaCl_2 \rightarrow BaS_2O_3 \downarrow + 2NaCl$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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306. $Ba(AcO)_2 + K_2CrO_4 \rightarrow BaCrO_4 \downarrow + 2AcOK$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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307. $3AgNO_3 + Na_3PO_4 \rightarrow Ag_3PO_4 \downarrow + 3NaNO_3$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

Watch Video Solution

308. $Ag_2CO_3 \downarrow + 2HCl \rightarrow AgCl \downarrow + CO_2 \uparrow + H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: c



309.
$$BaSO_3 \downarrow + H_2SO_4 \rightarrow BaSO_4 \downarrow + SO_2 \uparrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: c

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310. $HgS \downarrow + HNO_3(\text{conc.}) \rightarrow \text{No dissolution.}$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: d

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311. $Sr(ACO)_2 + Ag_2SO_4 \rightarrow 2AcOAg \downarrow + SrSO_4 \downarrow$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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312. $Ca(OH)_2 + 2FH \rightarrow CaF_2 \downarrow + 2H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

Watch Video Solution

313. $Ca(OH)_2 + CO_2 \rightarrow CaCO_3 \downarrow + 2H_2O$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: a



314.
$$CaSO_3 \downarrow + H_2SO_4 \rightarrow CaSO_4 + SO_2 \uparrow + H_2O$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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315. $Ca(OH)_2 + SO_2 \rightarrow CaSO_3 \downarrow + H_2O$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: a

Watch Video Solution

316. $Na_2SO_3 + BaCl_2 \rightarrow BaSO_3 \downarrow + 2NaCl$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

Watch Video Solution

317. $Pb(AcO)_2 + H_2S \rightarrow PbS \downarrow + 2AcOH$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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318. $NaCl + AbNO_3 \rightarrow AgCl \downarrow + NaO_3$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: a



319.
$$HgI_2 \downarrow + 2HI \rightarrow K_2[HgI_4]$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: b

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320. $PbO_2 + HNO_3(dil.) \rightarrow No dissolution.$

A. For precipitate formation formation reaction

- B. For precipitate dissolution reaction
- C. For precipitate exchange reaction
- D. For no reaction

Answer: d

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321.
$$PbO_2 + HNO_3(Conc.) \rightarrow Pb(NO_3)_2 + H_2O + [O]$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

- C. For precipitate exchange reaction
- D. For no reaction

Answer: b

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322.
$$K_2[Cd(CN)_4] + H_2S \rightarrow CdS \downarrow + 2KCN + 2HCN$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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323. $Pb(AcO)_2 + Na_2CrO_4 \rightarrow PbCrO_4 \downarrow + 2AcONa$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

Answer: a



324.
$$NaBr + AgNO_3 \rightarrow AgBr \downarrow + NaNO_3$$

A. For precipitate formation formation reaction

B. For precipitate dissolution reaction

C. For precipitate exchange reaction

D. For no reaction

Answer: a

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325.
$$\underline{B}_{2}O_{3} + H_{2}O \rightarrow H_{3}BO_{3} + H_{2}O \Leftrightarrow H\left[B(OH)_{4}\right] + H^{+}$$

A. If product is oxy acid with -ic suffix.

- B. If product is oxy acid with -ous suffix
- C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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326. $\underline{SO}_2 + H_2O \rightarrow H_2SO_3$

A. If product is oxy acid with -ic suffix.

- B. If product is oxy acid with -ous suffix
- C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

327.
$$\underline{B}F_3 + H_2O \rightarrow H_3BO_3 + H\left[BF_4\right]$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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328. $\underline{T}eF_6$ - (6) + $H_2O \rightarrow H_6TeO_6$ + HF

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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329. $H_4P_2O + H_2O \rightarrow H_3PO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

330. $\underline{C}O + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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331. $\underline{SO}_3 + H_2O \rightarrow H_2SO_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

Watch Video Solution

332.
$$H_4P_2O_6 + H_2O \rightarrow H_3PO_3 + H_3PO_4$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: c

333. $\underline{B}Cl_3 + H_2O \rightarrow H_3BO_3 + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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334. $\underline{IF}_7 + H_2O \rightarrow HIO_4 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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335. $\underline{SO}_2 + H_2O \rightarrow H_2SO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

336. $\underline{C}l_2O + H_2O \rightarrow HClO$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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 $\mathbf{337.} H_4 P_2 O_7 + H_2 O \rightarrow 2H_3 PO_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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338. $\underline{C}Cl_4 + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

339. $\underline{CIF}_5 + H_2O \rightarrow HClO_3 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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340. $N_2O + H_2O \rightarrow No$ reaction

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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341. $\underline{C}lO_2 + H_2O \rightarrow HClO_2 + HClO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: c

342.
$$H_4P_2O_8 + H_2O \rightarrow H_3PO_4 + H_2O_2$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



343. $\underline{NF}_3 + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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344. $\underline{B}rF_5 + H_2O \rightarrow HBrO_3 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

345. $\underline{N}O + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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346. $\underline{ClO}_3 + H_2O \rightarrow HClO_3 + HClO_4$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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347. $H\underline{N}O_4 + H_2O \rightarrow HNO_3 + H_2O_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

348. $\underline{IF}_5 + H_2O \rightarrow HIO_3 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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349. $\underline{IF}_5 + H_2O \rightarrow HIO_3 + HF$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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350. $N_2O_3 + H_2O \rightarrow HNO_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

351. $\underline{C}l_2O_7 + H_2O \rightarrow HClO_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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352. $H_3\underline{P}O_5 + H_2O \rightarrow H_3PO_4 + H_2O_2$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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353. $\underline{S}iF_4 + H_2O \rightarrow H_4SiO_4 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

354. $\underline{I}Cl_3 + H_2O \rightarrow HIO_2 + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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355. $N_2O_4 + H_2O \rightarrow HNO_3 + HNO_2$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: c

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356. $I_2O_5 + H_2O \rightarrow HIO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

$$\mathbf{357.} H_2 \underline{SO}_5 + H_2 O \rightarrow H_2 SO_4 + H_2 O_2$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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358. $\underline{SiCl}_4 + H_2O \rightarrow H_4SiO_4 + HCl$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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359. $\underline{C}rO_2Cl_2 + 2H_2O \rightarrow H_2CrO_4 + 2HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

360. $N_2O_5 + H_2O \rightarrow HNO_3$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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361. $\underline{PCl}_3 + H_2O \rightarrow H_3PO_3 + HCl$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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362. $\underline{C}lF_3 + H_2O \rightarrow HClO_2 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

363. $\underline{SiO}_2 + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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 $\mathbf{364.} H_4 B_2 O_5 + H_2 O \rightarrow 2H_3 BO_3$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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365. $H_4S_2O_6 + H_2O \rightarrow H_2SO_3 + H_2SO_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: c

366. $\underline{PCl}_5 + H_2O \rightarrow H_3PO_4 + 5HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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367. $\underline{C}lF + H_2O \rightarrow HOCl + HF$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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368. $H_4B_2O_6 + H_2O \rightarrow H_3BO_3 + H_2O_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

369. $H_4B_2O_6 + H_2O \rightarrow H_3BO_3 + H_2O_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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 $\mathbf{370.} H_6 Si_2 O_7 + H_2 O \rightarrow H_4 SiO_4$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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371. $\underline{SF}_4 + H_2O \rightarrow H_2SO_3 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

372. $\underline{B}rF + H_2O \rightarrow HBrO + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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 $\mathbf{373.} H_2 S_2 O_7 + H_2 O \rightarrow H_2 SO_4$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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374. $H_2S_2O_8 + H_2O \rightarrow H_2SO_4 + H_2O_2$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

375. $\underline{SF}_6 + H_2O \rightarrow \text{No reaction}$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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376. $Icl + H_2O \rightarrow HIO + HCl$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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377. $\underline{I}Cl + H_2O \rightarrow HIO + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: c

378. $P_4O_{10} + H_2O \rightarrow H_3PO_4$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



379. $\underline{P}OCl_3 + H_2O \rightarrow H_3PO_4 + HCl$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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380. $\underline{I}OF_5 + H_2O \rightarrow HIO_4 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

381. $P_4 + H_2 O \rightarrow$ No reaction

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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382. $Na\underline{H} + H_2O \rightarrow NaoH + H_2$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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383.
$$B_2H_6 + H_2O \rightarrow H_3BO_3 + H_2$$

A. If product is oxy acid with -ic suffix.

- B. If product is oxy acid with -ous suffix
- C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

384. $\underline{C}l_2 + H_2O \rightarrow HOCl + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

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385. $S_{g} + H_2 O \rightarrow \text{No reaction.}$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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386. $\underline{S}Ocl_2 + H_2O \rightarrow H_2SO_3 + HCl$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: b

387.
$$\underline{SO}_2Cl_2 + H_2O \rightarrow H_2SO_4 + HCl$$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a



388. $\underline{Si}H_4 + H_2O \rightarrow H_4SiO_4 + H_2$

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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- **389.** $I_2 + H_2 O \rightarrow \text{No reaction}$
 - A. If product is oxy acid with -ic suffix.
 - B. If product is oxy acid with -ous suffix
 - C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

390. $\underline{S}OF_4 + H_2O \rightarrow H_2SO_4 + HF$

A. If product is oxy acid with -ic suffix.

B. If product is oxy acid with -ous suffix

C. If product are two oxy acids one with -ic suffix and otherone with -

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: a

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391. $F_2 + H_2O \rightarrow HF + O_2$ (Ozonide oxygen)

A. If product is oxy acid with -ic suffix.

ous suffix.

D. If product is not oxy acid, neither with -ic suffix nor with -ous suffix

Answer: d

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392.
$$C(s) + O_2(g) \xrightarrow{\Delta} CO_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d

393. $3Mg(s) + N_2(g) \xrightarrow{\Delta} Mg_3N_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

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394. $NaH(s) + H_2O \rightarrow NaOH + H_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: bc

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395. $CuSO_4(aq.) + Zn(s) \rightarrow ZnSO_4 + Cu \downarrow$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

B.T. **396.** $Na(s) + H_2O(l) \rightarrow NaOH + H_2$ ↑

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

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397.
$$Ca(s) + H_2O(l) \rightarrow Ca(OH)_2 + H_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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398.
$$Mg(s) + H_2O(l) \rightarrow Mg(OH)_2 + H_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.



Boil
399.
$$Fe(s) + H_2O(l) \rightarrow Fe_3O_4 + H_2$$

- B. For comproportionation reaction.
- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

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400. $Zn(s) + 2HCl \rightarrow ZnCl_2 + H_2$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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401. $Mg(s) + 2HCl \rightarrow MgCl_2 + H_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

402. $Fe(s) + 2HCl \rightarrow FeCl_2 + H_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



403. $Cl_2(g) + KI(aq.) \rightarrow KCl + I_2$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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404.
$$H_2O_2 \xrightarrow{R.T.} H_2O + \frac{1}{2}O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: ad

405. P_4 + NaOH \rightarrow PH₃ \uparrow + NaH₂PO₂

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a

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406. $S_8 + NaOH \rightarrow Na_2S + Na_2S_2O_3$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

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407. Cl_2 + NaoH \rightarrow NaCl + NaOCl

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a

408. I_2 + NaOH \rightarrow NaI + NaOI

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a

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409. $Pb_3O_4 + HCl(dil.) \rightarrow PbCl_2 \downarrow + Cl_2 + H_2O$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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$$410. Pb_{3}O_{4} + HNO_{3}(dil.) \xrightarrow{R.T.} Pb(NO_{3})_{2} + PbO_{2} \downarrow$$

A. For disproportionation reaction.

- B. For comproportionation reaction.
- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.



411.
$$PbO_2 + HCl(dil.) \rightarrow PbCl_2 \downarrow + Cl_2 \uparrow + H_2O$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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412.
$$Cr_2O_7^{2^-} + H^+ + SO_3^{2^-} \rightarrow Cr^{3^+}(aq.) + SO_4^{2^-}$$

A. For disproportionation reaction.

D.For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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413.
$$MnO_4^- + H^+ + Br^- \rightarrow Mn^{3+}(aq.) + Br_2$$

A. For disproportionation reaction.

- B. For comproportionation reaction.
- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.

414.
$$Fe^{2+}(aq.) + Cr_2O_7^{2-} + H^+ \rightarrow Fe^{3+}(aq.) + Cr^{3+}$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

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415.
$$I_2 + S_2 O_3^{2^-} \rightarrow I^- + S_4 O_6^{2^-}$$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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416.
$$Cu^{2+}(aq) + 2I^{-} \rightarrow CuI \checkmark + \frac{1}{2}I_{2}$$

A. For disproportionation reaction.

- B. For comproportionation reaction.
- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.



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417. CuO + H_2 \rightarrow Cu \downarrow + H_2O
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B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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418. $H_3PO_2 + AgNO_2 \rightarrow Ag \downarrow + H_3PO_4 + NO$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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419. $H_3PO_2 + CuSO_4 \rightarrow Cu \downarrow + H_3PO_4 + HNO_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

420. $NaNO_3 \xrightarrow{\Delta} NaNO_2 + O_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d

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R.T. **421.** $N_2O_3 \rightarrow NO + NO_2$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: ad

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422. $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2$ or Ca(OCl)Cl

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a

423.
$$XeF_4 + H_2O \rightarrow Xe + XeO_3 + HF + O_2$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a



424. $CO + I_2O_5(s) \rightarrow CO_2 + I_2$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

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425.
$$FeCr_2O_4 + Na_2CO_3 + O_2 \rightarrow Fe_2O_3 \downarrow + Na_2CrO_4$$

A. For disproportionation reaction.

- B. For comproportionation reaction.
- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal decomposition redox reaction.

426.
$$MnO_2 + 2KOH + \frac{1}{2}O_2 \rightarrow K_2MnO_4 + H_2O_4$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c

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427.
$$K_2MnO_4 + H^+ \rightarrow KMnO_4 + MnO_2 \downarrow$$

A. For disproportionation reaction.

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: a

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$$428. KMnO_4 \rightarrow K_2MnO_4 + MnO_2 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d

429.
$$K_2Cr_2O_7 \xrightarrow{\Delta} K_2CrO_4 + Cr_2O_3 + O_2$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d

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430.
$$\left(NH_4\right)_2 Cr_2 O_7 \xrightarrow{\Delta} N_2 \xrightarrow{\uparrow} + Cr_2 O_3 \xrightarrow{\downarrow} + H_2 O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

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431.
$$NH_4Cl + NaNO_2 \xrightarrow{\Delta} N_2 \uparrow + NaCl + H_2O$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: b



432.
$$Ba(N_3)_2 \xrightarrow{\Delta} Ba + N_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d

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433.
$$N_2 + O_2 \rightarrow NO$$
 -Heat.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: cd

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434. $N_2 + 3H_2 \rightarrow NH_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d



435. $NH_4NO_3 \xrightarrow{\Delta} N_2O + H_2O$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: bd



436. $NaNO_2 + FeSO_4 + H_2SO_4 \rightarrow \left[Fe(H_2O)_5 NO\right]SO_4(\text{Ring complex})$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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$${}^{-11 \ \circ C}$$
437. NO + NO₂ \rightarrow N₂O₃

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: bd



438.
$$Pb(NO_3)_2 \xrightarrow{\Delta} PbO + NO_2 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

- C. For either intermolecular redox reaction or displacement reaction
- D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d



439.
$$P_4 + 6Cl_2 \xrightarrow{\Delta} PCl_3$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: cd

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440. $P_4 + 10Cl_2 \xrightarrow{\Delta} PCl_5$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: cd



441. $Ag + PCl_5 \rightarrow AgCl + PCl_3$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.



442.
$$Sn + PCl_5 \rightarrow SnCl_4 + PCl_3$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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443.
$$PCl_5 \xrightarrow{\Delta} PCl_3 + Cl_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: d



444. Red P+Alkali
$$\rightarrow Na_4P_2O_6 + P_2H_4$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a



445.
$$H_3PO_3 \xrightarrow{\Delta} H_3PO_4 + PH_3$$

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: ad

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446.
$$Se_2Cl_2 \xrightarrow{\Delta} SeCl_4 + Se$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: ad



447.
$$Na_2S + H_2SO_4(Conc.) \rightarrow S \downarrow + SO_2 + Na_2SO_4$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.



448.
$$MnO_2$$
 + $NaCl$ + $H_2SO_4(Conc.)$ → $MnSO_4$ + Cl_2 ↑

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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449. $NaBr + MnO_2 + H_2SO_4(Conc.) \rightarrow MnSO_4 + Br_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



450.
$$NaI + H_2SO_4(Conc.) \rightarrow Na_2SO_4 + SO_2 \uparrow + I_2 \uparrow$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



451. *NaI* + *MnO*₂ + $H_2SO_4(Conc.)$ → *MnSO*₄ + I_2 ↑

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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452.
$$NaNO_3 + H_2SO_4(Conc.) \xrightarrow{Hot} Na_2SO_4 + NO_2 + O_2$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: d



453. $Na_2C_2O_4 + H_2SO_4(Conc.) \rightarrow Na_2SO_4 + CO + CO_2$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: a



454. 3PbS + 8HNO₃(Dil.) → 3Pb
$$(NO_3)_2$$
 + 3S ↓ + 2NO + 4H₂O

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal

decomposition redox reaction.

Answer: c

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455. *S* + *HNO*₃(*Dil.*) → $H_2SO_4 + NO$ ↑

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



456.
$$CuSO_4 + Zn(s) \rightarrow ZnSO_4 + Cu$$

A. For disproportionation reaction.

B. For comproportionation reaction.

C. For either intermolecular redox reaction or displacement reaction

D. For either thermal combination redox reaction or thermal decomposition redox reaction.

Answer: c



457.
$$2NaOH + Zn(OH)_2 \downarrow \rightarrow Na_2ZnO_2 + 2H_2O$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: c

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458.
$$Mn(OH)_2 + H_2SO_4 \rightarrow MnSO_4 + 2H_2O$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



459. $2AgNO_3 + 2NaOH \rightarrow Ag_2O \downarrow + 2NaNO_3 + H_2O$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

460.
$$Cr(OH)_3 \downarrow + NH_3(Excess) \rightarrow \left[Cr(NH_3)_6\right]^{3+1}$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution

Answer: b

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461.
$$CuSO_4 + NH_3(excess) \rightarrow \left[Cu(NH_3)_4\right]^{2+1}$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

462.
$$NiCl_2 + NH_3(excess) \rightarrow \left[Ni\left(NH_3\right)_6\right]^{2+1}$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: b

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463.
$$FeCl_3 + NH_3(excess) \rightarrow Fe(OH)_3 \downarrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a



464. $Na_2[Zn(OH)_4] + 4HCl \rightarrow ZnCl_2 + NaCl + H_2O$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

465.
$$\left[Cr(NH_3)_6\right]^{3+} + 6HCl \rightarrow Cr^{3+}(aq) + 6NH_4Cl$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution

Answer: b

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466.
$$2KCN + Pb(NO_3)_2 \rightarrow Pb(CN)_2 \downarrow + 2KNO_3$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

467.
$$4KCN + Fe(CN)_2 \downarrow \rightarrow K_4 \left[Fe(CN)_6 \right]$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: b

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468.
$$3KCN + Fe(CN)_3 \downarrow \rightarrow K_3[Fe(CN)_6]$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



469. $CuSO_4 + KCN(excess) \rightarrow K_3 [Cu(CN)_4] + \frac{1}{2}(CN)_2$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

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470.
$$K_3$$
 [Fe(CN)₆] + FeCl₃ → Fe [Fe(CN)₆] ↓

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

Answer: b

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471.
$$K_3[Fe(CN)_6] + FeCl_2 \rightarrow Fe_3[Fe(CN)_6]_2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

472.
$$KI + BiI_2 \downarrow \rightarrow K[BiI_4]$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: b

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473.
$$2KI + HgI_2 \downarrow \rightarrow K_2[HgI_4]$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



474. $KI + AgNO_3 \rightarrow AgI \downarrow$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

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475. $2KI + FeCl_2 \rightarrow No$ reaction.

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

Answer: b

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476.
$$2KI + CuSO_4 \rightarrow CuI \downarrow + \frac{1}{2}I_2 + K_2SO_4$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

477.
$$BaCO_3 \downarrow + CO_2 + H_2O \rightarrow Ba(HCO_3)_2$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: c

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478.
$$Ba(OH)_2 + CO_2 \rightarrow BaCO_3 \downarrow + H_2O$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d



479. $BaSO_3 \downarrow + SO_2 + H_2O \rightarrow Ba(HSO_3)_2$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c

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480.
$$Ba(OH)_2 + SO_2 \rightarrow BaSO_3 \downarrow + H_2O$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

Answer: d

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481.
$$Na_2CO_3 + PbSO_4 \rightarrow PbCO_3 \downarrow + Na_2SO_4$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d



482.
$$Na_2CO_3 + Pb(NO_3)_2 \rightarrow PbCO_3 \downarrow + NaNO_3$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: d

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483. $Na_2CO_3 + KNO_3 \rightarrow No reaction$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



484. $Na_2CO_3 + AgNO_3 \rightarrow Ag_2CO_3 \downarrow + NaNO_3$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

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485.
$$Na_3PO_4 + Fe_2(SO_4)_3 \rightarrow FePO_4 \downarrow + Na_2SO_4$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

Answer: a



486. $NiCl_2$ (solution) + $NaNO_3$ (solution) \rightarrow No reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



487. $CuSO_4$ (solution) + $ZnCl_2$ (solution) \rightarrow No reaction

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: b

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488.
$$FeSO_4 + Na_2S \rightarrow FeS \downarrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a



489. $FeCL_3 + KI \rightarrow Fe^{2+}(aq.) + KI_3$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b

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490.
$$AlCl_3$$
 + Na_3PO_4 → $AlPO_4$ ↓

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

Answer: d



491. $CrCl_3$ (solution) + $ZnSO_4$ (Solution) \rightarrow No reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



492.
$$Na_2CrO_4 + HCl \rightarrow H_2Cr_2O_7 + Na_2SO_4$$

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: b

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493.
$$K_2Cr_2O_7 + NaoH \rightarrow CrO_4^2$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: b



494. $Na_2CrO_4 + AgF \rightarrow Ag_2CrO_4 \downarrow + NaF$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: a

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495. $KMnO_4 + NaNO_3 \rightarrow No$ reaction

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

Answer: b

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496.
$$MnSO_4 + Sr(NO_3)_2 \rightarrow SrSO_4 \downarrow$$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

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497. $ZnSO_4$ (solution) + $MgCl_2$ (solution) \rightarrow No reaction

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution
- D. For white ppt.

Answer: c

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498. $AgNO_3$ (solution) + NaF(solution) \rightarrow No reaction.

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: c



499. $\left(NH_4\right)_2 SO_4 + Ba(OH)_2 \rightarrow BaSO_4 \downarrow + 2NH_3 \uparrow$

A. For coloured ppt./Black ppt

B. For coloured solution.

C. for clear/colourless solution

D. For white ppt.

Answer: d

500.
$$\left(PH_4\right)_2$$
SO₄ + Sr(OH)₂ \rightarrow SrSO₄ \downarrow + 2NH₃ \uparrow

- A. For coloured ppt./Black ppt
- B. For coloured solution.
- C. for clear/colourless solution

Answer: d



reacts with KCN solution?

A.
$$Cu(NO_3)_2$$

B. $AgNO_3$
C. $Cd(NO_3)_2$

D. $Pb(NO_3)_2$

Answer: A

2. Which of these reaction in correct?

A.
$$Cl^- + Br_2 \rightarrow Br^- + Cl_2$$

B. Mohr's salt $\rightarrow NH_3 \uparrow (g)$

 SO_3 C. $K_2Cr_2O_7$ solution \rightarrow Green colour solution

Answer: B

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3. Compound which on heating produces paramagnetic acidic gas?

A.
$$Mg(NO_3)_2$$

B. $Fe_2(SO_4)_3$
C. $FeCO_3$

D. HgC_2O_4

Answer: A



4. Which compound on heating produces produces coloured metal oxide finally?

A.
$$Al_2(SO_4)_3$$

B. $HgCO_33Hg(OH)_2$

$$\mathsf{C.} Cu \Big(NO_3 \Big)_2$$

D.
$$Ba(OH)_2$$

Answer: C



5. $P(\text{Coloured solution}) + BaCl_2 \rightarrow Q \downarrow (\text{White}) + R(\text{Coloured solution})$ **ItBrgt**

Then salt 'P' in above reaction is:

A. Na_2CrO_4

B. $ZnSO_4$

C. $CuSO_4$

D. AgNO₃

Answer: C

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6. Oxygen gas is not produced from the following decomposition reaction:

A.
$$K_2Cr_2O_7 \xrightarrow{\Delta}$$

B. $Ag_2C_2O_4 \xrightarrow{\Delta}$
C. $Pb(NO_3)_2 \xrightarrow{\Delta}$
D. $Ag_2CO_3 \xrightarrow{\Delta}$

Answer: B

7. Consider the following reaction and select incorrect statement about gas (P):

 $Zn + HNO_3$ (Dilute) $\rightarrow Zn \left(NO_3 \right)_2 + P \uparrow$

A. Gives neutral solution in water

B. Contains more O_2 than Air

C. Forms brownn ring with FeSO₄ solution

D. None of these

Answer: C

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8. Which of the following ionic/molecular species does not disproportionate in water at room temperature?

A. NO_2

B. Cu^+

 $C.MnO_4^{2}$

D. Ca(Ocl)Cl

Answer: D

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9. Which halogen oxidizes water at room temperature but does not undergo disproportionation into it?

A. *F*₂

B. *Cl*₂

 $C.Br_2$

D. *I*₂

Answer: A

10. Which of the following combination doen's evolve Cl_2 gas?

A. $HCl(aq.) + KMnO_4$

B. $HCl + MnO_2$

C. $HCl + I_2$

D. $HCl + F_2$

Answer: C

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11. Which of the following combination does not liberated NH_3 gas?

A. Heating of NH_4ClO_4

B. Heating of NH_4Cl

$$\mathsf{C}.\left(\mathsf{NH}_{4}\right)_{2}CO_{30+NaOH}$$

D. $Li_3N + H_2O$

Answer: A



12. Which of the following compound on heating does not produce metal oxide?

A. $MgCl_2 \cdot 6H_2O$ B. $K_2Cr_2O_7$ C. K_2CO_3 D. $Cu(NO_3)_2$

Answer: C

13. Select the compound in which HCl is not the product of Hydrolysis:

A. NCl₃

B. PCl₃

C. AsCl₃

D. BiCl₃

Answer: A

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14. How many moles of H_2O are liberated when one mole hydrated $MgCl_2$

is heated?

A. 6

B. 5

C. 4

D. 3

Answer: B



15. Consider the following sequence of reaction:

$$M_{4}^{2}(aq.) \xrightarrow{NH_{4}Cl(s) + (NH_{4})_{2}CO_{3}sol.} Q \xrightarrow{CH_{3}COOH} Followed by addition of (NH_{4})_{2}C_{2}O_{4}$$

Which of the following cation can form ppt. Q but does not form ppt. 'R' ?

A. $Mg^{2+}(aq.)$ B. $Ca^{2+}(aq.)$ C. $Sr^{2+}(aq.)$

 $\mathsf{D}.\operatorname{Ba}^{2+}(\operatorname{aq.})$

Answer: D

16. Which of the following compound does not liberated oxygen gas on warming with conc. H_2SO_4 ?

A. SO_3

 $B.PbO_2$

 $C. MnO_2$

D. CrO_5

Answer: A

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17. One of the hydrolysed product of the following compound does not react with silica of glass vessel:

A. BF_3

B. ClF₅

 $C.XeF_2$

 $D.SF_4$

Answer: A

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18.
$$M(Salt) + Dil. HCl \rightarrow P \downarrow + N$$

gas 'N' changes colour of ${\it FeSO}_4$ solution into yellow solution then salt M

in above reaction is

A. BaS_2O_3

 $B.Ag_2SO_3$

 $C.AgNO_2$

D. $Pb(NO_3)_2$

Answer: C

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19. $Pb + Dil. HNO_3 \rightarrow P + Q + H_2O$

Incorrect statement for Q is:

A. Paramagnetic colourless gas

B. It is oxidized to paramagnetic coloured gas by air

C. It combines with $Fe_2(SO_4)_3$

D. It can be also obtained by disproportionation of HNO_2

Answer: C

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20. In which of the following redox reaction precipitate is not formed?

A.
$$Cr^{3+}(aq.) + Na_2O_2(\text{Solution}) \rightarrow$$

B.
$$Fe^{3+}(aq.) + (NH_4)_2 S$$
 →

C.
$$Mn^{2+}(aq.) + H_2O_2 + NH_3$$
(Solution) →

D. $Fe^{2+}(aq.) + Na_2O_2(\text{solution})$ →

Answer: A



21. Which metal sulphide is soluble in excess NH_3 solution?

A. ZnS

B. MnS

C. FeS

D. Cr_2S_3

Answer: D

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$$H^{+}$$
22. $I^{-}(aq.) + MnO_{4}^{-}(aq.) \rightarrow X + Mn^{2+}(aq.)$
Neutral or
 $I^{-}(aq.) + MnO_{4}^{-}(aq.) \rightarrow \text{weakly } OH^{-}Y + MnO_{2}$

$$ZnSO_{4}$$
 $MnO_{4}^{-}(aq.) + Mn^{2+}(aq.) \rightarrow Z + 4H^{+}$

Product X, Y and Z are respectively.

A. I_2 , IO_3^- , MnO_2 B. IO_3^- , I_2 , MnO_2 C. I_2 , IO_3^- , MnO_4^{2-} D. IO_3^- , I_2 , MnO_4^{2-}

Answer: A

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R.T. **23.** $Br_2 + NaOH \rightarrow Y + Z$

If Y gives precipitate with AgNO₃, then Z does not undergo reaction with:

A. $Cr^{3+}(aq.)$

Answer: C

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$$\begin{array}{c} \Delta \\ \textbf{24.} (P) \xrightarrow{\Delta} (Q) \text{Metallic solid } + (R) \uparrow + (S) \uparrow \\ \Delta \\ (X) \xrightarrow{\Delta} (Y) \text{amphoteric} + (R) \uparrow + (S) \uparrow \end{array}$$

P& X are respectively:

A. $AgNO_3$, $LiNO_3$ B. $AgNO_3$, $Pb(NO_3)_2$ C. $Hg_2(NO_3)_2$, $Ca(NO_3)_2$ D. $NaNO_3$, $Zn(NO_3)_2$

Answer: B

25. Iodine is not oxidized to iodic acid/iodicanhydride by:

A. conc. HNO₃

B. conc. H_2SO_4

C. Excess Cl₂ water

D. conc. H_3PO_4

Answer: D

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26. Colourless gas that has oxidising as well as reducing properties:

A. *CO*₂

 $B.SO_2$

 $C.NO_2$

 $D.SO_3$

Answer: B



27.
$$Pb + Dil. HNO_3 \rightarrow P + Q \uparrow H_2O$$

Incorrect statement for Q is:

A. Paramagnetic colourless gas

B. It is oxidized to paramagnetic coloured gas by air

C. It combines with $Fe_2(SO_4)_3$

D. It is also obtained by disproportionation of HNO_2

Answer: C

28. Which reaction has positive value of ΔG °?

 $\begin{array}{c} R.T. \\ A. F_2 + H_2O \rightarrow 2HF + \frac{1}{2}O_2 \end{array} \uparrow$ $\begin{array}{c} R.T. \\ B. Cl_2 + H_2O \rightarrow HCl + HOCl \\ R.T. \\ C. Br_2 + H_2O \rightarrow HBr + HOBr \\ R.T. \\ D. I_2 + H_2O \rightarrow HI + HOI \end{array}$

Answer: D

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29. Which does not undergo comproportionation reaction?

A.
$$H_2S + SO_2 \rightarrow$$

B. $I^{-}(aq.) + IO_{3}^{-}(aq.) + H^{+}(aq.) \rightarrow$

```
C.K_2MnO_4 + H^+(aq.) \rightarrow
```

D. $MnO_4^- + Mn^{2+}(aq.) \rightarrow$

Answer: C



30. Select the incorrect match:

A.
$$Fe^{3^+} + [Fe(CN)_6]^{4^-} \rightarrow \text{Blue colour ppt.}$$

B. $Fe^{3^+} [Fe(CN)_6]^{3^-} \rightarrow \text{Red brown colouration}$
C. $Fe^{2^+} + [Fe(CN)_6]^{3^-} \rightarrow \text{Blue colour ppt.}$
D. $Fe^{2^+} + [Fe(CN)_6]^{4^-} \rightarrow \text{Red brown colouration}$

Answer: D

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31.
$$Cu^{2+}(aq.) + X^{-}(aq.) \rightarrow CuX \downarrow + X_{2}$$

'X' cannot be:

A. Cl⁻(aq.)

B. *I*[−](*aq*.)

C. *CN*⁻(*aq*.)

D. *SCN*⁻(*aq*.)

Answer: A

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32. In which of the following reaction SO_2 gas is not produced?

A.
$$S_8 + conc.$$
 $H_2SO_4 \rightarrow$
B. $S_8 + conc.$ $HNO_3 \rightarrow$
C. $PbS + O_2 \rightarrow$
D. $FeS_2 + O_2 \rightarrow$

Answer: B

33. Which metal gives NH_4NO_3 , when react with dilute HNO_3 acid?

A. Zn

B. *Pb*

С. Си

D. Au

Answer: A

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34. Select the salt whose aqueous solution is not green:

A. $FeSO_4$

B. CrCl₃

 $C. NiCl_2$

D. MnCl₂

Answer: D



35. Select the ion exchange reaction, which proceeds to forward direction in aqueous medium:

Aqueous
A.
$$2AgCl + CaF_2 \rightarrow 2AgF + CaCl_2$$

Aqueous
B. $BaSO_4 + 2NaOH \rightarrow Ba(OH)_2 + Na_2SO_4$
Aqueous
C. $Pb(NO_3)_2 + 2CH_3COONa \rightarrow Pb(OAc)_2 + 2NaNO_3$
Aqueous
D. $Na_2CrO_4 + BaCl_2 \rightarrow BaCrO_4 + 2NaCl$

Answer: D

36. Which of the following metal hydroxide is not soluble in exces of NH_3

solution?

A. $Fe(OH)_2$

B. $Ni(OH)_2$

C. $Cd(OH)_2$

D. $Cu(OH)_2$

Answer: A

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37. Which of the following combination of reagents does not undergo redox reaction in aqueous medium?

A. $SnCl_2 + HgCl_2$

B. $CuSO_4 + KCN$

$$\mathsf{C}. Pb \Big(CH_3 COO \Big)_2 + KI$$

 $D.Ag_2O + SO_2$

Answer: C

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38.
$$K_4[Fe(CN)_6] + M^{x+}(aq.) \rightarrow M_4[Fe(CN)_6]_x \downarrow$$
 Coloured precipitate
Which of the following cation does not respond to the above reaction?

A. $Cu^{2+}(aq.)$ B. $Fe^{3+}(aq.)$ C. $Zn^{2+}(aq.)$

D. None of these

Answer: C

39. Sodium salt solution $+AgNO_3$ soln. \rightarrow Coloured precipitate.

If coloured precipitate is soluble in both dil. HNO_3 and excess conc. NH_3 solution then which of the following anion is present in the salt solution?

Answer: C

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40. Chlorine gas is not produced by heating:

A. SOCl₂

B. $PbCl_4$

 $C.FeCl_3$

D. Hg_2Cl_2

Answer: D



41. Which of the following anion does not prodcue prepitate with $BaCl_2$ solution however gives precipitate with $AgNO_3$?

A. $CO_3^{2-}(aq.)$ B. $C_2O_4^{2-}(aq.)$ C. $MnO_4^{-}(aq.)$ D. $S^{2-}(aq.)$

Answer: D

42. Which of the following compound is completely water soluble?

A. $BaSO_4$

B. $Ba(OH)_2$

 $C.Al(OH)_3$

D. CaF₂

Answer: B

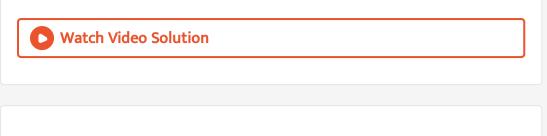
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43. Which chemical reaction contains incorrect products?

A.
$$SnSO_4 \xrightarrow{\Delta} SnO_2 + SO_3 \uparrow + SO_2 \uparrow$$

B. $Ag_2C_2O_4 \xrightarrow{\Delta} Ag + CO_2 \uparrow$
C. $P_4O_{10}(s) + CaO(s) \xrightarrow{\Delta} Ca_3 (PO_4)_2$
D. $PbCl_4 \xrightarrow{\Delta} PbCl_2 + Cl_2 \uparrow$

Answer: A



44. Which of the following compound undergoes disproportionation in presence of SO_3 gas?

A. $K_2 MnO_4$

B. K_2CrO_4

C. *I*₂

D. $Mg(NO_3)_2$

Answer: A

45. Consider the following reaction:

 $K_4 \left[Fe(CN)_6 \right]$ $X(aq.) \rightarrow \qquad \text{Chocolate brown ppt.}$ $AgNO_3$

 $X(aq.) \rightarrow$ White ppt. (insoluble in dil. HNO₃)

Then 'X' will be:

A. ZnSO₄

B. $CuCl_2$

 $C. FeSO_4$

D. FeCl₃

Answer: B

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46. Which of the following reagent does not oxidize HCl ?

B. conc. H_2SO_4

 $C. MnO_2$

D. $K_2 Cr_2 O_7 / H^-$

Answer: B

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47. Select correct match:

Anions	Separated by reagent
(a) CO_3^{2-} , SO_3^{2-}	BaCl ₂
(b) CO ₃ ²⁻ , HCO ₃ ⁻	CaCl ₂
(c) SO_3^{2-} , SO_4^{2-}	(CH ₃ COO) ₂ Pb
(d) Cl ⁻ , Br ⁻	AgNO 3

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48. Which of the following compound does not produce green coloured

product on thermal decomposition?

A. $K_2 Cr_2 O_7$

B. $KMnO_4$

$$\mathsf{C}.\left(NH_4\right)_2 Cr_2 O_7$$

D. NH_4NO_3

Answer: D

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49. Aqueous solution of $FeSO_4$ does not produce precipitate with:

A. NaOH

B. NH_3 solution

 $C.Na_2CO_3$

D. None of these

Answer: D

50. Comproportionationn occurs between:

A.
$$Cl^{-}(aq.) + ClO^{-}(aq.) + OH^{-}(aq.)$$

B. $PH_3(g) + H_3PO_4$ acid

 $C. Na_2S(aq.) + Na_2SO_3(aq.)$

D. $MnO_{4}^{-}(aq.) + Mn^{2+}(aq.) + ZnSO_{4}(aq.)$

Answer: D

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51. Colour of
$$CrO_4^{2-}$$
 (aq.) is not changed by

A. dil. HCl

B. NH_3 solution

C. CH₃COOH

D. NO₂ gas

Answer: B

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$$52. Mg_3N_2(s) + H_2O \rightarrow P \downarrow + Q \uparrow$$

Excess 'Q' gas does not form coloured complex with:

A. $Ni^{2+}(aq.)$ B. $Zn^{2+}(aq.)$ C. $Cr^{3+}(aq.)$ D. $Cu^{2+}(aq.)$

Answer: B

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53. Which of the following pair of cations cann be separated by excess NaOH solution?

A.
$$Fe^{3+}(aq.) + Zn^{3+}(aq.)$$

B. $Mn^{2+}(aq.), Cd^{2+}(aq.)$
C. $Mg^{2+}(aq.), Hg^{2+}(aq.)$
D. $Al^{3+}(aq.), Cr^{3+}(aq.)$

Answer: A

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54. Consider following reaction:

$$\begin{array}{ccc} R.T.\\ Cl_2(g)+H_2O & \rightarrow & P+Q \end{array}$$

If molecular weight of P is less than Q then incorrect statement is:

A. On warming 'P' can form deep red coloured vapours with CrO_3

B. Q' exhibits bleaching property

C. MnO_2 can change 'P' into Cl_2 gas on warming

D. P' reacts with H_2S gas while 'Q' does not

Answer: D

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55. Which of the following reagent can dissolves precipitate of $HgS \downarrow$

A. NH₃ solution

B. conc. HCl

C. conc. HNO₃

D. Na₂S solution

Answer: D

56. Which of the following reaction is incorrect?

A.
$$PCl_3 + 3H_2O \rightarrow H_3PO_3 + 3HCl$$

B. $NCl_3 + 3H_2O \rightarrow NH_3 + 3HOCl$
C. $SbCl_3 + 3H_2O \rightarrow H_2SbO_3 + 3HCl$
D. $BiCl_3 + H_2O \rightarrow BiOCl + 2HCl$

Answer: C

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57. Concentrated sodium hydroxiide can separate a mixture of:

A.
$$Al^{3+}$$
 and Cr^{3+}
B. Cr^{3+} and Fe^{3+}
C. Al^{3+} and Zn^{2+}
D. Zn^{2+} and Pb^{2+}

Answer: B



58. Select correct set of species which can't react with water burt react

with NaOH,

(i) *NO*₂

(ii) *P*₄

(iii) Al

(iv) I_2

A. Only (iv)

B. (iii) and (iv)

C. (ii), (iii) and (iv)

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

Answer: C

59. Fe(Finely powdered)++HCl(dil.) $\rightarrow P + Q \uparrow$

Compound 'P' does not precipitate with:

A.
$$AgNO_3$$

B. $K_3 [Fe(CN)_6]$
C. $(NH_4)_2 S$
D. $NH_4 Cl + NH_4 OH$

Answer: D

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60. Which combination gives maximum number of products?

A. P_4 + $SOCl_2$

 $\mathbf{B.} P_4 + SO_2Cl_2$

 $\mathsf{C}.XeF_4 + H_2O$

D. $NH_4NO_3 + Zn +$ Excess Excess NaOH

Answer: C



61. $Cu^{2+}(aq.)$ does not undergo redox reaction with solution:

A. $\left(NH_4\right)_2 S$

B. $Na_2S_2O_3$

C. KI

D. NH_4SCN

Answer: A

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62. Hydrolysis of which of the following compound liberates acidic gas?

A. Li_2NH

 $B.Al_2S_3$

C. *CaC*₂

D. CaNCN

Answer: B

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63. The non-metal which does not react with water but reacts with alkali?

A. Boron

B. Bromine

C. *P*₄

D. Fluorine

Answer: C

64. A very dilute acidic solution of $Cd^{2+} \& Ni^{2+}$ gives only yelliwo ppt. of CdS on passing H_2S , this is due to:

A. solubility product (K_{sp}) of CdS is more than that of NiS.

B. Solubility product (K_{sp}) of CdS is less than that of NiS.

C. Cd^{2+} belong to II B group while Ni^{2+} belongs to IVth group

D. CdS is insoluble in yellow ammonium sulphide (YAS).

Answer: B

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65. Thermal decomposition of which of the salt listed below yield a basic and acidic oxides simultaneously?

A. NH_4ClO_4

B. CaCO₃

 $C. NanO_3$

D. NH_4NO_2

Answer: B

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66. What are formed products, when aqueous solution of $CuCl_2$ and $\left(NH_4\right)_2$ S are mixed?

A. CuS(aq.) and $NH_4Cl(s)$

B. CuS(s) and $NH_4Cl(aq.)$

C. CuS(aq.) and $NH_4Cl(g)$

D. CuS(s) and $NH_4Cl(s)$

Answer: B

67. Which of the following compound does not react with cold and dil. *HNO*₃?

A. PbO

 $B.PbO_2$

 $C. FeSO_4$

D. $PbCl_2$

Answer: B

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68. The incorrect order of solubility in water is:

A. $Ca(OH)_2 < Sr(OH)_2 < Ba(OH)_2$

B.
$$Li_2CO_3 < Na_2CO_3 < K_2CO_3$$

$$C. CsNO_3 < RbNO_3 < KNO_3$$

 ${\sf D}.\,{\it BeS}_2{\cal O}_3 < {\it MgS}_2{\cal O}_3 < {\it CaS}_2{\cal O}_3$

Answer: D



69. The correct order of increasing solubility in water is:

A. KF < NaF < LiF

B. NaHCO₃ < KHCO₃ < RbHCO₃

 $\mathsf{C}.\,K_2CO_3 < Na_2CO_3 < Li_2CO_3$

 $D.LiNO_3 < NaNO_3 < KNO_3$

Answer: B



70. Bromine is commercially prepared from sea water by displacement reaction

 $Cl_2 + 2Br^{-}(aq.) \rightarrow 2Cl^{-}(aq.) + Br_2$

 Br_2 gas thus formed is dissolved into solution of Na_2CO_3 and then pure Br_2 iis obtained by treatment of the solution with :

A. Ca(OH)₂

B. NaOH

 $C.H_2SO_4$

D. HI

Answer: C

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71. Which of the following metal on burning in moist air does not give smell of ammonia?

A. Mg

B. Ca

C. K

Answer: C



72. Gas that can not be collected over water is:

A. N_2

- **B**. *O*₂
- $C.SO_2$

 $D.PH_3$

Answer: C

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73. Compound having lowest thermal stability is:

A. NaHCO₃

B. KHCO₃

C. RbHCO₃

D. CsHCO₃

Answer: A

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74. Which of the following statement is incorrect regarding Fe^{2+} and Fe^{3+} cations?

A. Fe^{3+} gives brown colour solution with potassium ferricyanide

B. Fe^{2+} gives blue precipitate with potassium ferricyanide

C. Fe^{3+} gives red colour solution with potassium thiocyanate

D. Fe^{2+} gives brown colour with ammonium thiocyanate

Answer: D

75. $(NH_4)_2 Cr_2 O_7$ on heating liberates a gas. The same gas will be obtained by

A. Heating NH₄NO₂

B. Heating NH_4NO_3

C. Heating $\left(NH_4\right)_2 SO_4$

D. Treatment Mg_3N_2 with H_2O

Answer: A

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76. Which of the following compound liberates acidic gas during its hydrolysis?

A. Ca_3P_2

B.AlN

 $C.Al_2S_3$

D. CaH_2

Answer: C

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77. Which of the following combination does not evolve Cl_2 gas?

A. $HCl(aq.) + KMnO_4$

B. $HCl + MnO_2$

 $C. HCl + Br_2$

D. $HCl + F_2$

Answer: C

78. NH_3 gas does not liberate by which of the following combination?

A. Heating of NH_4ClO_4

B. Heating of NH₄Cl

$$C. \left(NH_4 \right)_2 CO_3 + NaOH$$

D. $Li_3N + H_2O$

Answer: A

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79. If salt Q undergoes redox reaction with H_2S in acidic medium then which of the following species can not be possible product?

A. $MnO_4^{2-}(aq.)$

В.*S*

 $C. MnO_2$

D. both (a) and (c)

Answer: D



Heat
$$Cr_2O_7^{2^-}/H^+$$

80. Metal sulphate $(A) \rightarrow \text{oxide}(B) + gas(C) + gas(D) \rightarrow \text{Green}$
 Na_2O_2
solution $\rightarrow ExcessEyellow solution$

Compound A, B, C, D are E are respectively:

A.
$$FeSO_4$$
, Fe_2O_3 , SO_3 , SO_2 , Na_2CrO_4
B. $Al_2(So_4)_3$, Al_2O_3 , SO_3 , SO_2 , Na_2CrO_4
C. $CuSO_4$, CuO , SO_3 , SO_2 , $NaCrO_4$
D. $ZnSO_4$, ZnO_2 , SO_3 , SO_2 , Na_2CrO_4

Answer: A

81. Which of the following radical does not liberate gas with (Zn+dil. HCl) on warming?

A. S²⁻ B. SO₃²⁻ C. NO₃²⁻

D. CH₃COO⁻

Answer: C

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82. Which of the following cation does not give precipitate with H_2S in neutral medium?

A. Fe^{3+}

B. *Cu*²⁺

C. *Bi*³⁺

D. *Ag* ⁺

Answer: A



83. $NaCl(solid) + K_2Cr_2O_7(solid) + conc. H_2SO_4 \rightarrow \text{Reddish brown fumes}$

of 'X'.

The oxidation state of central atom in compound 'X' is:

A. +6 B. +3 C. +2

D. zero

Answer: A

84. Diamagnetic gas neutral towards water is:

A. N₂O

 $B.NO_2$

C. NO

D. N_2O_3

Answer: A

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85. Which of the following reagent can be used to separate *AgCl* and AgI?

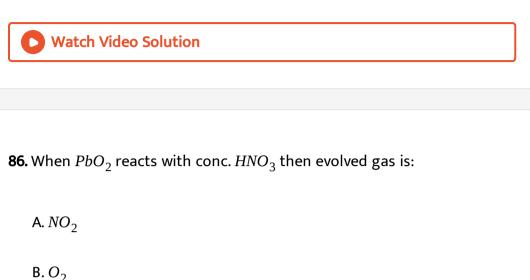
A. dil. HNO₃

B. NH_4OH solution

C. KCN solution

D. $Na_2S_2O_3$ solution

Answer: B



 $C.N_2$

 $D.N_2O$

Answer: B



87. In a closed container there is a mixture of SO_2 , CO_2 and O_2 gas, which

sequence of reagent can be helpful to separate them ?

(I) Limewater

(II) Acidified potassium dichromate

(III) Alkaline pyragallol.

A. (I),(II) and (III)

B. (II), (I), (III)

C. (III),(II), (I)

D. (III), (I), (II)

Answer: B

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88. Which salt is colourless?

A. $KMnO_4$

B. $BaSO_4$

C. $Na2CrO_4$

D. CoCl₂

Answer: B



89. Which of the following Xenon compound does not produce explosive

XeO₃ on its complete hydrolysis?

A. XeO_2F_2

B. XeF_2

 $C.XeF_4$

D. XeF_6

Answer: B



90. $FeSO_4.7H_2O$ (Green vitriol) salt on thermal decomposition does not

produce:

A. SO_2

B. *O*₂

C. *SO*₃

D. H_2O vapour

Answer: B

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BaCl₂
91.
$$X(aq) + Na_2O_2 \rightarrow Y(aq.) \rightarrow Z \downarrow$$
 Insoluble in dil. HCl

X and Y are different sodium salts, then anion present in the salt (X) is:

A. $Cr_2O_7^{2-}$ B. $C_2O_4^{2-}$ C. SO_3^{2-} D. SO_4^{2-}

Answer: C

92. Which of the following chloride does not react with *PCl*₅ on heating?

A. Hg_2Cl_2

B. FeCl₂

 $C.S_2Cl_2$

D. BCl₃

Answer: D

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93.

Air KOH $P(\text{soln.})(\text{Coloured}) \rightarrow Q(\text{soln.})(\text{Coloured}) \rightarrow R \downarrow (ppt.)$ (Insoluble in both excess NaOH a

then P contains:

A. $Cu^{2+}(aq.)$

Answer: B

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$$94. X_2 S_n + water \rightarrow X(OH)_n \checkmark Pb (CH_3 COO)_2 \\ + Y \uparrow (Gas) \rightarrow Z \downarrow (Black ppt.)$$

Then (X) cation can not be:

A. Fe^{3+}

в.*Аl*³⁺

C. *Cr*³⁺ D. *Mg*²⁺

Answer: A



95. $X(\text{satl}) + AgNO_3(aq.) \rightarrow Y \downarrow (\text{yellow ppt.})$ (soluble in excess of NH_3 solution)

Salt X, does not contain:

A. *PO*₄³⁻

B.*Br*⁻

C. *I*⁻

 $D.AsO_3^{3}$

Answer: C

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Excess **96.** $M^{n+}(aq.) + KI \rightarrow X \downarrow ppt. \rightarrow KI$ ppt. remains insoluble in excess KI

solution. Then cation $M^{n+}(aq.)$ can be:

A.
$$Pb^{2+}(aq.)$$

B. $Cu^{2+}(aq.)$
C. $Bi^{3+}(aq.)$
D. $Hg^{2+}(aq.)$

Answer: B



97. Aqueous solution of which of the following cation gives precipitate with potash alum?

A. $Cu^{2+}(aq.)$ B. $Zn^{2+}(aq.)$ C. $Ba^{2+}(aq.)$ D. $Ni^{2+}(aq.)$

Answer: C

98. Colour of acidified $K_2Cr_2O_7$ is not changed by:

A. H_2O_2

 $\mathsf{B.}\,Sn^{2\,+}(aq.\,)$

C. HF

D. HBr

Answer: C

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99. Which of the following metal nitrate produces gaseous product when

reacts with KCN solution?

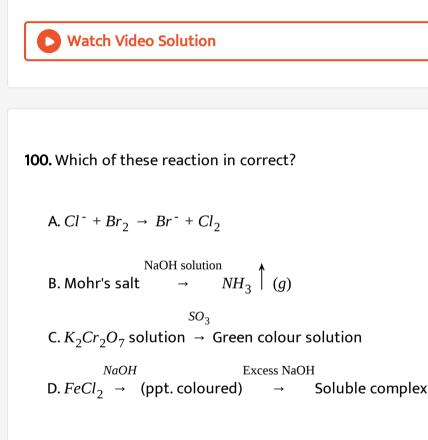
A.
$$Cu(NO_3)_2$$

B. AgNO₃

C.
$$Cd(NO_3)_2$$

D. $Pb(NO_3)_2$

Answer: A



Answer: B

101. Compound which on heating produces paramagnetic acidic gas?

A. $Mg(NO_3)_2$ B. $Fe_2(SO_4)_3$ C. $FeCO_3$

D. HgC_2O_4

Answer: A

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102. Which compound on heating produces produces coloured metal oxide finally?

A. $Al_2(SO_4)_3$

B. $HgCO_33Hg(OH)_2$

 $C. Cu(NO_3)_2$

D. $Ba(OH)_2$

Answer: C



103. $P(\text{Coloured solution}) + BaCl_2 \rightarrow Q \downarrow (\text{White}) + R(\text{Coloured solution})$ **ItBrgt**

Then salt 'P' in above reaction is:

A. Na_2CrO_4

- B. ZnSO₄
- C. $CuSO_4$

D. AgNO₃

Answer: C



104. Oxygen gas is not produced from the following decomposition

reaction:

A.
$$K_2Cr_2O_7 \xrightarrow{\Delta}$$

B. $Ag_2C_2O_4 \xrightarrow{\Delta}$
C. $Pb(NO_3)_2 \xrightarrow{\Delta}$
D. $Ag_2CO_3 \xrightarrow{\Delta}$

Answer: B

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105. Consider the following reaction and select incorrect statement about gas (P):

$$Zn + HNO_3$$
(Dilute) $\rightarrow Zn(NO_3)_2 + P$

A. Gives neutral solution in water

B. Contains more O_2 than Air

C. Forms brownn ring with FeSO₄ solution

D. None of these

Answer: C



106. Which of the following ionic/molecular species does not disproportionate in water at room temperature?

A. NO_2

- B. *Cu* ⁺
- $C. MnO_4^{2}$
- D. Ca(OCl)Cl

Answer: D



107. Which halogen oxidizes water at room temperature but does not

undergo disproportionation into it?

A. *F*₂

B. Cl_2

 $C.Br_2$

D. *I*₂

Answer: A

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108. Which of the following combination doen's evolve Cl_2 gas?

A. $HCl(aq.) + KMnO_4$

B. $HCl + MnO_2$

 $C.HCl + I_2$

D. $HCl + F_2$

Answer: C

109. Which of the following combination does not liberated NH_3 gas?

A. Heating of NH_4ClO_4

B. Heating of NH₄Cl

$$\mathsf{C}.\left(\mathsf{NH}_{4}\right)_{2}CO_{30+NaOH}$$

D. $Li_3N + H_2O$

Answer: A

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110. Which of the following compound on heating does not produce metal oxide?

A. $MgCl_2 \cdot 6H_2O$

 $\mathsf{B.}\,K_2Cr_2O_7$

 $C.K_2CO_3$

D.
$$Cu(NO_3)_2$$

Answer: C



111. Select the compound in which HCl is not the product of Hydrolysis:

A. NCl₃

B. PCl₃

C. AsCl₃

D. BiCl₃

Answer: A

112. How many moles of H_2O are liberated when one mole hydrated $MgCl_2$ is heated?

A. 6

B. 5

C. 4

D. 3

Answer: B

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113. Consider the following sequence of reaction:

$$M_{4}^{2}(s) + (NH_{4})_{2}^{CO_{3}}sol. \qquad CH_{3}COOH$$

$$M^{2}(aq.) \rightarrow Q \qquad \forall \qquad \rightarrow \qquad Followed by addition of (NH_{4})_{2}C_{2}O_{4}$$

Which of the following cation can form ppt. Q but does not form ppt. 'R' ?

A. $Mg^{2+}(aq.)$

Answer: D

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114. Which of the following compound does not liberated oxygen gas on

warming with conc. H_2SO_4 ?

A. SO_3

 $B.PbO_2$

 $C. MnO_2$

D. CrO₅

Answer: A

115. One of the hydrolysed product of the following compound does not react with silica of glass vessel:

A. *BF*₃

B. ClF_5

 $C.XeF_2$

 $D.SF_4$

Answer: A

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116. $M(\text{Salt}) + \text{Dil.} HCl \rightarrow P + Q \uparrow H_2O$

gas 'Q' changes colour of $FeSO_4$ solution into yellow solution then salt M

in above reaction is

A. BaS_2O_3

 $B.Ag_2SO_3$

 $C.AgNO_2$

D.
$$Pb(NO_3)_2$$

Answer: C

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117.
$$Pb + Dil. HNO_3 \rightarrow P + Q \uparrow + H_2O$$

Incorrect statement for Q is:

A. Paramagnetic colourless gas

B. It is oxidized to paramagnetic coloured gas by air

C. It combines with $Fe_2(SO_4)_3$

D. It can be also obtained by disproportionation of $H\!NO_2$

Answer: C

118. In which of the following redox reaction precipitate is not formed?

A.
$$Cr^{3+}(aq.) + Na_2O_2(\text{Solution}) \rightarrow$$

B. $Fe^{3+}(aq.) + (NH_4)_2S \rightarrow$
C. $Mn^{2+}(aq.) + H_2O_2 + NH_3(\text{Solution}) \rightarrow$
D. $Fe^{2+}(aq.) + Na_2O_2(\text{solution}) \rightarrow$

Answer: A



119. Which metal sulphide is soluble in excess NH_3 solution?

A. ZnS

B. MnS

C. FeS

D. Cr_2S_3

Answer: D



$$H^{+}$$
120. $I^{-}(aq.) + MnO_{4}^{-}(aq.) \rightarrow X + Mn^{2+}(aq.)$
Neutral or
$$I^{-}(aq.) + MnO_{4}^{-}(aq.) \rightarrow \text{weakly } OH^{-}Y + MnO_{2}$$

$$ZnSO_{4}$$

$$MnO_{4}^{-}(aq.) + Mn^{2+}(aq.) \rightarrow Z + 4H^{+}$$

Product X, Y and Z are respectively.

A. I₂, IO₃⁻, MnO₂ B. IO₃⁻, I₂, MnO₂

 $C. I_2, IO_3^-, MnO_4^{2-}$

D. IO_3^- , I_2 , MnO_4^{2-}

Answer: A

$$R.T.$$
121. $Br_2 + NaOH \rightarrow Y + Z$

If Y gives precipitate with AgNO₃, then Z does not undergo reaction with:

A.
$$Cr^{3+}(aq.)$$

B. $Fe^{2+}(aq.)$
C. $Al^{3+}(aq.)$
D. $Sn^{2+}(aq.)$

Answer: C

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122. $(P) \rightarrow (Q)$ Metallic solid $+(R) \uparrow +(S) \uparrow$ $(X) \rightarrow (Y)$ amphoteric $+(R) \uparrow +(S) \uparrow$ P& X are respectively:

A. AgNO₃, LiNO₃

B.
$$AgNO_3$$
, $Pb(NO_3)_2$
C. $Hg_2(NO_3)_2$, $Ca(NO_3)_2$
D. $NaNO_3$, $Zn(NO_3)_2$

Answer: B

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123. Iodine is not oxidized to iodic acid/iodicanhydride by:

A. conc. HNO₃

B. conc. H_2SO_4

C. Excess Cl₂ water

D. conc. H_3PO_4

Answer: D

124. Colourless gas that has oxidising as well as reducing properties:

A. *CO*₂ B. *SO*₂

 $C.NO_2$

 $D.SO_3$

Answer: B

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125. $Pb + Dil. HNO_3 \rightarrow P + Q \uparrow + H_2O$

Incorrect statement for Q is:

A. Paramagnetic colourless gas

B. It is oxidized to paramagnetic coloured gas by air

C. It combines with $Fe_2(SO_4)_3$

D. It is also obtained by disproportionation of HNO_2

Answer: C

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126. Which reaction has positive value of ΔG °?

$$R.T.$$

$$A. F_{2} + H_{2}O \rightarrow 2HF + \frac{1}{2}O_{2} \uparrow$$

$$R.T.$$

$$B. Cl_{2} + H_{2}O \rightarrow HCl + HOCl$$

$$R.T.$$

$$C. Br_{2} + H_{2}O \rightarrow HBr + HOBr$$

$$R.T.$$

$$D. I_{2} + H_{2}O \rightarrow HI + HOI$$

Answer: D

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127. Which does not undergo comproportionation reaction?

 $\mathsf{A.}\,H_2S+SO_2 \ \rightarrow$

B.
$$I^{-}(aq.) + IO_{3}^{-}(aq.) + H^{+}(aq.) \rightarrow$$

$$C.K_2MnO_4 + H^+(aq.) =$$

D.
$$MnO_4^- + Mn^{2+}(aq.) \rightarrow$$

Answer: C

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128. Select the incorrect match:

A.
$$Fe^{3^+} + [Fe(CN)_6]^{4^-} \rightarrow \text{Blue colour ppt.}$$

B. $Fe^{3^+} [Fe(CN)_6]^{3^-} \rightarrow \text{Red brown colouration}$
C. $Fe^{2^+} + [Fe(CN)_6]^{3^-} \rightarrow \text{Blue colour ppt.}$
D. $Fe^{2^+} + [Fe(CN)_6]^{4^-} \rightarrow \text{Red brown colouration}$

Answer: D

129.
$$Cu^{2+}(aq.) + X^{-}(aq.) \rightarrow CuX \downarrow + X_{2}$$

'X' cannot be:

A. $Cl^{-}(aq.)$

B. *I*[−](*aq*.)

C. *CN*[−](*aq*.)

D. *SCN*⁻(*aq*.)

Answer: A

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130. In which of the following reaction SO_2 gas is not produced?

A.
$$S_8 + conc.$$
 $H_2SO_4 \rightarrow$
B. $S_8 + conc.$ $HNO_3 \rightarrow$

$$\begin{array}{c} \Delta \\ \text{C. } PbS + O_2 \xrightarrow{\Delta} \\ D. FeS_2 + O_2 \xrightarrow{\Delta} \end{array}$$

Answer: B

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131. Which metal gives NH_4NO_3 , when react with dilute HNO_3 acid?

A. Zn

B.Pb

С. Си

D. Au

Answer: A

132. Select the salt whose aqueous solution is not green:

A. $FeSO_4$

B. CrCl₃

C. NiCl₂

D. $MnCl_2$

Answer: D

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133. Select the ion exchange reaction, which proceeds to forward direction in aqueous medium:

Aqueous
A.
$$2AgCl + CaF_2 \rightarrow 2AgF + CaCl_2$$

Aqueous B. $BaSO_4 + 2NaOH \rightarrow Ba(OH)_2 + Na_2SO_4$

Aqueous $C. Pb(NO_3)_2 + 2CH_3COONa \rightarrow Pb(OAc)_2 + 2NaNO_3$ $\begin{array}{rcl} & & & & & \\ \text{Aqueous} \\ \text{D. } Na_2CrO_4 + BaCl_2 & \rightarrow & BaCrO_4 + 2NaCl \end{array}$

Answer: D



134. Which of the following metal hydroxide is not soluble in exces of NH_3

solution?

A. $Fe(OH)_2$

B. Ni(OH)₂

 $C. Cd(OH)_2$

D. $Cu(OH)_2$

Answer: A

135. Which of the following combination of reagents does not undergo redox reaction in aqueous medium?

A. $SnCl_2 + HgCl_2$ B. $CuSO_4 + KCN$ C. $Pb(CH_3COO)_2 + KI$ D. $Ag_2O + SO_2$

Answer: C

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136.
$$K_4[Fe(CN)_6] + M^{x+}(aq.) \rightarrow M_4[Fe(CN)_6]_x \downarrow$$
 Coloured precipitate
Which of the following cation does not respond to the above reaction?

 $\mathsf{A.}\, Cu^{2+}(aq.\,)$

B. $Fe^{3+}(aq.)$

C. $Zn^{2+}(aq.)$

D. None of these

Answer: C

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137. Sodium salt solution $+AgNO_3$ soln. \rightarrow Coloured precipitate.

If coloured precipitate is soluble in both dil. HNO_3 and excess conc. NH_3 solution then which of the following anion is present in the salt solution?

A. S²⁻(aq.) B. I⁻(aq.) C. PO₄³⁻(aq.)

D. $Br^{-}(aq.)$

Answer: C

138. Chlorine gas is not produced by heating:

A. SOCl₂

B. $PbCl_4$

 $C.FeCl_3$

D. Hg_2Cl_2

Answer: D

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139. Which of the following anion does not produue prepitate with $BaCl_2$ solution however gives precipitate with $AgNO_3$?

A.
$$CO_3^{2-}(aq.)$$

B. $C_2O_4^{2-}(aq.)$
C. $MnO_4^{-}(aq.)$
D. $S^{2-}(aq.)$

Answer: D Watch Video Solution 140. Which of the following compound is completely water soluble? A. $BaSO_A$ B. $Ba(OH)_{2}$ $C.Al(OH)_3$ D. CaF_2 Answer: B

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141. Which chemical reaction contains incorrect products?

A.
$$SnSO_4 \xrightarrow{\Delta} SnO_2 + SO_3 \uparrow + SO_2 \uparrow$$

B.
$$Ag_2C_2O_4 \xrightarrow{\Delta} Ag + CO_2 \uparrow$$

C. $P_4O_{10}(s) + CaO(s) \xrightarrow{\Delta} Ca_3(PO_4)_2$
D. $PbCl_4 \xrightarrow{\Delta} PbCl_2 + Cl_2 \uparrow$

Answer: A



142. Which of the following compound undergoes disproportionation in presence of SO_3 gas?

A. $K_2 MnO_4$

B. K_2CrO_4

C. *I*₂

 $D.Mg(NO_3)_2$

Answer: A

143. Consider the following reaction:

 $\begin{array}{c} K_4 \Big[Fe(CN)_6 \Big] \\ X(aq.) \rightarrow & \text{Chocolate brown ppt.} \end{array}$

AgNO₃

 $X(aq.) \rightarrow$ White ppt. (insoluble in dil. HNO_3)

Then 'X' will be:

A. $ZnSO_4$

B. $CuCl_2$

 $C. FeSO_4$

D. FeCl₃

Answer: B



144. Which of the following reagent does not oxidize HCl?

A. PbO_2

B. conc. H_2SO_4

 $C. MnO_2$

D. $K_2 Cr_2 O_7 / H^-$

Answer: B

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145. Select correct match:

 Anions
 Separated by reagent

 (a) CO_3^{2-} , SO_3^{2-} $BaCl_2$

 (b) CO_3^{2-} , HCO_3^{-} $CaCl_2$

 (c) SO_3^{2-} , SO_4^{2-} $(CH_3COO)_2Pb$

 (d) Cl^- , Br^- AgNO_3

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146. Which of the following compound does not produce green coloured

product on thermal decomposition?

A. $K_2 Cr_2 O_7$

B. $KMnO_4$

$$\mathsf{C}.\left(NH_4\right)_2 Cr_2 O_7$$

 $D.NH_4NO_3$

Answer: D

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147. Aqueous solution of *FeSO*₄ does not produce precipitate with:

A. NaOH

B. NH_3 solution

 $C.Na_2CO_3$

D. None of these

Answer: D



148. Comproportionationn occurs between:

A. $Cl^{-}(aq.) + ClO^{-}(aq.) + OH^{-}(aq.)$

B. $PH_3(g) + H_3PO_4$ acid

 $C. Na_2S(aq.) + Na_2SO_3(aq.)$

D.
$$MNO_4^{2^-}(aq.) + Mn^{2^+}(aq.) + ZnSO_4(aq.)$$

Answer: D

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149. Colour of CrO_4^{2-} (aq.) is not changed by

A. dil. HCl

B. NH_3 solution

C. CH₃COOH

 $D.NO_2$ gas

Answer: B

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$$150. Mg_3N_2(s) + H_2O \xrightarrow{R.T.} P \downarrow + Q \uparrow$$

Excess 'Q' gas does not form coloured complex with:

A.
$$Ni^{2+}(aq.)$$

B. $Zn^{2+}(aq.)$
C. $Cr^{3+}(aq.)$
D. $Cu^{2+}(aq.)$

Answer: B

151. Which of the following pair of cations cann be separated by excess NaOH solution?

A.
$$Fe^{3+}(aq.) + Zn^{2+}(aq.)$$

B. $Mn^{2+}(aq.), Cd^{2+}(aq.)$
C. $Mg^{2+}(aq.), Mg^{2+}(aq.)$
D. $Al^{3+}(aq.), Cr^{3+}(aq.)$

Answer: A

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152. Consider following reaction:

$$\begin{array}{ccc} R.T.\\ Cl_2(g)+H_2O & \rightarrow & P+Q \end{array}$$

If molecular weight of P is less than Q then incorrect statement is:

A. On warming 'P' can form deep red coloured vapours with CrO_3

- B. Q' exhibits bleaching property
- C. MnO_2 can change P into Cl_2 gas on warming
- D. P' reacts with H_2S gas while 'Q' does not

Answer: D

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153. Which of the following reagent can dissolves precipitate of $HgS\downarrow$

A. NH₃ solution

B. conc. HCl

C. conc. HNO₃

D. Na₂S solution

Answer: D

154. Which of the following reaction is incorrect?

$$A. PCl_3 + 3H_2O \rightarrow H_3PO_3 + 3HCl$$

 $B. NCl_3 + 3H_2O \rightarrow NH_3 + 3HOCl$

$$\mathsf{C.} SbCl_3 + 3H_2O \rightarrow H_2SbO_3 + 3HCl$$

 $D. BiCl_3 + H_2O \rightarrow BiOCl + 2HCl$

Answer: C

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155. Concentrated sodium hydroxiide can separate a mixture of:

A.
$$Al^{3+}$$
 and Cr^{3+}

B. Cr^{3+} and Fe^{3+}

 $C.Al^{3+}$ and Zn^{2+}

D.
$$Zn^{2+}$$
 and Pb^{2+}

Answer: B



156. Select correct set of species which can't react with water but react

with NaOH,

(i) *NO*₂

(ii) *P*₄

(iii) Al

(iv) I_2

A. Only (iv)

B. (iii) and (iv)

C. (ii), (iii) and (iv)

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

Answer: C

157. Fe(Finely powdered)++HCl(dil.) $\rightarrow P + Q \uparrow$

Compound 'P' does not precipitate with:

A.
$$AgnO_3$$

B. $K_3 [Fe(CN)_6]$
C. $(NH_4)_2 S$
D. $NH_4 Cl + NH_4 OH$

Answer: D

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158. Which combination gives maximum number of products?

A. P_4 + $SOCl_2$

 $\mathbf{B.} P_4 + SO_2Cl_2$

 $\mathsf{C}.XeF_4 + H_2O$

D. $NH_4NO_3 + Zn +$ Excess Excess NaOH

Answer: C



159. $Cu^{2+}(aq.)$ does not undergo redox reaction with solution:

A. $\left(NH_4\right)_2 S$

B. $Na_2S_2O_3$

C. KI

D. NH₄SCN

Answer: A

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160. Hydrolysis of which of the following compound liberates acidic gas?

A. Li_2NH

 $B.Al_2S_3$

C. *CaC*₂

D. CaNCN

Answer: B

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161. The non-metal which does not react with water but reacts with alkali?

A. Boron

B. Bromine

 $C.P_4$

D. Fluorine

Answer: C

162. A very dilute acidic solution of $Cd^{2+} \& Ni^{2+}$ gives only yelllwo ppt. of CdS on passing H_2S , this is due to:

A. solubility product (K_{sp}) of CdS is more than that of NiS.

B. Solubility product (K_{sp}) of CdS is less than that of NiS.

C. Cd^{2+} belong to II B group while Ni^{2+} belongs to IVth group

D. CdS is insoluble in yellow ammonium sulphide (YAS).

Answer: B

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163. Thermal decomposition of which of the salt listed below yield a basic and acidic oxides simultaneously?

A. NH_4ClO_4

B. CaCO₃

 $C. NanO_3$

D. NH_4NO_2

Answer: B

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164. What are formed products, when aqueous solution of $CuCl_2$ and $\left(NH_4\right)_2$ S are mixed?

A. CuS(aq.) and $NH_4Cl(s)$

B. CuS(s) and $NH_4Cl(aq.)$

C. CuS(aq.) and $NH_4Cl(g)$

D. CuS(s) and $NH_4Cl(s)$

Answer: B

165. Which of the following compound does not react with cold and dil. *HNO*₃?

A. PbO

B. PbO_2

 $C. FeSO_4$

D. PbCl₂

Answer: B

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166. The incorrect order of solubility in water is:

- A. $Ca(OH)_2 < Sr(OH)_2 < Ba(OH)_2$
- $\mathsf{B}.\,Li_2CO_3 < Na_2CO_3 < K_2CO_3$
- $C. CsNO_3 < RbNO_3 < KNO_3$
- D. $BeS_2O_3 < MgS_2O_3 < CaS_2O_3$

Answer: D



167. The correct order of increasing solubility in water is:

A. KF < NaF < LiF

B. NaHCO₃ < KHCO₃ < RbHCO₃

 $\mathsf{C}.\,K_2CO_3 < Na_2CO_3 < Li_2CO_3$

 $D. LiNO_3 < NaNO_3 < KNO_3$

Answer: B



168. Bromine is commercially prepared from sea water by displacement reaction

 $Cl_2 + 2Br^{-}(aq.) \rightarrow 2Cl^{-}(aq.) + Br_2$

 Br_2 gas thus formed is dissolved into solution of Na_2CO_3 and then pure Br_2 iis obtained by treatment of the solution with :

A. Ca(OH)₂

B. NaOH

 $C.H_2SO_4$

D. HI

Answer: C

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169. Which of the following metal on burning in moist air does not give smell of ammonia?

A. Mg

B. Ca

C. K

Answer: C



170. Gas that can not be collected over water is:

A. *N*₂

B. *O*₂

 $C.SO_2$

 $D.PH_3$

Answer: C

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171. Compound having lowest thermal stability is:

A. NaHCO₃

B. KHCO₃

C. RbHCO₃

D. CsHCO₃

Answer: A

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172. Which of the following statement is incorrect regarding Fe^{2+} and Fe^{3+} cations?

A. Fe^{3+} gives brown colour solution with potassium ferricyanide

B. Fe^{2+} gives blue precipitate with potassium ferricyanide

C. Fe^{3+} gives red colour solution with potassium thiocyanate

D. Fe^{2+} gives brown colour with ammonium thiocyanate

Answer: D

173. $(NH_4)_2 Cr_2 O_7$ on heating liberates a gas. The same gas will be obtained by

A. Heating NH₄NO₂

B. Heating NH_4NO_3

C. Heating $\left(NH_4\right)_2 SO_4$

D. Treatment Mg_3N_2 with H_2O

Answer: A

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174. Which of the following compound liberates acidic gas during its hydrolysis?

A. Ca_3P_2

B.AlN

 $C.Al_2S_3$

D. CaH_2

Answer: C

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175. Which of the following combination does not evolve Cl_2 gas?

A. $HCl(aq.) + KMnO_4$

B. $HCl + MnO_2$

 $C. HCl + Br_2$

D. $HCl + F_2$

Answer: C

176. NH_3 gas does not liberate by which of the following combination?

A. Heating of NH₄ClO₄

B. Heating of NH₄Cl

$$C. \left(NH_4 \right)_2 CO_3 + NaOH$$

D. $Li_3N + H_2O$

Answer: A

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177. If salt Q undergoes redox reaction with H_2S in acidic medium then

which of the following species can not be possible product?

A. $MnO_4^{2-}(aq.)$

В.*S*

 $C. MnO_2$

D. both (a) and (c)

Answer: D



Heat
$$Cr_2O_7^{2^-}/H^+$$

178. Metal sulphate $(A) \rightarrow \text{oxide}(B) + gas(C) + gas(D) \rightarrow \text{Green}$
 Na_2O_2
solution $\rightarrow ExcessEyellow solution$

Compound A, B, C, D are E are respectively:

A.
$$FeSO_4$$
, Fe_2O_3 , SO_3 , SO_2 , Na_2CrO_4
B. $Al_2(So_4)_3$, Al_2O_3 , SO_3 , SO_2 , Na_2CrO_4
C. $CuSO_4$, CuO , SO_3 , SO_2 , $NaCrO_4$
D. $ZnSO_4$, ZnO_2 , SO_3 , SO_2 , Na_2CrO_4

Answer: A

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179. Which of the following radical does not liberate gas with (Zn+dil. HCl) on warming?

A. S²⁻ B. SO₃²⁻ C. NO₃²⁻

D. CH₃COO⁻

Answer: C

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180. Which of the following cation does not give precipitate with H_2S in neutral medium?

A. Fe^{3+}

B. *Cu*²⁺

C. *Bi*³⁺

D. *Ag* ⁺

Answer: A



181. $NaCl(solid) + K_2Cr_2O_7(solid) + conc. H_2SO_4 \rightarrow \text{Reddish brown fumes}$ of 'X'.

The oxidation state of central atom in compound 'X' is:

A. +6 B. +3 C. +2

D. zero

Answer: A

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182. Diamagnetic gas neutral towards water is:

A. N₂O

 $B.NO_2$

C. NO

D. N_2O_3

Answer: A

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183. Which of the following reagent can be used to separate AgCl and

Agl?

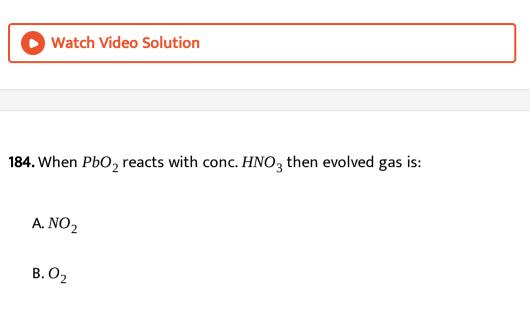
A. dil. HNO₃

B. NH_4OH solution

C. KCN solution

D. $Na_2S_2O_3$ solution

Answer: B



- C. N₂
- $D.N_2O$

Answer: B



185. In a closed container there is a mixture of SO_2 , CO_2 and O_2 gas, which sequence of reagent can be helpful to separate them ?

(I) Limewater

(II) Acidified potassium dichromate

(III) Alkaline pyragallol.

A. (I),(II) and (III)

B. (II), (I), (III)

C. (III),(II), (I)

D. (III), (I), (II)

Answer: B

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186. Which salt is colourless?

A. $KMnO_4$

B. $BaSO_4$

C. NaCrO₄

 $\mathsf{D.} \mathit{CoCl}_2$

Answer: B



187. Which of the following Xenon compound does not produce explosive

XeO₃ on its complete hydrolysis?

A. XeO_2F_2

B. XeF_2

 $C.XeF_4$

D. XeF_6

Answer: B

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188. $FeSO_4.7H_2O$ (Green vitriol) salt on thermal decomposition does not

produce:

A. SO_2

B. *O*₂

C. *SO*₃

D. H_2O vapour

Answer: B

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$$BaCl_{2}$$
189. $X(aq) + Na_{2}O_{2} \rightarrow Y(aq.) \rightarrow Z \downarrow$ Insoluble in dil. HCl

X and Y are different sodium salts, then anion present in the salt (X) is:

A. $Cr_2O_7^{2-}$ B. $C_2O_4^{2-}$ C. SO_3^{2-} D. SO_4^{2-}

Answer: C

190. Which of the following chloride does not react with *PCl*₅ on heating?

A. Hg_2Cl_2

B. FeCl₂

 $C.S_2Cl_2$

D. BCl₃

Answer: D

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191.

Air KOH $P(\text{soln.})(\text{Coloured}) \rightarrow Q(\text{soln.})(\text{Coloured}) \rightarrow R \downarrow (ppt.)$ (Insoluble in both excess NaOH a

then P contains:

A. $Cu^{2+}(aq.)$

Answer: B

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$$192. X_2 S_n + water \rightarrow X(OH)_n \checkmark + Y \uparrow (Gas) \rightarrow Z \downarrow (Black ppt.)$$

Then (X) cation can not be:

A. Fe^{3+} gives brown colour solution with potassium ferricyanide

- B. *Al*³⁺
- C. *Cr*³⁺ D. *Mg*²⁺

Answer: A



193. $X(\text{satl}) + AgNO_3(aq.) \rightarrow Y \downarrow (\text{yellow ppt.})$ (soluble in excess of NH_3 solution)

Salt X, does not contain:

A. *PO*₄³⁻

B.*Br*⁻

C. *I*⁻

 $D.AsO_3^{3}$

Answer: C

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Excess **194.** $M^{n+}(aq.) + KI \rightarrow X \downarrow ppt. \rightarrow KI$ ppt. remains insoluble in excess KI

solution. Then cation $M^{n+}(aq.)$ can be:

A.
$$Pb^{2+}(aq.)$$

B. $Cu^{2+}(aq.)$
C. $Bi^{3+}(aq.)$
D. $Hg^{2+}(aq.)$

Answer: B



195. Aqueous solution of which of the following cation gives precipitate with potash alum?

A. $Cu^{2+}(aq.)$ B. $Zn^{2+}(aq.)$ C. $Ba^{2+}(aq.)$ D. $Ni^{2+}(aq.)$

Answer: C

196. Colour of acidified $K_2Cr_2O_7$ is not changed by:

A. H_2O_2

B. $Sn^{2+}(aq.)$

C. HF

D. HBr

Answer: C

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LEVEL 3

$$P(aq.) \xrightarrow{Zn + dil. HCl} Q^{\uparrow} \xrightarrow{FeCl_{3}} R^{\downarrow} + T$$

$$(Coloured ion)$$

$$A \downarrow R \qquad \qquad \downarrow MnO_{4}^{-}/H^{+}$$

$$S \qquad R^{\downarrow} + Mn^{2+}(aq.)$$

$$(White)$$

$$(turbidity)$$

Q. Species P and S are respectively:

A.
$$SO_3^{2-}(aq.), S$$

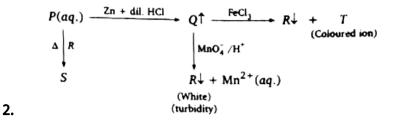
B. $SO_3^{2-}(aq.), S_2O_3^{2-}(aq.)$
C. $S_2O_3^{2-}(aq.), SO_3^{2-}(aq.)$

D. None of these

Answer: B

1.

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Q. 'T' cannot be identify by:

A. NH_3 solution

- $B. NH_4SCN$
- $\mathsf{C}.\left(NH_4\right)_2 S$
- D. Excess KCN

Answer: B

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3. Consider three P, Q, R, salts among them P and Q salts have different cations annd also have different coloured polyatomic anion due to charge transfer phenomenon while P and R salts have same cation but have different anions. Salts R decomposes into an acidic gas an a basic

gas.

Q. Salt R can not be:

A. NH_4NO_3 B. $(NH_4)_2CO_3$ C. $(NH_4)_2S$ D. NH_4Cl

Answer: A

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4. Consider three P, Q, R, salts among them P and Q salts have different cations annd also have different coloured polyatomic anion due to charge transfer phenomenon while P and R salts have same cation but have different anions. Salts R decomposes into an acidic gas an a basic gas.

Q. Salt P decomposes on heating into a coloured solid, neutral gas a

neutral vapour, then which of the following can not be the product of salt P after decomposition?

A. N₂ B. Cr₂O₃ C. I₂

 $D.H_2O$

Answer: C

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5. Consider three P, Q, R, salts among them P and Q salts have different cations annd also have different coloured polyatomic anion due to charge transfer phenomenon while P and R salts have same cation but have different anions. Salts R decomposes into an acidic gas an a basic gas.

Q. If salt Q underrgoes redox reaction with H_2S in acidic medium then which of the following speies can not be possible product?

A. $MnO_4^{2-}(aq.)$

В. S

 $C. MnO_2$

D. Both (a) and (c)

Answer: D

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6. Three compound X, Y and Z were taken into three different laboratory vessels annd they are carried out by a chemist in his car. The car caught fire due to short circuit and the chemist came out of the car and noticed following observations:

Q. Compound X changes into white substnace along with liberation of neutral oxide and then white substnace decomposed into three products among which two are acidic oxides. among these oxides non-polar oxide can undergo polar cyclic polymer on cooling. the compound X will be:

A. $MgSO_4 \cdot 7H_2O$

B. $ZnSO_4 \cdot 7H_2O$

C. $CaSO_4 \cdot 2H_2O$

D. $FeSO_4 \cdot 7H_2O$

Answer: D

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7. Three compound X, Y and Z were taken into three different laboratory vessels annd they are carried out by a chemist in his car. The car caught fire due to short circuit and the chemist came out of the car and noticed following observations:

Q. Compound Y produced two oxides, among these oe oxide turns anhydrous $CuSO_4$ into blue and other gas slows down fire in the car, then Y is

A. NH_4NO_2

B. NaHCO₃

 $C.MgC_2O_4$

 $D.NH_4NO_3$

Answer: B

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8. Three compound X, Y and Z were taken into three different laboratory vessels annd they are carried out by a chemist in his car. The car caught fire due to short circuit and the chemist came out of the car and noticed following observations:

Q. Which of the following compound does not react with cold and dil. *HNO*₃?

A. PbO

 $B.PbO_2$

 $C.FeSO_4$

D. PbCl₂

Answer: B

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9. In salts of polyatomic anion, as polarising power of cation increases, thermal stability of the salt decreases, and decomposed species may further undergo redox reaction.

Q. Which of the following species undergoes non-redox thermal decomposition reaction on heating?

A. $FeSO_4$

B. $SnSO_4$

 $C.H_2C_2O_4$

D. Na_2HPO_4

Answer: D

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10. In salts of polyatomic anion, as polarising power of cation increases, thermal stability of the salt decreases, and decomposed species may further undergo redox reaction.

Q. Water soluble salt (x) was heated into three products A, B and C and B and C are two different paramagnetiic gases. A is red in hot condition, then salt (x) is:

A. $Hg(NO_3)_2$

B. FeC_2O_4

 $C.ZnSO_4$

D. $Pb(NO_3)_2$

Answer: D



11. Dioxygen directly reacts with nearly all metals annd non-metals except

some metals (e.g., Au, Pt) and some noble gases and form oxide(s). Oxides

can be simple (e.g., MgO, Al_2O_3) or mixed (Pb_3O_4, Fe_3O_4) . Simple oxides can be classified on the basic of their acidic, basic or amphoteric character. an oxide that combines with water to give an acid is termed acidic oxide (i.e., SO_2 , Cl_2O_7 , CO_2 , N_2O_5). for example, SO_2 combines with water to give H_2SO_3 , an acid.

Gaseous non-metal (A) $\xrightarrow[spprop. temp]{0_2} P^{\uparrow} \xrightarrow[room temp]{0_2} Q^{\uparrow} \xrightarrow{H_2O} R$ (oxy acid) + P^{\uparrow} Q. If, Solid non-metal (B) $\xrightarrow[spprop. temp]{0_2} X^{\uparrow} \xrightarrow[spprop. catalyst & temp]{0_2} Y^{\uparrow} \xrightarrow{H_2O} Z$ (oxy acid) + Heat

Then select correct statement with respect to gas 'Q'?

A. Paramagnetic gas

B. Neutral oxide

C. Colourles gas

D. Diatomic gas

Answer: A



12. Dioxygen directly reacts with nearly all metals annd non-metals except some metals (e.g., Au, Pt) and some noble gases and form oxide(s). Oxides can be simple (e.g., MgO, Al_2O_3) or mixed (Pb_3O_4, Fe_3O_4) . Simple oxides can be classified on the basic of their acidic, basic or amphoteric character. an oxide that combines with water to give an acid is termed acidic oxide (i.e., SO_2 , Cl_2O_7 , CO_2 , N_2O_5). for example, SO_2 combines with water to give H_2SO_3 , an acid.

Gaseous non-metal (A) $\xrightarrow[napprop. sump} P^{\uparrow} \xrightarrow[noon sump} Q^{\uparrow} \xrightarrow[noon sump} Q^{\uparrow} \xrightarrow[noon sump} R$ (oxy acid) + P^{\uparrow} Q. If, Solid non-metal (B) $\xrightarrow[napprop. sump} X^{\uparrow} \xrightarrow[napprop. sump} Y^{\uparrow} \xrightarrow[napprop. sump} Z$ (oxy acid) + Heat

Then select incorrect statement with respect to gas 'X'

A. burning sulphur smell

B. Reacts with Cl₂

- C. Residue of sulphur with H_2S
- D. Does not react with Ca(OCl)Cl

Answer: D

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13. Consider the following reactions and answer the following questions. M(Double salt)+ $NH_4Cl(s) + NH_4OH \rightarrow No ppt.$

M(double salt)+NaOH solution $\rightarrow N \uparrow + P \downarrow$ (coloured ppt.)

Q. Which of the following pair of cations are present in salt M?

A. PH_4^+ , Mg^{2+} B. NH_4^+ , Fe^{3+} C. PH_4^+ , Zn^{2+} D. NH_4^+ , Fe^{2+}

Answer: D

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14. Consider the following reactions and answer the following questions.

 $M(\text{Double salt}) + NH_4Cl(s) + NH_4OH \rightarrow \text{No ppt.}$

M(double salt)+NaOH solution $\rightarrow N \uparrow + P \downarrow$ (coloured ppt.)

```
Q. P \downarrow + \text{conc. } HCl \rightarrow Q(coloured solution)
```

Incorrect statement about Q is:

A. It can exist in dimeric form

B. Its aqueous solution is acidic

C. It is used in methylene blue test for H_2S

D. On passing Cl_2 gas colour of aqueous solution of Q changes

Answer: C

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15. Consider the following reactions and answer the following questions.

M(Double salt)+ $NH_4Cl(s) + NH_4OH \rightarrow No ppt.$

M(double salt)+NaOH solution $\rightarrow N \uparrow + P \downarrow$ (coloured ppt.)

Q. Reaction does not occur with salt M and gas N:

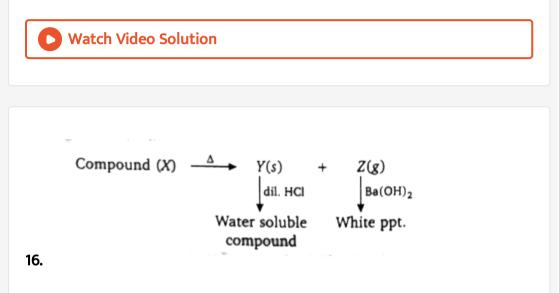
A. $NaNO_2 + dil. H_2SO_4 + M$ (salt solution) \rightarrow

B. $HgI_2 + N \uparrow \rightarrow$

C. M(salt solution) + $H_2S \rightarrow$

D. M (salt solution)+ $Br_2 \rightarrow$

Answer: C



Q. Compound 'X' is:

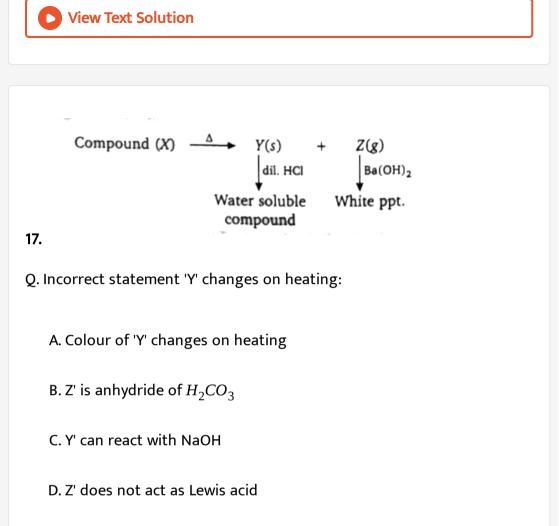
A. NaNO₃

 $B.Ag_2C_2O_4$

 $C.PbSO_4$

D. $ZnCO_3$

Answer: D



Answer: D

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18. The unique behaviour of CU, having a positive E° (reduction potential) accounts for its inability to liberate H_2 from acids,. Only oxidising acids (nitric acid and hot concentrated sulphuric acid) react with Cu. The high energy of transform Cu(s) to $Cu^{2+}(aq.)$ is not balanced by its hydration enthalpy.

On the other hand, All Cu(II) halides are known except iodide. in this case, Cu^{2+} oxidises I^- to I_2 :

$$2Cu^{2^+} + 4I^- \rightarrow 2CuI(s) + I_2$$

However, copper (I) compounds are unstable in aqueous solution annd undergo disproportionation.

$$2Cu^+(aq.) \rightarrow Cu^{2+}(aq.) + Cu$$

The stability of $Cu^{2+}(aq.)$ rather than $Cu^+(aq)$ is due to the much more negative Δ_{Hyd} of $Cu^{2+}(aq.)$ than $Cu^+(aq.)$

Q. Consider the following transformation:

 $CuSO_4(aq.) + KI(excess) \rightarrow \text{product}$

Select the correct statement:

A. Product contains $\left[Cu\left(H_2O_4\right)\right]^{2+}$ ion.

B. Presence of brown colouration in product is due to I_3^- ion

C. Oxidation state of sulphur in reactant and product is different

D. white ppt. of CuI_2 is observed in product

Answer: B

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19. The unique behaviour of CU, having a positive E° (reduction potential) accounts for its inability to liberate H_2 from acids,. Only oxidising acids (nitric acid and hot concentrated sulphuric acid) react with Cu. The high energy of transform Cu(s) to $Cu^{2+}(aq.)$ is not balanced by its hydration enthalpy.

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However, copper (I) compounds are unstable in aqueous solution annd undergo disproportionation.

$$2Cu^+(aq.) \rightarrow Cu^{2+}(aq.) + Cu$$

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negative Δ_{Hyd} of $Cu^{2+}(aq.)$ than $Cu^+(aq.)$

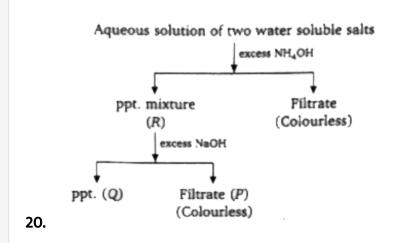
Q. Select the correct chemical change:

A.
$$Cu + Dil. H_2SO_4 \rightarrow CuSO_4 + H_2(g)$$

B. $Cu + dil. HNO_3 \rightarrow Cu(NO_3)_2 + N_2O(g)$
C. $CuSO_4(aq.) + KCN(excess) \rightarrow K_2[Cu(CN)_4]$
D. $CuSO_4(aq.) + NH_4OH \rightarrow Cu(OH)_2 \downarrow$

Answer: D

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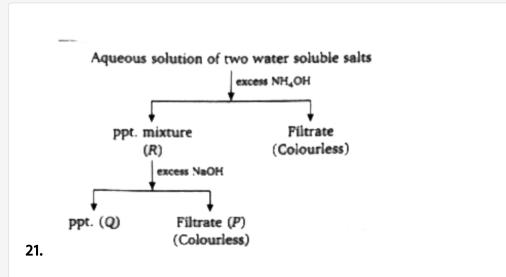
Q. When H_2S gas was passed into filtrate (P), a coloured precipitate was

obtained, then cation present in the filtrate is:

A. $Zn^{2+}(aq.)$ B. $Cr^{3+}(aq.)$ C. $Al^{3+}(aq.)$ D. $Pb^{2+}(aq.)$

Answer: D

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Q. Precipitate (Q) was treated withdil. HCl and coloured solution was obtained. On passing H_2S gas into this solution no precipitate was

obtained but colour of the solution changes, then cation present in the precipitate (Q) can be identified by:

A. $Na_2S_2O_3$ solution

B. KI + Starch

$$\mathsf{C}. K_4 \Big[Fe(CN)_6 \Big]$$

D. All

Answer: D

22.

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$$P(aq.) \xrightarrow{Zn + dil. HCl} Q^{\uparrow} \xrightarrow{FeCl_{3}} R^{\downarrow} + T$$

$$A \downarrow R \qquad \qquad \downarrow MnO_{4}^{-}/H^{+}$$

$$S \qquad \qquad R^{\downarrow} + Mn^{2+}(aq.)$$
(White)
(turbidity)

Q. Species P and S are respectively:

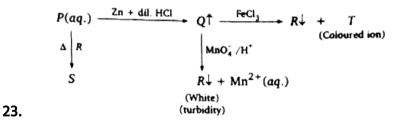
B.
$$SO_3^{2-}(aq.), S_2O_3^{2-}(aq.)$$

C. $S_2O_3^{2-}(aq.), SO_3^{2-}(aq.)$

D. None of these

Answer: B





Q. 'T' cannot be identify by:

A. NH_3 solution

- B. NH₄SCN
- $\mathsf{C}.\left(NH_4\right)_2 S$
- D. Excess KCN

Answer: B

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24. Consider three P, Q, R, salts among them P and Q salts have different cations annd also have different coloured polyatomic anion due to charge transfer phenomenon while P and R salts have same cation but have different anions. Salts R decomposes into an acidic gas an a basic gas.

Q. Salt R can not be:

A. NH_4NO_3

B.
$$\left(NH_4\right)_2 CO_3$$

C. $\left(NH_4\right)_2 S$

Answer: A

D. NH_4Cl

25. Consider three P, Q, R, salts among them P and Q salts have different cations annd also have different coloured polyatomic anion due to charge transfer phenomenon while P and R salts have same cation but have different anions. Salts R decomposes into an acidic gas an a basic gas.

Q. Salt P decomposes on heating into a coloured solid, neutral gas a neutral vapour, then which of the following can not be the product of salt P after decomposition?

A. N₂

B. Cr_2O_3

C. *I*₂

 $D.H_2O$

Answer: C

Watch Video Solution

26. Consider three P, Q, R, salts among them P and Q salts have different cations annd also have different coloured polyatomic anion due to charge transfer phenomenon while P and R salts have same cation but have different anions. Salts R decomposes into an acidic gas an a basic gas.

Q. If salt Q underrgoes redox reaction with H_2S in acidic medium then which of the following speies can not be possible product?

A. $MnO_4^{2-}(aq.)$

B. *S*

 $C. MnO_2$

D. Both (a) and (c)

Answer: D

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27. Three compound X, Y and Z were taken into three different laboratory

vessels annd they are carried out by a chemist in his car. The car caught

fire due to short circuit and the chemist came out of the car and noticed following observations:

Q. Compound X changes into white substnace along with liberation of neutral oxide and then white substnace decomposed into three products among which two are acidic oxides. among these oxides non-polar oxide can undergo polar cyclic polymer on cooling. the compound X will be:

A. $MgSO_4 \cdot 7H_2O$

B. $ZnSO_4 \cdot 7H_2O$

 $C.CaSO_4 \cdot 2H_2O$

D. $FeSO_4 \cdot 7H_2O$

Answer: D



28. Three compound X, Y and Z were taken into three different laboratory vessels annd they are carried out by a chemist in his car. The car caught fire due to short circuit and the chemist came out of the car and noticed

following observations:

Q. Compound Y produced two oxides, among these oe oxide turns anhydrous $CuSO_4$ into blue and other gas slows down fire in the car, then Y is

A. NH_4NO_2

B. NaHCO₃

 $C.MgC_2O_4$

 $D. NH_4 NO_3$

Answer: B

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29. Three compound X, Y and Z were taken into three different laboratory vessels annd they are carried out by a chemist in his car. The car caught fire due to short circuit and the chemist came out of the car and noticed following observations:

Q. Which of the following compound does not react with cold and dil. *HNO*₃?

A. PbO

B. PbO_2

 $C.FeSO_4$

D. PbCl₂

Answer: B

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30. In salts of polyatomic anion, as polarising power of cation increases, thermal stability of the salt decreases, and decomposed species may further undergo redox reaction.

Q. Which of the following species undergoes non-redox thermal decomposition reaction on heating?

A. $FeSO_4$

B. $SnSO_4$

 $C.H_2C_2O_4$

D. Na₂HPO₄

Answer: D

Watch Video Solution

31. In salts of polyatomic anion, as polarising power of cation increases, thermal stability of the salt decreases, and decomposed species may further undergo redox reaction.

Q. Water soluble salt (x) was heated into three products A, B and C and B and C are two different paramagnetiic gases. A is red in hot condition, then salt (x) is:

A. $Hg(NO_3)_2$ B. FeC_2O_4

C. $ZnSO_4$

D.
$$Pb(NO_3)_2$$

Answer: D

Watch Video Solution

32. Dioxygen directly reacts with nearly all metals annd non-metals except some metals (e.g., Au, Pt) and some noble gases and form oxide(s). Oxides can be simple (e.g., MgO, Al_2O_3) or mixed (Pb_3O_4, Fe_3O_4) . Simple oxides can be classified on the basic of their acidic, basic or amphoteric character. an oxide that combines with water to give an acid is termed acidic oxide (i.e., SO_2 , Cl_2O_7 , CO_2 , N_2O_5). for example, SO_2 combines with water to give H_2SO_3 , an acid.

Gaseous non-metal (A) $\xrightarrow{0_2}{approp. temp} P^{\uparrow} \xrightarrow{0_2}{room temp} Q^{\uparrow} \xrightarrow{H_2 O} R$ (oxy acid) + P^{\uparrow} Q. If, Solid non-metal (B) $\xrightarrow{0_2}{approp. temp} X^{\uparrow} \xrightarrow{0_2}{approp. cetalyst h temp} Y^{\uparrow} \xrightarrow{H_2 O} Z$ (oxy acid) + Heat , If, R (dil.) $\xrightarrow{Zn} N_2 O^{\uparrow}$ R (conc.) $\xrightarrow{Zn} Q^{\uparrow}$

Then select correct statement with respect to gas 'Q'?

A. Paramagnetic gas

B. Neutral oxide

C. Colourles gas

D. Diatomic gas

Answer: A

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Gaseous non-metal (A) $\xrightarrow{O_2} P^{\uparrow} \xrightarrow{O_2} Q^{\uparrow} \xrightarrow{H_2O} R$ (oxy acid) + P^{\uparrow} Q. If Solid non-metal (B) $\xrightarrow{O_2} X^{\uparrow} \xrightarrow{O_2} Q^{\uparrow} \xrightarrow{H_2O} Z$ (oxy acid) + Heat Baryta water Milkyness excess of X Clear solution if, $X^{\uparrow} \xrightarrow{c_{2}O^{\uparrow}/H^{*}}$ Green solution Then 'X' is A. NO B. CO_{2} C. SO_{2} D. SO_{3}

Answer: C

View Text Solution

34. Dioxygen directly reacts with nearly all metals annd non-metals except some metals (e.g., Au, Pt) and some noble gases and form oxide(s). Oxides can be simple (e.g., MgO, Al_2O_3) or mixed (Pb_3O_4, Fe_3O_4) . Simple oxides can be classified on the basic of their acidic, basic or amphoteric character. an oxide that combines with water to give an acid is termed acidic oxide (i.e., SO_2 , Cl_2O_7 , CO_2 , N_2O_5). for example, SO_2 combines with

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Gaseous non-metal (A) $\xrightarrow[approp. temp]{0_2} P \uparrow \xrightarrow[room temp]{0_2} Q \uparrow \xrightarrow{H_2O} R$ (oxy acid) + P ↑ Q. If, Solid non-metal (B) $\xrightarrow[approp. temp]{0_2} X \uparrow \xrightarrow[approp. certallynt & temp]{0_2} Y \uparrow \xrightarrow{H_2O} Z$ (oxy acid) + Heat (U) $U \uparrow \xrightarrow{Zn} H_2 \uparrow$ L. If, Z (dil.) $\xrightarrow{Zn} H_2 \uparrow Z$ (conc.) $\xrightarrow{Zn} X \uparrow$

Then select incorrect statement with respect to gas 'X'

A. burning sulphur smell

B. Reacts with Cl₂

C. Residue of sulphur with H_2S

D. Does not react with Ca(OCl)Cl

Answer: D

View Text Solution

35. Consider the following reactions and answer the following questions.

M(Double salt)+ $NH_4Cl(s) + NH_4OH \rightarrow No ppt.$

M(double salt)+NaOH solution $\rightarrow N \uparrow P \downarrow$ (coloured ppt.)

Q. Which of the following pair of cations are present in salt M?

A. PH_4^+ , Mg^{2+} B. NH_4^+ , Fe^{3+} C. PH_4^+ , Zn^{2+} D. NH_4^+ , Fe^{2+}

Answer: D

Watch Video Solution

36. Consider the following reactions and answer the following questions.

M(Double salt)+ $NH_4Cl(s) + NH_4OH \rightarrow No ppt.$

M(double salt)+NaOH solution $\rightarrow N \uparrow + P \downarrow$ (coloured ppt.)

Q. $P \downarrow + \text{conc. } HCl \rightarrow Q(\text{coloured solution})$

Incorrect statement about Q is:

A. It can exist in dimeric form

B. Its aqueous solution is acidic

C. It is used in methylene blue test for H_2S

D. On passing Cl_2 gas colour of aqueous solution of Q changes

Answer: C

Watch Video Solution

37. Consider the following reactions and answer the following questions.

M(Double salt)+ $NH_4Cl(s) + NH_4OH \rightarrow No ppt.$

M(double salt)+NaOH solution $\rightarrow N \uparrow + P \downarrow$ (coloured ppt.)

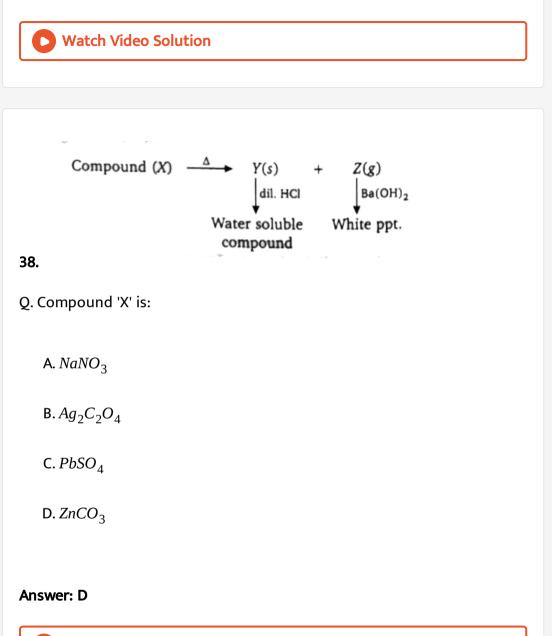
Q. Reaction does not occur with salt M and gas N:

A. $NaNO_2 + dil. H_2SO_4 + M$ (salt solution) \rightarrow

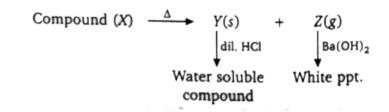
 $\mathsf{B}.HgI_2 + N \uparrow \rightarrow$

- C. M(salt solution) + $H_2S \rightarrow$
- D. M (salt solution)+ $Br_2 \rightarrow$

Answer: C



View Text Solution



39.

Q. Incorrect statement 'Y' changes on heating:

A. Colour of 'Y' changes on heating

B. Z' is anhydride of H_2CO_3

C. Y' can react with NaOH

D. Z' does not act as Lewis acid

Answer: D

View Text Solution

40. The unique behaviour of CU, having a positive E° (reduction potential) accounts for its inability to liberate H_2 from acids,. Only oxidising acids (nitric acid and hot concentrated sulphuric acid) react with Cu. The high energy of transform Cu(s) to $Cu^{2+}(aq.)$ is not balanced

by its hydration enthalpy.

On the other hand, All Cu(II) halides are known except iodide. in this case, Cu^{2+} oxidises I^- to I_2 : $2Cu^{2+} + 4I^- \rightarrow 2CuI(s) + I_2$

However, copper (I) compounds are unstable in aqueous solution annd undergo disproportionation.

 $2Cu^+(aq.) \rightarrow Cu^{2+}(aq.) + Cu$

The stability of $Cu^{2+}(aq.)$ rather than $Cu^+(aq)$ is due to the much more negative Δ_{Hyd} of $Cu^{2+}(aq.)$ than $Cu^+(aq.)$

Q. Consider the following transformation:

 $CuSO_4(aq.) + KI(excess) \rightarrow \text{product}$

Select the correct statement:

A. Product contains $\left[Cu\left(H_2O_4\right)\right]^{2+}$ ion.

B. Presence of brown colouration in product is due to I_3^- ion

C. Oxidation state of sulphur in reactant and product is different

D. white ppt. of CuI_2 is observed in product

Answer: B

41. The unique behaviour of CU, having a positive E° (reduction potential) accounts for its inability to liberate H_2 from acids,. Only oxidising acids (nitric acid and hot concentrated sulphuric acid) react with Cu. The high energy of transform Cu(s) to $Cu^{2+}(aq.)$ is not balanced by its hydration enthalpy.

On the other hand, All Cu(II) halides are known except iodide. in this case, Cu^{2+} oxidises I^- to I_2 :

 $2Cu^{2+} + 4I^- \rightarrow 2CuI(s) + I_2$

However, copper (I) compounds are unstable in aqueous solution annd undergo disproportionation.

 $2Cu^+(aq.) \rightarrow Cu^{2+}(aq.) + Cu$

The stability of $Cu^{2+}(aq.)$ rather than $Cu^+(aq)$ is due to the much more negative Δ_{Hyd} of $Cu^{2+}(aq.)$ than $Cu^+(aq.)$

Q. Select the correct chemical change:

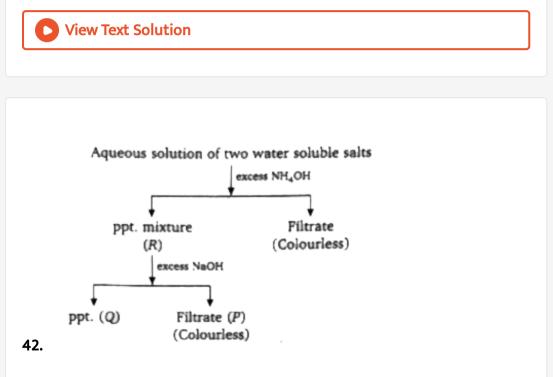
A.
$$Cu + Dil. H_2SO_4 \rightarrow CuSO_4 + H_2(g)$$

 $\mathsf{B}.\,Cu+dil.\,HNO_3\,\rightarrow\,Cu\Big(NO_3\Big)_2+N_2O(g)$

$$\mathsf{C.} CuSO_4(aq.) + KCN(excess) \rightarrow K_2 \Big[Cu(CN)_4 \Big]$$

D. $CuSO_4(aq.) + NH_4OH \rightarrow Cu(OH)_2 \downarrow$

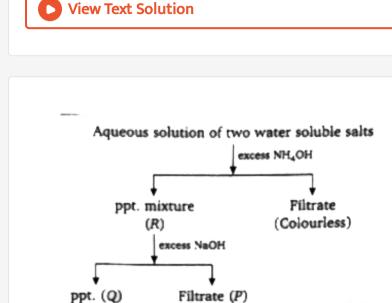
Answer: D



Q. When H_2S gas was passed into filtrate (P), a coloured precipitate was obtained, then cation present in the filtrate is:

A. $Zn^{2^{+}}(aq.)$ B. $Cr^{3^{+}}(aq.)$ C. $Al^{3^{+}}(aq.)$ D. $Pb^{2+}(aq.)$

Answer: D



(Colourless)

43.

Q. Precipitate (Q) was treated withdil. HCl and coloured solution was obtained. On passing H_2S gas into this solution no precipitate was obtained but colour of the solution changes, then cation present in the precipitate (Q) can be identified by:

A. $Na_2S_2O_3$ solution

B. KI + Starch

$$\mathsf{C}.\,K_4\Big[\mathit{Fe}(\mathit{CN})_6\Big]$$

D. All

Answer: D

View Text Solution

ONE OR MORE ANSWERS IS/ARE CORRECT

1. Which of the following combination of species can evolve O_2 ?

A. PbO_2 + warm conc. H_2SO_4

B. $NaOH + F_2$

 $C.PbO_2 + conc.HNO_3$

D. $XeF_{2} + H_{2}O$

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

$$\mathbf{2.} SO_2(g) + Cl_2(g) \rightarrow X \rightarrow Y + Z$$

then X, Y and Z can be :

A. SOCl₂

B. SO_2Cl_2

C. *SO*₂

D. PCl₅

Answer: B::C::D

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3. Which of the following nitrate salt solution neither produce ppt. with excess NaOH nor with excess NH_4OH solution?

A.
$$Al(NO_3)_3$$

B. $Zn(NO_3)_2$

C.
$$Cr(NO_3)_3$$

D. $Pb(NO_3)_2$

Answer: B::C

Watch Video Solution

4. Which of the following compound(s) give two acids on dissolution in H_2O ?

A. P_4O_8

B. PCl₃

 $C.NO_2$

D. C₃O₂

Answer: A::B::C

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 $1:20 \quad H_2O \quad H_2O \quad H_2O$ **5.** $Xe + F_2 \rightarrow X \rightarrow Y \rightarrow Z \rightarrow XeO_3$

Select correct option(s) for X, Y, Z and given chemical change:

A. X, Y and Z are in same oxidation state

B. All have equal number of lone pair on central atom

C. All are non-planar

D. All have equal number of covalent bonds

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

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6. Which of the following sulphide(s) does/do not liberate H_2S on warming with dil. HCl?

A. HgS

B. ZnS

C. FeS

D. CuS

Answer: A::D



$$\textbf{7.} I_2 + Na_2CO_3 \text{ "soln."} \rightarrow X + Y$$

If 'X' gives coloured ppt. with $Pb(CH_3COO)_2$ solution, then 'Y' will respond to which of the following ?

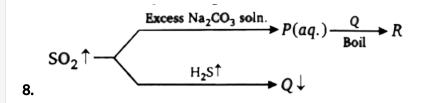
A.
$$Y + H^{+}(aq.) + H_{2}S$$

B. $Y + Cr_{2}O_{7}^{2-}(aq.) + OH^{-}(aq.)$
C. $Y + H^{+}(aq.) + SO_{2}$

D.
$$Y + H^+(aq.) + I^-(aq.)$$

Answer: A::C::D

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Incorrect statement about 'R' is

A. Antichlor agent

B. Fixing agent in photography

C. Forms ppt. with CaCl₂ solution

D. Reduces $Cu^{2+}(aq)$ cation

Answer: C

D View Text Solution

9. *NO*² gas evolves on thermal decomposition of which of the following compound(s)?

A.
$$Hg(NO_3)_2$$

B. KNO₃

 $C.N_2O_4$

D. N_2O_3

Answer: A::C::D

Watch Video Solution

10. Which of the following precipitate(s) is/are dissolved to colourless solution on adding sufficient amount of dilute HCl?

A. CaCO₃

B. $BaCrO_4$

 $C.MgC_2O_4$

D. $BaSO_4$

Answer: A::C

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11. Which of the following combination of reagent(s) produce observable

change in aqueous medium?

A. $Ba(OH)_2$ solution+ $SO_2(g)$

B. AgF solution+NaNO₃ solution

C. $Pb(OAc)_2$ soution+ Na_2CO_3 solution

D. $CuCl_2$ solution+ NH_3 (excess)

Answer: A::C::D

Watch Video Solution

12. Which of the following species is/are not liberating oxygen gas on reaction with water at $25 \degree C$?

A. Na_2O_2

B. *Cl*₂

C. *P*₄

D. *KO*₂

Answer: B::C



13. Hydrogen gas is not evolved by:

A. $Mg + NH_3(liq.)$

- B. $B_2H_6 + H_2O$
- C. $NaNH_2 + H_2O$

D. $Be + H_2O$

Answer: A::C::D

Watch Video Solution

14. Which of the following metal sulphide does not undergo hydrolysis?

A. Cr_2S_3

 $B.Al_2S_3$

C. MgS

D. FeS

Answer: D

Watch Video Solution

15. Which of the following gas is not dried by conc. H_2SO_4 ?

A. HCl

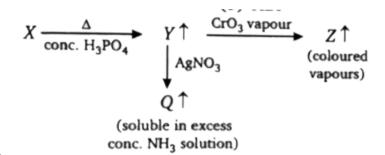
B. HBr

 $C.H_2S$

 $D.SO_2$

Answer: B::C

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16.

Which of the following anion cannot be in X?

A.*F*⁻

B. *Cl*⁻

C. Br⁻

 $D.I^-$

Answer: A::D

O View Text Solution

17. When ozone reacts with an excess of potassium iodide solution buffered with a borate buffer (pH 9.2) iodine is liberated which can be

titrated against a standard solution of sodium thiosulphate, this is a quantitative method for estimating O_3 gas. when liberated I_2 and sodium thiosulphate will react, then product is/are:

A. $S_4 O_6^{2-}$ B. SO_4^{2-} C. $S_2 O_4^{2-}$ D. S^0

Answer: A

Watch Video Solution

18. In which of the following reactions NH_3 gas evolution occurs?

A.
$$NO_3^- + Zn + dil. H_2SO_4^- \rightarrow$$

B. NH_4^+ salt + $NaOH^- \rightarrow$

C. *AlN* + steam →

D.
$$CH_3COONH_3 \rightarrow$$

Answer: B::C::D



19. Which of the following compound() during heating undergo redox decomposition reaction?

A. $HgCO_3(s)$

 $\mathsf{B.} Ag_2 C_2 O_4(s)$

C. $FeCl_3 \cdot 6H_2O(s)$

D. $K_2 Cr_2 O_7(s)$

Answer: A::B::D

Watch Video Solution

20. Which of the following combination of species undergo(es) comproportionation?

$$Zn \frac{\emptyset}{Z} nSO_4$$
A. $MnO_4(aq.) + Mn^{2+}(aq.) \rightarrow$
B. $S + conc. H_2SO_4(excess) \rightarrow$
C. $PH_3 + H_3PO_4 \rightarrow$
cool

 $D.NO(g) + NO_2(g) \rightarrow$

Answer: A::D



21. Which of the following combination of species can evolve O_2 ?

A. PbO_2 + warm conc. H_2SO_4

B. $NaOH + F_2$

 $C.PbO_2 + conc.HNO_3$

D. $XeF_2 + H_2O$

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



22.
$$SO_2(g) + Cl_2(g) \rightarrow X \rightarrow Y + Z$$

then X, Y and Z can be :

A. SOCl₂

B. SO_2Cl_2

 $C.SO_2$

D. PCl₅

Answer: B::C::D

Watch Video Solution

23. Which of the following nitrate salt solution neither produce ppt. with excess NaOH nor with excess NH_4OH solution?

A.
$$Al(NO_3)_3$$

B. $Zn(NO_3)_2$
C. $Cr(NO_3)_3$
D. $Pb(NO_3)_2$

Answer: B::C

Watch Video Solution

24. Which of the following compound(s) give two acids on dissolution in

 $H_2O?$

A. P_4O_8

B. PCl₃

 $C.NO_2$

D. C_3O_2

Answer: A::B::C



$$1:20 \quad H_2O \quad H_2O \quad H_2O$$
25. $Xe + F_2 \rightarrow X \rightarrow Y \rightarrow Z \rightarrow XeO_3$

Select correct option(s) for X, Y, Z and given chemical change:

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26. Which of the following sulphide(s) does/do not liberate H_2S on warming with dil. HCl?

A. HgS

B.ZnS

 $\mathsf{C}.\,FeS$

D. CuS

Answer: A::D

Watch Video Solution

27. $I_2 + Na_2CO_3$ "soln." $\rightarrow X + Y$

If 'X' gives coloured ppt. with $Pb(CH_3COO)_2$ solution, then 'Y' will respond to which of the following ?

A.
$$Y + H^+(aq.) + H_2S$$

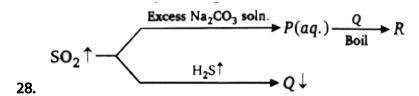
B. $Y + Cr_2O_7^{2-}(aq.) + OH^-(aq.)$

C.
$$Y + H^+(aq.) + SO_2$$

D. $Y + H^+(aq.) + I^-(aq.)$

Answer: A::B::D





Incorrect statement about 'R' is

A. Antichlor agent

B. Fixing agent in photography

C. Forms ppt. with CaCl₂ solution

D. Reduces $Cu^{2+}(aq)$ cation

Answer: C

View Text Solution

29. *NO*₂ gas evolves on thermal decomposition of which of the following compound(s)?

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B. KNO₃

 $C. N_2 O_4$

 $D.N_2O_3$

Answer: A::C::D

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 $C.MgC_2O_4$

D. $BaSO_4$

Answer: A::C

Watch Video Solution

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B. AgF solution+NaNO₃ solution

C. $Pb(OAc)_2$ soution+ Na_2CO_3 solution

D. $CuCl_2$ solution+ Na_3 (excess)

Answer: A::C::D

32. Which of the following species is/are not liberating oxygen gas on reaction with water at 25 $^{\circ}C$?

A. Na_2O_2

B. *Cl*₂

 $C.P_4$

D. *KO*₂

Answer: B::C

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33. Hydrogen gas is not evolved by:

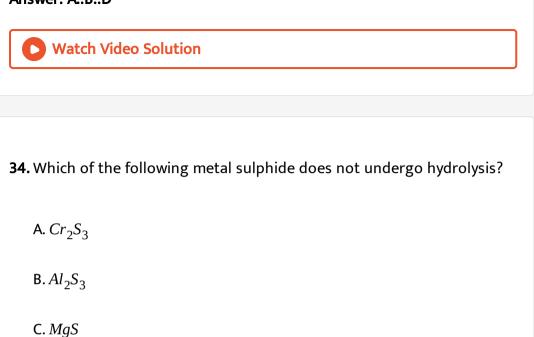
A. $Mg + NH_3(liq.)$

B. $B_2H_6 + H_2O$

C. $NaNH_2 + H_2O$

D. $Be + H_2O$

Answer: A::B::D



D. FeS

Answer: D

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35. Which of the following gas is not dried by conc. H_2SO_4 ?

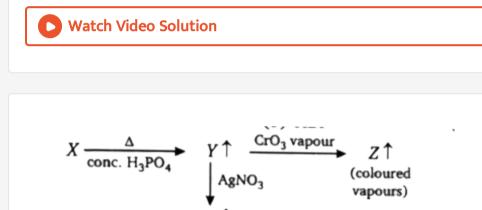
A. HCl

B. HBr

 $C.H_2S$

 $D.SO_2$

Answer: B::C



(soluble in excess conc. NH₃ solution)

Which of the following anion cannot be in X?

A. *F* ⁻

36.

B. Cl⁻

C. Br⁻

D. *I* ⁻

View Text Solution

37. When ozone reacts with an excess of potassium iodide solution buffered with a borate buffer (pH 9.2) iodine is liberated which can be titrated against a standard solution of sodium thiosulphate, this is a quantitative method for estimating O_3 gas. when liberated I_2 and sodium thiosulphate will react, then product is/are:

A.
$$S_4 O_6^{2-}$$

B. SO_4^{2-}
C. $S_2 O_4^{2-}$
D. S^0

Answer: A

38. In which of the following reactions NH_3 gas evolution occurs?

 $A. NO_{3}^{-} + Zn + dil. H_{2}SO_{4} \rightarrow B. NH_{4}^{+} salt + NaOH \rightarrow C. AlN + steam \rightarrow D. CH_{3}COONH_{3} \rightarrow D. CH_$

Answer: B::C::D

Watch Video Solution

39. Which of the following compound() during heating undergo redox decomposition reaction?

A. $HgCO_3(s)$

 $B.Ag_2C_2O_4(s)$

 $\mathsf{C}. \operatorname{FeCl}_3 \cdot 6H_2O(s)$

 $\mathsf{D}.K_2Cr_2O_7(s)$

Answer: A::B::D



40. Which of the following combination of species undergo(es) comproportionation?

warm

$$Zn \frac{\emptyset}{Z} nSO_4$$

A. $MnO_4^-(aq.) + Mn^{2+}(aq.) \rightarrow$

B. S + conc. $H_2SO_4(excess)$ →

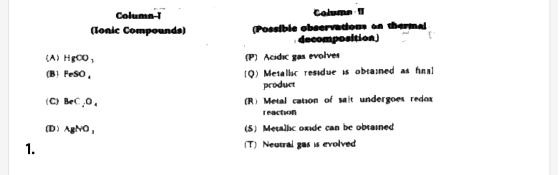
C.
$$PH_3 + H_3PO_4 \rightarrow$$

cool
D. $NO(g) + NO_2(g) \rightarrow$

Answer: A::D

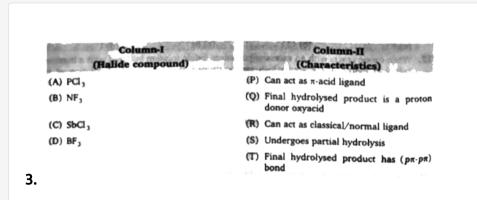
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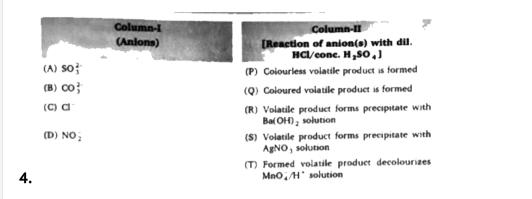
MATCH THE COLUMN



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Column-II the Column-I R.H Int (A) Na 2S 2O 3 + dil. HCl (P) Disproportionation reaction (Q) Yellow ppt. (B) ICl₃ + H₂O (R) Redox reaction (C) FeCl₃ + H_2S/H^2 (D) $H_2SO_3 \xrightarrow{h}$ (S) One of the product gives white fumes with NH₃ 2.







Golumn-1 (Reàction with Sult/Radical)	Cojumn-II -(Salt/Radical)
(A) $Zn + dil. H_2SO_4$	(P) $Pb(NO_2)_2$
(B) dil. HCl	(Q) (NH ₄) ₂ S
(C) NaOH (excess)	(R) MnO ₄ (aq.)
(D) KI	(\$) Hg ₂ ²⁺ (<i>aq.</i>)
5.	(T) Bi ³⁺ (aq.)



Column-I (Acidic Radicals)

- (A) S²⁻(aq.)
- (B) SO 3 (aq.)
- (C) NO 2(aq.)
- (D) $S_2O_3^{2-}(aq.)$

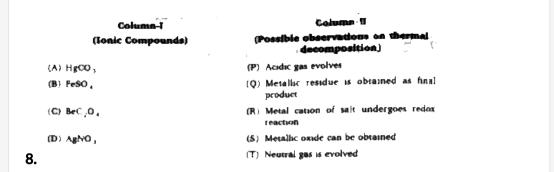
Column-II (Observations)

- (P) Redox reaction with alkaline Br2
- (Q) Evolution of diamagnetic gas with dil. HCl on warming
- (R) White ppt. with Pb(CH₃COO)₂ and pptremains white even after boiling
- (S) Evolution of gas with (Al + NaOH solution).
- (T) Evolution of same gas with dil. HCl as well as with conc. H₂SO₄ on warming

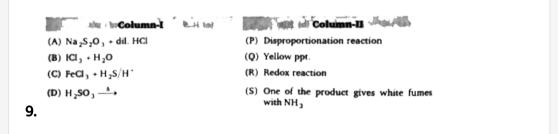
6.

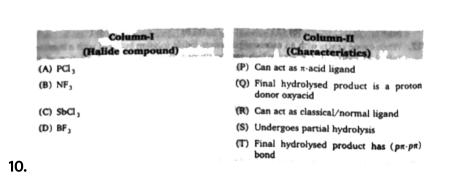
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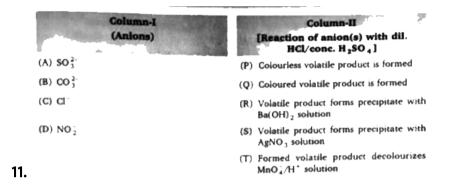
		olumn-I	100	and the		Column-II
	ndergoes echanism	hydrolysis	via.	S _{N²}	(P)) BCI,
-	ndergoes echanism	hydrolysis	via.	S _N M	(Q))) NCl,
(C) H	ybridisation on state cha	of central a inges during	tom in hydroly	transi- /sis	(R)	sof ₂
(D) Pr		oxy acid is fo			(\$)	i) POCI3
			-		(T)) CIF ₃



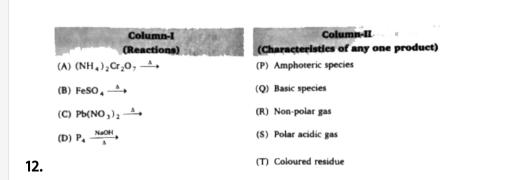
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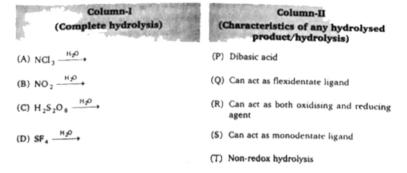












13.

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Golumn-I (Reaction with Salt/Radical)	Cojumn-II «(Salt/Radical)
(A) $Zn + dil. H_2SO_4$	(P) Pb(NO ₂) ₂
(B) dil. HCl	(Q) (NH ₄) ₂ S
(C) NaOH (excess)	(R) MnO ₄ (aq.)
(D) KI	(S) $Hg_{1}^{2}(aq.)$
14.	(T) Bi ³⁺ (aq.)

	jî.	Column-I			Column-II
	(A)	Disproportionation in alkaline medium	(P)	Cl ₂	
	(B)	Oxidizing agent	(Q)	NO 2	
	(C)	Reacts with water	(R)	XeF ₆	
	(D)	Basic gas evolves on heating	(\$)	NaH ₂ PO ₃	
15.			(T)	$(NH_{4})_{2}S$	



- J.	Column-l	Column-II
(A) NO ₂		(P) Hydrolysis occurs through redox reaction
(B) SOF ₂		(Q) Hydrolysed product can undergo tauto- meric change
(C) XeF ₄		(R) All hydrolysed products are acids
(D) CIF ₅		(S) Hybridization of central atom remains same in final hydrolysed product
16.		(T) One of the hydrolysed product reacts with glass

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Column-I (Acidic Radicals)

(A) S²⁻ (aq.)

(B) SO₃²⁻(aq.)

(C) NO²₂(aq.)

(D) $S_2O_3^{2-}(aq.)$

Column-II (Observations)

- (P) Redox reaction with alkaline Br2
- (Q) Evolution of diamagnetic gas with dil. HCl on warming
- (R) White ppt. with Pb(CH₃COO)₂ and pptremains white even after boiling
- (S) Evolution of gas with (Al + NaOH solution).
- (T) Evolution of same gas with dil. HCl as well as with conc. H₂SO₄ on warming

17.

. 1		Column-i	1000	1000	Column-II	
	(A)	Undergoes hydrolysis mechanism	via.	S _{N²}	(P) BCl ₃	
	(B)	Undergoes hydrolysis v mechanism	ia.	S _N M	(Q) NCl ₃	
	(C)	Hybridisation of central ator tion state changes during hy	n in t droly:	ransi- sis	(R) SOF ₂	
	(D)	Proton donor oxy acid is form hydrolysed product	-		l (\$) POCl ₃	
0					(T) CIF ₃	
18.						

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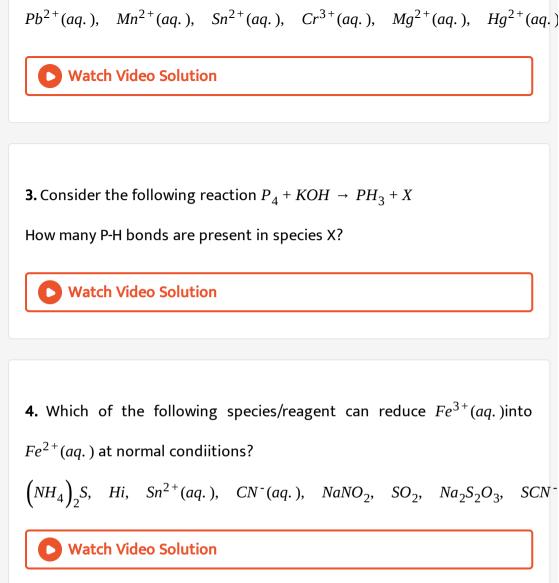
SUBJECTIVE PROBLEMS

1. Find total number of reagnets which cann produce I_2 from KI solution.

Conc.
$$H_2SO_4$$
, $Hg(NO_3)_2$ solution, $CuSO_4$ solution, $Conc.H_3PO_4$,
 $K_2Cr_2O_7/H^+$, Cl_2 Water, $Pb(CH_3COO)_2$ solution, $Ca(OCl)Cl/H^+$, $NaNO_4$

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2. Find total number of metal cations which are ppted as metal sulphide on passing H_2S gas through metal salt solution.



5. Find out number ionic compound(s0 which is/are water insoluble at room temperature

BaSO₄, AgNO₃, PbCO₃, CaCl₂, Mg(OH)₂, KMnO₄, CH₃COOAg, C

6. Find the value of expression |x-| for following compounds.

where,

x=total number of water insoluble salts.

y=total number of salts, which can liberate non-olar acidic gas during their complete thermal decomposition.

 $BaCO_3$, $PbSO_4$, $AgNO_3$, CaC_2O_4 , $CsHCO_3$, Na_3PO_4 , CH_3COOAg ,

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7. Find out total number of coloured compound(s) from following:

BaCO₃, HgO, PbSO₄, Ag₂S, HgI₂, PbO, CdS, AgNO₂, PbCrO₄



8. Find out total number of cation(s) that produce precipitate with aqueous solution of Na_2CO_3 .

```
Cu^{2+}(aq.), Mg^{2+}(aq.), Fe^{3+}(aq.), Pb^{2+}(aq.), Al^{3+}(aq.), Hg^{2+}(aq.), Zn^{2+}(aq.), Zn^{2+}(aq.),
```



9.
$$P_4 + SOCl_2 \rightarrow \text{Products}$$

Find out total number of non-planar and polar molecules of products in

balanced equation for one mole of P_4 .



10. What is average oxidation state state of sulphur in product formed in

given reaction?

 $Na_2SO_3 + Na_2S + I_2 \rightarrow \dots + NaI$

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11. find out total number of coloured/black water insoluble compound(s)

from following substances:

$$Ag_2O, HgI_2, FeS, Ag_3PO_4, Ba(MnO_4)_2, Na_2CrO_4, PbI_2, AgNO_2, Ag_2C_2O_4$$

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12. Find out total number of compounds which on heating undergo redox

reactions.

 $PbCl_4, Mg(NO_3)_2, HgC_2O_4, Ag_2CO_3, Pb(CN)_4, Al(OH)_3, Cu(CN)_2$

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13. How many following Ammonium salts will evolve N_2 gas on heating?

$$\left(NH_{4}\right)_{2}CO_{3}, \left(NH_{4}\right)_{2}Cr_{2}O_{7}, NH_{4}NO_{2}, NH_{4}ClO_{4}, NH_{4}Cl, \left(NH_{4}\right)_{2}S, \left(NH_{4}\right)_{2}C_{2}C_{2}$$

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14. How many following metals evolve NO (Nitric oxide) gas with dil. HNO₃

(20%)?

Hg, Cu, Pb, Zn, Fe, Al, Ag, Au, Mn

15. Find number of basic radicals among the following cations, which can form soluble complex on adding excess of NH_A solution.

 $Cd^{2+}(aq.), Pb^{2+}(aq.), Ni^{2+}(aq.), Mn^{2+}(aq.), Zn^{2+}(aq.), Ag^{+}(aq.), Hg^{2+}(aq.)$

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16. Calculate difference between oxidation state of chromium (Cr) in blue and green coloured chromium species formed during the following given transformation.

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17. If hydrolysis of interhalogen compound can be represented by following general reaction:

$$XY_{n_1} \rightarrow n_1 HY + HXO_{n_2}$$

If given interhalogen compound is polarr and non-planar, then calculate value of $n_1 + n_2$.

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18. Total number of species that can be oxidzed by acidic permanganate

ion
$$(MnO_4^-/H^+)$$
.
 $I^-, Fe^{2+}, CO_2, C_2O_4^{2-}, S^{2-}, SO_3^{2-}, NO_2^-, PO_4^{3-}, SO_4^{2-}$

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19. How many following metals evolve N_2O gas with dil. HNO₃ (20%)

Cr, Cu, Pb, Zn, Fe, Al, Ag, Au, Mn.



20. How many following ammonium salts will evolve NH_3 gas on heating?

$$\left(NH_{4}\right)_{2}CO_{3}, \left(NH_{4}\right)_{2}Cr_{2}O_{7}, CH_{3}COONH_{4}, NH_{4}ClO_{4}, NH_{4}Cl, \left(NH_{4}\right)_{2}S, \left(NH_{4}OCA_{4}, COA_{4}OCA_{4}, COA_{4}OCA_{4$$

21. Find out the number of cation (s) which form(s) black ppt. (soluble in hot and dilute HNO_3) on passing H_2S gas into their salt solution? $Mg^{2+}(aq.)Cu^{2+}(aq.), Ba^{2+}(aq.), Fe^{3+}(aq.), Ag^{+}(aq.), Al^{3+}(aq.), Hg^{2+}(aq.),$

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22. Find total number of reagnets which cann produce I_2 from KI solution. Conc. H_2SO_4 , $Hg(NO_3)_2$ solution, $CuSO_4$ solution, Conc. H_3PO_4 , $K_2Cr_2O_7/H^+$, Cl_2 Water, $Pb(CH_3COO)_2$ solution, $Ca(OCl)Cl/H^+$, NaNO

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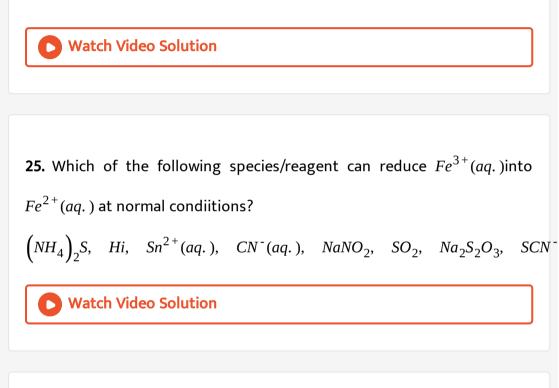
23. Find total number of metal cations which are ppted as metal sulphide on passing H_2S gas through metal salt solution.

 $Pb^{2+}(aq.), Mn^{2+}(aq.), Sn^{2+}(aq.), Cr^{3+}(aq.), Mg^{2+}(aq.), Hg^{2+}(aq.)$



24. Consider the following reaction $P_4 + KOH \rightarrow PH_3 + X$

How many P-H bonds are present in species X?



26. Find out number ionic compound(s0 which is/are water insoluble at room temperature

 $BaSO_4$, $AgNO_3$, $PbCO_3$, $CaCl_2$, $Mg(OH)_2$, $KMnO_4$, CH_3COOAg , $CaCl_2$, $Mg(OH)_2$, $KMnO_4$, CH_3COOAg , $CaCl_2$, $Mg(OH)_2$, Marcel Marce



27. Find the value of expression |x-| for following compounds.

where,

x=total number of water insoluble salts.

y=total number of salts, which can liberate non-olar acidic gas during their complete thermal decomposition.

 $BaCO_3$, $PbSO_4$, $AgNO_3$, CaC_2O_4 , $CsHCO_3$, Na_3PO_4 , CH_3COOAg ,



28. Find out total number of coloured compound(s) from following:

BaCO₃, HgO, PbSO₄, Ag₂S, HgI₂, PbO, CdS, AgNO₂, PbCrO₄

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29. Find out total number of cation(s) that produce precipitate with aqueous solution of Na_2CO_3 .

 $Cu^{2+}(aq.\,), Mg^{2+}(aq.\,), Fe^{3+}(aq.\,), Pb^{2+}(aq.\,), Al^{3+}(aq.\,), Hg^{2+}(aq.\,), Zn^{2+}(aq.\,), Zn^{2+}(aq.\,), Sn^{2+}(aq.\,), Sn^{$

30. $P_4 + SOCl_2 \rightarrow \text{Products}$

Find out total number of non-planar and polar molecules of products in

balanced equation for one mole of P_4 .

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31. What is average oxidation state state of sulphur in product formed in

given reaction?

 $Na_2SO_3 + Na_2S + I_2 \rightarrow \dots + NaI$

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32. find out total number of coloured/black water insoluble compound(s)

from following substances:

 $Ag_2O, HgI_2, FeS, Ag_3PO_4, Ba(MnO_4)_2, Na_2CrO_4, PbI_2, AgNO_2, Ag_2C_2O_4$

33. Find out total number of compounds which on heating undergo redox reactions.

$$PbCl_4, Mg(NO_3)_2, HgC_2O_4, Ag_2CO_3, Pb(CN)_4, Al(OH)_3, Cu(CN)_2$$

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34. How many following Ammonium salts will evolve N_2 gas on heating?

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35. How many following metals evolve NO (Nitric oxide) gas with dil. *HNO*₃ (20%)?

Hg, Cu, Pb, Zn, Fe, Al, Ag, Au, Mn

36. Find number of basic radicals among the following cations, which can form soluble complex on adding excess of NH_A solution.

 $Cd^{2+}(aq.), Pb^{2+}(aq.), Ni^{2+}(aq.), Mn^{2+}(aq.), Zn^{2+}(aq.), Ag^{+}(aq.), Hg^{2+}(aq.)$



37. Calculate difference between oxidation state of chromium (Cr) in blue and green coloured chromium species formed during the following given transformation.



38. If hydrolysis of interhalogen compound can be represented by following general reaction:

water $XY_{n_1} \rightarrow n_1HY + HXO_{n_2}$

If given interhalogen compound is polarr and non-planar, then calculate

value of $n_1 + n_2$.

39. Total number of species that can be oxidzed by acidic permanganate

ion
$$(MnO_4^-/H^+)$$
.
 $I^-, Fe^{2+}, CO_2, C_2O_4^{2-}, S^{2-}, SO_3^{2-}, NO_2^-, PO_4^{3-}, SO_4^{2-}$

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40. How many following metals evolve N_2O gas with dil. *HNO*₃ (20%)

Cr, Cu, Pb, Zn, Fe, Al, Ag, Au, Mn.

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41. How many following ammonium salts will evolve NH_3 gas on heating?

$$\left(NH_{4}\right)_{2}CO_{3}, \left(NH_{4}\right)_{2}Cr_{2}O_{7}, CH_{3}COONH_{4}, NH_{4}ClO_{4}, NH_{4}Cl, \left(NH_{4}\right)_{2}S, \left(NH_{4}CL, CH_{4}CL, CH_{$$

42. Find out the number of cation (s) which form(s) black ppt. (soluble in hot and dilute HNO_3) on passing H_2S gas into their salt solution? $Mg^{2+}(aq.)Cu^{2+}(aq.), Ba^{2+}(aq.), Fe^{3+}(aq.), Ag^+(aq.), Al^{3+}(aq.), Hg^{2+}(aq.),$

