

Sri Chaitanya IIT Academy, India

A.P, TELANGANA, KARNATAKA, TAMILNADU, MAHARASHTRA, DELHI, RANCHI A right Choice for the Real Aspirant

ICON CENTRAL OFFICE, MADHAPUR-HYD

 Sec: Sr.IPLCO
 JEE-ADVANCE
 Date: 15-11-15

 Time: 3 Hours
 2011-P1-Model
 Max Marks: 240

PAPER-I KEY & SOLUTIONS

CHEMISTRY

1	D	2	С	3	A	4	С	5	С	6	D
7	С	8	ACD	9	CD	10	BCD	11	BC	12	В
13	A	14	С	15	A	16	С	17	4	18	6
19	8	20	5	21	3	22	4	23	2		

PHYSICS

24	В	25	D	26	В	27	D	28	В	29	A
30	В	31	AC	32	AB	33	ACD	34	ACD	35	A
36	В	37	В	38	С	39	В	40	8	41	2
42	3	43	2	44	7	45	6	46	9		

MATHS

47	С	48	D	49	В	50	A	51	D	52	A
53	С	54	AC	55	BCD	56	AC	57	ABCD	58	С
59	В	60	A	61	С	62	D	63	3	64	4
65	7	66	5	67	8	68	3	69	2		

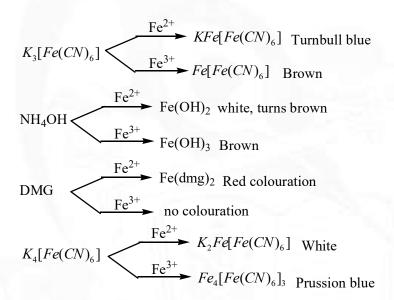
CHEMISTRY

1. $CaCl_2 + H_2C_2O_4 \rightarrow CaC_2O_4 + 2HCl$ $Ca(NO_3)_2 + H_2C_2O_4 \rightarrow CaC_2O_4 + 2HNO_3$ $CaSO_4 + H_2C_2O_4 \rightarrow CaC_2O_4 + H_2SO_4$ $(CH_3COO)_2Ca + H_2C_2O_4 \rightarrow CaC_2O_4 + 2CH_3COOH$

Any acid base reaction favorable in the direction of formation of weak acid and work base

- 2. $CoZnO_2 Rinmann$'s green $Co(AlO_2)_2 thenard blue$ $CoMgO_2 pink$ $MnO_4^{2-} green$
- 4. For water insoluble salts and coloured salts test for anion to be conducted with sodium carbonate extract
- 5. $Hg^{2+} + Co^{2+} + 4SCN^{-} \rightarrow Co[Hg(SCN)_4]$ Blue precipitate but not blue solution

6.



8.

PbO₂ + Conc HNO₃, Boil

HMnO₄ (purple)

Na₂CO₃ + KClO₃,
$$\Delta$$

Na₂MnO₄ (green)

NaBiO₃+dil.HNO₃

HMnO₄

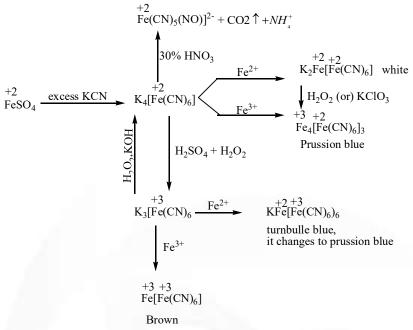
KIO₄

HMnO₄

9.
$$Ni^{2+} + NH_4OH \rightarrow Ni(OH)^+ \downarrow \xrightarrow{NH_4OH} [Ni(NH_3)_6]^{2+}$$
green dark blue

11. Except AgNO₃, AgF and AgClO₄ all Ag(I) salts are water insoluble

14,15,16



- 18. I, II, IV, V, VIII, IX
- 19. With HCl+H₂S only group II cations are precipitated but with NH₄Cl+NH₄OH+K₂S along with group IV, group II cations are also precipitated if they are not precipitated earlier
- 20. First five
- 21. $IO_3^- + 5I^- + 6H^+ \rightarrow 3I_2 + 3H_2O$
- 22. a, c, e, f are correct

$$\begin{array}{c|c} & HgCl_2 & Hg(NH_2)Cl \\ \\ NH_4OH & & +2 & o \\ \hline & & Hg(NH_2)Cl + Hg \end{array}$$

 $NH_4SCN \xrightarrow{Fe^{3+}} Black \ red$

 $NH_4SCN \xrightarrow{Fe^{2+}} no observation$

 $NH_4SCN \xrightarrow{Cd^{2+}} no ppt$

 $NH_4SCN \xrightarrow{Cu^{2+}} Blood\ ppt \rightarrow white\ ppt$

23.
$$2Pb(NO_3)_2 \xrightarrow{\Delta} 2PbO + 4NO_2 \uparrow +O_2 \uparrow$$

$$2Zn(NO_3)_2 \xrightarrow{\Delta} 2ZnO + 4NO_2 \uparrow +O_2 \uparrow$$

when hot

$$NH_4NO_3 \xrightarrow{\Delta} N_2O \uparrow +2H_2O$$

$$2KNO_3 \xrightarrow{\Delta} 2KNO_2 + O_2 \uparrow$$