DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : CHEMISTRY**
DATE : **DPP No. : 6**

Topic :- THE D-AND F-BLOCK ELEMENTS

1. Substance used in glazing pottery is:
   a) ZnO b) $ZnCl_2$ c) Alum d) Calome

2. The brown ring complex compound is formulated as $[Fe(H_2O)_5(NO)]SO_4$. The oxidation state of iron is:
   a) +1 b) +2 c) +3 d) +4

3. For the four successive transition elements (Cr, Mn, Fe and Co), the stability of +2 oxidation state will be there in which of the following order?
   a) Cr > Mn > Co > Fe
   b) Mn > Fe > Cr > Co
   c) Fe > Mn > Co > Cr
   d) Co > Mn > Fe > Cr
   (At. Nos. Cr = 24, Mn = 25, Fe = 26, Co = 27)

4. Which of the following methods can't be used to prepare anhydrous zinc chloride?
   a) Passing dry chlorine over heated zinc
   b) Passing dry hydrogen chloride over heated zinc
   c) Heating the crystal of $ZnCl_2 \cdot 2H_2O$
   d) Distilling metallic zinc with mercury (II) chloride

5. Prussian blue is due to formation of
   a) $Fe[Fe(CN)_6]_3$ b) $Fe_2[Fe(CN)_6]$ c) $Fe_4[Fe(CN)_6]_3$ d) $Fe_3[Fe(CN)_6]$

6. For which one of the following ions, the colour is not due to a $d-d$ transition?
   a) CrO_4^{2-} b) $Cu(NH_3)_4^{2+}$ c) $Ti(H_2O)_6^{3+}$ d) CoF_6^{3-}

7. Which of the following statement is not correct?
   a) $La(OH)_3$ is less basic than $Lu(OH)_3$
   b) In lanthanide series ionic radius of Ln^{3+} ions decrease
   c) Zn, Cd, Hg are colourless and are diamagnetic

d) Mn shows maximum oxidation state is +7

8. Which of the following lanthanide is commonly used?
   a) Lanthanum b) Nobelium c) Thorium d) Cerium

9. Blueprint papers have a coating of:
   a) Mixture of potassium ferricyanide and ammonium ferric citrate or ferric oxalate
   b) Sodium nitroprusside
   c) Prussian blue
   d) None of the above

10. Colour in transition metal compounds is attributed to:
    a) Small sized metal ions
    b) Absorption of light in the UV region
    c) Complete ns-subshell
    d) $d - d$ transition

11. Which is not ferromagnetic?
    a) Fe b) Co c) Ni d) V

12. Various methods have been employed for protecting iron from rusting. Which of the following is incorrect?
    a) Zinc plating is more permanent than chrome plating
    b) Zinc protects iron but gets corroded itself
    c) Tin plating is cheap but unreliable
    d) None of the above

13. A clock spring is heated to a high temperature and then suddenly plunged into cold water. This treatment will cause the metal to become:
    a) Soft and ductile
    b) More springy than before
    c) Hard and brittle (case hardening)
    d) Strongly magnetic

14. Which has the lowest melting point?
    a) Cs b) Na c) Hg d) Sn

15. The temperature of the slag zone in the metallurgy of iron using blast furnace is
    a) 1200-1500°c b) 1500-1600°c c) 400-700°c d) 800-1000°c

16. Oxygen is absorbed by molten Ag, which is evolved on cooling and the silver particles are scattered; the phenomenon is known as:
    a) Silvering of mirror b) Spitting of silver c) Frosting of silver d) Hairing of silver

17. Which of the following statements regarding copper salts is not true?
    a) Copper(I) Disproportionates into Cu and Cu(II) in aqueous solution
    b) Copper(I) can be stabilised by the formation of insoluble complex compounds such as $CuCl_2^-$ and $Cu(CN)_2^-$
    c) Copper(I) oxide is red powder
    d) Hydrated $CuSO_4$ is $Cu(H_2O)_4]SO_4 \cdot H_2O$

18. Which compound cannot be prepared?
    a) $Zn(OH)_2$ b) $Cd(OH)_2$ c) $Hg(OH)_2$ d) $HgCl_2$

19. The colour of solution obtained by adding excess of KI in the solution of $HgCl_2$ is:
    a) Orange b) Brown c) Red d) Colourless

20. Which of the following is the correct sequence of atomic weights of given elements?
    a) $Co > Ni > Fe$ b) $Fe > Co > NI$ c) $Fe > Ni > Co$ d) $Ni > Co > Fe$