CET QUESTIONS ON-

METALLURGY, ATOMIC STRUCTURE, PERIODICTABLE AND OXIDATION NUMBERS

1. Zone refing is used for the
   1) Concentration of ore 2) Reduction of metal oxide
   3) Purification of metal 4) Purification of ore.

2. The substance not likely to contain $CaCO_3$ is
   1) Dolomite 2) A marble statue
   3) Calcined gypsum 4) Sea shell

3. Gold is leached out from the native ore by treating with a solution of
   1) Sodium thiosulphate 2) Sodium hydroxide
   3) Sodium chloride 4) Sodium cyanide.

4. Cinnabar is an ore of
   1) Hg 2) Cu
   3) Pb 4) Zn

5. In blast furnace, the highest temperature is
   1) Slag zone 2)) Reduction zone
   3) Combustion zone 4) Fusion zone

6. The ore which contains copper and iron is
   1) Cuprites 2) Chalcocite
   3) Chalcopyrite 4) Malachite

7. Chromium is obtained by reducing purified chromites ore with
   1) Red hot coke 2) Gaseous hydrogen
   3) Aluminum powder 4) Carbon monoxide

8. An ore of iron containing $FeWO_4$ is concentrated by
   1) Magnetic separation 2) Froth flotation
   3) Electrostatic method 4) Gravity separation

9. Alkali metals are generally extracted by
   1) Reduction method 2) Double decomposition method
   3) Displacement method 4) Electrolytic method

10. Magnesium is not present in
    1) Cryolite 2) Dolomite
    3) Carnallite 4) Epsom salt

11. Which is the most abundant metal in earth's crust?
    1) Al 2) Fe
    3) Na 4) Ca

12. Matte contains mainly
    1) Cu_2S and FeS 2) CuS andFe_2S_3
    3) Fe 4) Cu_2S
13. The process of converting hydrated alumina into anhydrous alumina is called
    1) Roasting 2) Calcinations
    3) Dressing 4) Smelting
14. Froth flotation process is used for the metallurgy of
    1) Chloride ore 2) Amalgams
    3) Oxide ores 4) Sulphide ore
15. Flux is used to
    1) Remove silica 2) Remove silica and undesirable metal oxide
    3) Remove all impurities from ores 4) Reduce metal oxide
16. The maximum number of electrons in the nth orbit is
    1)n^2 2)2n
    3)$2n^2$ 4)$3n^2$
17. The number of unpaired electrons in nitrogen atom is
    1)6 2)8
    3)7 4)3
18. When the azimuthal quantum number (l) =3, m can have
    1)1 value 2)3 value
    3)5 value 4)7 value
19. An element M has an atomic mass 19 and atomic number 9, its ion is represented by
    1) M^+ 2)M^{2+}
    3) M^- 4M^{2-}
20. The principal quantum number of an atom represents
    1) Size of orbital 2) Spin angular momentum
    3) Orbital angular momentum 4) Space orientation of orbital
21. The two electrons present in an orbital are distinguished by
    1) Principal quantum number 2) Azimuthal quantum number
    3) Magnetic quantum number 4) Spin quantum number
22. The g sub shell is characterized by
    1) n=5 2) m=3
    3) l=4 4) l=5
23. The number of 2p electrons having Spin quantum number s=-1/2 are
    1)6 2)0
    3)2 4)3
24. The de-Broglie equation treats an electron to be
    1) A particle 2) A wave
    3) Both 4) None
25. What is packet of energy called?
    1) Electron 2) Photon
    3) Positron 4) Proton

26. When an electron of hydrogen atom returns to L shell from higher energy level, we get which Series of lines

1) Lyman series 2) Balmer series

3) Paschen series 4) Brackett series

27. The number of degenerate orbitals in the d-sub shell is

1)3 2)7

3)5 4)1

28. The atomic number of an element is 17.The number of orbitals containing electron pairs in the Valence shell is

1)3 2)6

3)2 4)8

29. Which of the following will have largest size?

1) Br 2) Cl

3) I 4) F

30. Which of the following has zero electronegativity?

1) Oxygen 2) Fluorine

3) Nitrogen 4) Neon

31. Diagonal relationship is shown by

1) Be and Al 2) Li and Na

3) Be and Mg 4) Be and Ca

32. The molecule with highest percentage of ionic character is

1) HBr 2)HI

3) HF 4) HCl

33. Which of the following element will have lowest first ionization energy?

1) Mg 2) Rb

3) Li 4) Cs

34. The second ionization energy is always grater than the first ionization energy. This is because

1) The effective nuclear charge increases 2) The number of shells decreases

3) The number of protons increases 4) none of these

35 Which of the following is the man made element?

1) Ra 2) U

3) Np 4) C-14

36. Among Na+, Na, Mg and Mg2+ largest particle is

1) Mg^{2+} 2)Mg

3) Na 4) Na

37. Which of the following metal requires radiation of minimum frequency to cause electron emission?

1) Na 2) K

3) Mg 4) Ca

38, Collective name given to the element with outer shell electronic configuration ns2 np6 is

1) Halogens 2) Transition elements

3) Alkaline earth metals 4) Nobel gases

39. Which of the following does not have any unit?

1) Electron affinity 2) Ionization energy

3) Atomic radii 4) Electronegativity

40. The oxidation number of Cr in CrO_5 is

1) +3 2) +5

3) +6 4)0

41. The element which can have highest oxidation state is

1) C 2) N

3) F 4) Cl

42. The oxidation number of Fe in $Fe(CO)_5$ is

1) +4 2) +2

3) +6 4)0

43. Oxygen has +2 oxidation states in

1) H_2O_2 2) H_2O

3) OF_2 4) SO_2

44. The oxidation number of nitrogen is fraction in

1)NH_4^+ 2)NH_3

3)HN_3 4)N_2H_2

45. Oxidation is the removal of electrons. The strongest oxidizing agent is

1) Iodine 2) Oxygen

3) Chlorine 4) Fluorine

46. The oxidation number of C in $C_6H_{12}O_6$ is

1)0 2)4

3)2 4)1

47. The oxidation number of oxygen in O_2PtF_6 is

1)0 2) +1/2

3) +1 4)-1/2

48. The nitrogen can have oxidation number-3 to+5; identify the compound having nitrogen in+1 state

1) N_2O_5 2) N_2O

3) NO 4) N_2

49. The conversion of $C_{12}H_{22}O_{11}$ to CO_2 is

1) Oxidation 2) reduction

3) None 4) both

50. The equivalent mass of potassium permanganate in basic medium is

1)158 2)31.6

3)52.7 4) none