CHEMISTRY

QUESTION SET-1

1. Which ray has the highest penetrating power?

   a) α-ray b) γ-ray c) β-ray d) x-ray

2. Which aldehyde on ammonolysis gives a product called urotropine

   a) formaldehydeb) acetaldehyde c) benzaldehyde d)propionaldehyde

3. The [OH^-] of an aq. solution is 1×10^{-5}. The P^H of the solution is

a) 5 b) 9 c) 4.5 d) 11

4. In a reversible reaction two substances are in equilibrium. If the concentration of each one is doubled. The equilibrium constant is

a) Reduced to its ½ of its original value b) Reduced to its$1/4^{th}$ of its original value

   c) Doubled c) remains same or constant

5. How many coulomb are required for the oxidation of 1 mole of H_2O to O_2?

   a) $1.93x10^5C$ b) $9.65x10^4C$ c) $3.86x10^5C$ d) $4.825x10^4C$

6. Which one of the following is an extensive property?

   a) Mass b) pressurec)Temperature d)Density

7. The co-ordination number of the central metal atom of $[CoBr_2(en)_2]Cl$ is

a) 5 b) 6 c) 3 d) 4

8. For the reaction $PCl_5(g) \rightleftharpoons PCl_3(g) + Cl_2(g)$, the value of Kc=26. The value of Kp at 250^0C temp. will be

a) 0.61 b) 0.57 c) 0.83 d) 0.46

9. Aromatic compounds contains

   a) (2n+4) delocalized π-electrons b) (4n+2) delocalized π-electrons c) (3n+4) delocalized π-electrons d) none

10. A radioactive isotope has a half-life of 10days. If today there is 125gm of it is left what was its mass 40days earlier?

    a) 600gm b) 1000gm c) 1250gm d) 2000gm

11. Which of the following is an intensive property?

a) Mass b) Pressure c) Volume d) Entropy

12. Hydrogen bomb is based on the principle of

a) Nuclear fission b) Nuclear fusion c) Artificial transmutation d) None

13. The IUPAC name of Ni $(CO)_4$ is

a) Nickel tetracarbonyl b) tetracarbonyl nickel (0) c) tetracarbonylnickelate (0) d) tetra carbonyl nickel

14. For a spontaneous process ΔS is always

a) Negative b) Positive c) Both d) Zero

15. Which of the noble gases is not present in atomosphere

a) He b) Ne c) Ar d) Rn

16. Which one of the following is the ore of copper

a) Bauxite b) Dolomite c)Malonchited) Haematite

17. Purest form of iron is called as

a) Pig iron b) Cast iron c) Wrought iron d) Steel

18. The oxidation state of Fe in brown ring complex $[Fe(H_2O)_5NO]SO_4$ is

a) + 1 b) + 2 c) + 3 d) + 4

19. The number of unpaired electrons in Fe^{3+} ion is

a) 2 b) 4 c) 5 d) 3

20. The hybridization shown by XeF_6 is

a) sp^2 b) sp^3d^3 c) sp^3d^3 d) sp^3d^2