**SENIOR 3 QUESTIONS**

1. How does a catalyst act?

 A) The catalyst lowers the activation energy

B) The catalyst gives energy the reactants extra energy

C) The catalyst increases the pressure in the reactor

D) The catalyst provides ultraviolet light.

**(Answer : A)**

2. Iron (II) ions produce coloured precipitates with sodium hydroxide solution.

What colour of iron (II) precipitate in NaOH solution?

1. Brown
2. Red
3. White
4. Green

**(Answer : D)**

3. What is the colour change when water is put in anhydrous copper sulphate powder?

A) Blue to colourless

B) Blue to pink

C) White to blue

D) No colour change

**(Answer : C)**

4. Polychloroethene is a polymer produced from crude oil. Why is polychloroethene used for water pipes?

A) The polymer is not biodegradable

B) The polymer is made from crude oil.

C) The polymer decomposes when heated

D) The polymer does not conduct electricity

**(Answer : A)**

5. At the positive electrode, the oxygen ions lose electrons to produce oxygen gas. What is this type of reaction called?

A) Combustion

B) Oxidation

C) Reduction

D) Rearrangement

**(Answer : B)**

6. What reaction that happens to alkanes in a car engine?

A) Combustion

B) Decomposition

C) Neutralisation

D) Precipitation

  **(Answer : A)**

7. Why is pentane needed by man?

A) Propane is a polymer

B) Propane is an alloy

C) Propane is a fertilizer

D) Propane is a fuel.

 **(Answer : D)**

8. Which calculation shows the percentage by mass of potassium in potassium iodide, KI?

 (Atomic mass: K=39, I=127)

 A) $\frac{35.5}{36.5}$$\frac{127}{166}$x 100%

B) $\frac{39}{166 }$ x100%

C) $\frac{166}{39}$ x100%

D) $\frac{19}{166}$ x100%

 **(Answer : B)**

9. A reaction at the anode involves:

A) Gain of electrons to the ion

B) Loss of electrons from the ion

C) Gain of electrons depends upon the electrolyte

D) Formation of gases

**(Answer : B)**

10. The empirical formula of a hydrocarbon is **CH2 .** The mass of 4.2g of the hydrocarbon has a volume of 2400 cm3 .Which of the following is the most likely molecular formula of this hydrocarbon?

A) C2H4

B) C3H6

C) C4H8

D) C5H10

(1 mole of a gas occupies 24000 cm3 at room temperature and pressure)

(Atomic mass: C=12, H=1)

**(Answer : B)**

11. One mole of hydrocarbon X reacted completely with two moles of hydrogen gas in the presence of a heated catalyst.

What could be the molecular formula of X?

1. C2H6
2. C3H8
3. C5H8
4. C5H10

**(Answer : C)**

12. Which of the following does not occur in the complete combustion of ethane in plentiful supply of air?

A) Breaking of carbon-hydrogen bonds

B) Breaking of carbon-carbon bonds

C) Breaking of carbon-oxygen bonds

D) Forming of carbon to oxygen bonds

**(Answer : C)**

13. Which of the following hydrocarbons would you expect to find in petroleum gas?

A) C7H16

B) C7H14

C) C3H8

D) C16H34

**(Answer : C)**

14. If acidified potassium dichromate K2Cr2O7 acts as an oxidizing agent, its colour changes from:

A) Orange to red

B) Orange to green

C) Yellow to green

D) Yellow to red

**(Answer : B)**

15. The formula of copper carbonate is:

A) CuCO3

B) CuCO2

C) CuCHO3

D) CuCOH

**(Answer : A)**

16. To balance Al(OH)3 + HNO3 → Al(NO3)3 + 3H2O

Number of HNO3 molecules will be:

1. 1
2. 2
3. 3
4. 4

**(Answer : C)**

17. In Na2CO3.10H2O, percentage of water is:

 (Atomic mass: Na= 23, C=12, O= 16, H=1)

A) 0.5009 x 100%

B) 0.1699 x100%

C) 0.4294 x100%

D) 0.6294 x100%

**(Answer : D)**

18. The following factors can speed up the rate of chemical reactions except:

A) Pressure

B) Concentration of reactants

C) Catalysts

D) Inhibitors

**(Answer : D)**

19. The Haber process in the manufacture of ammonia requires the catalyst of:

A) Vanadium oxide

B) Iron

C) Platinum

D) Nickel

**(Answer : B)**

20. Milk turns sour due to:

A) Reduction of fats in it

B) Reduction of the salt concentration in it

C) Conversion of lactic acid into lactose

D) Conversion of lactose into lactic acid

**(Answer : D)**

21. If a piece of blood-rich liver is dipped in hydrogen peroxide, the gas given off is:

A) Hydrogen

B) Carbon dioxide

C) Oxygen

D) Water vapour

**(Answer : C)**

22. Oxidation reaction involves:

A) Loss of hydrogen

B) Loss of oxygen

C) Gain of hydrogen

D) Gain of electrons

**(Answer : A)**

23. In the reaction between copper oxide, CuO and carbon monoxide CO, the oxidizing agent is:

A) CuO

B) CO

C) Cu

D) CO2

**(Answer : A)**

24. The rate of diffusion is:

A) Decreased if temperature increases

B) Increased if the kinetic energy decreases

C) Increased if the molecular mass is increased

D) Increased if the temperature is increased

**(Answer : D)**

25. Potassium iodide is used to test the chemical presence of:

A) Al3+

B) Pb2+

C) K+

D) Zn2+

**(Answer : B)**

26. The following salt can be prepared by a weak acid and a strong base neutralization.

A) (NH4)2SO4

B) CH3COONa

C) NaCl

D) NH4Cl

**(Answer : B)**

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