Ans.(c)

*(iii) Substances which flow in the internal circuit of a galvanic cell is*

(a) electrons (b) ions

(c) both lectrons and ions (d) none of these

Ans.(b)

*(iv) Zn reacts with dilute $H_2SO_4$ to give $H_2$ but Cu does not because.*

(a) Zn has a lower reduction potential than hydrogen

(b) Zn has a higher reduction potential than hydrogen

(c) Cu has a lower reduction potential than hydrogen

(d) None of these

Ans.(c)

*(v) In metallurgy, flux is substance used to convert*

(a) infusible impurities to fusibe material

(b) fusible impurities to infusible material

(c) minerals into silicate

(d) soluble particles to insoluble particles

Ans.(a)

*(vi) An alloy which does not contain Cu is*

(a) bronze (b) solder

(c) brass (d) bell metal

Ans.(b)

*(vii) Backlite is made by the polymerisaion of*

(a) phenol and formaldehyde

(b) melamine and formaldehyde

(c) Urea and formaldehyde

(d) Ethylene glycol and phthalic acid

Ans.(a)

*(viii) Amount of oxygen required for oxidation of both biological active and inert organic matter is called*

(a) BOD (b) COD (c) $O_2$ (d) None

Ans.(b)

**Q.2 *Give answer SIx in brief.***

*(i) Give the electronic configuration of the followings.*

Ans.(a) $H^+ = 1s^2$

(b) $Na^+ = 1s^2, 2s^2, p^6$

(c) $F^- = 1s^2, 2s^2, 2p^6$

(d) $Cu^+ = 1s^2, 2s^2, 2p^6, 3s^2, 3p^6, 4s^0, 3d^{10}$

*(ii) How many shells, subshells orbitals and electrons are present in an atom with atomic number 11 and atomic mass 23?*

Ans. Refers to chapter 1 Q. no. 13

*(iii) Why does blue colour of $CuSO_4$ solution get discharged when an iron rod is dipped into it?*

Ans. When iron rod is dipped into $CuSO_4$ solution the iron reacts with $CuSO_4$ solution and gives Ferrous sulphate $FeSO_4$ and the blue colour of $CuSO_4$ solution gets discharged and we get following reaction

$$CuSO_4 + Fe \rightarrow FeSO_4 + Cu(\downarrow)$$

*(iv) Define the following:*

*(a) Gangue (b) Flux*

*(c) Ductility (d) Malleability*

Ans: Refers to chapter 3 Q no 2

*(v) Discuss the purpose of alloying metals?*

Ans. Refers to chapter 3 Q. no. 3

*(vi) What are the main sources of Air pollution?*

Ans. Refers to chapter 5 Q. no. 3

*(vii) Write about Global warming.*

Ans. Refers to chapter 5 Q. no. 10(d)

**Q.3 Answer the following:**

*(i) What is Aufbau principle? Write down the no. of unpaired electron present in following?*

*(At. no. Fe 26, Cl = 17)*

(a) Fe (b) $Cl^-$

Ans. Refers to chapter 1 Q. No. 16

*(ii) What is Faraday's Law of electrolysis? Explain.*

Ans. Refers to chapter 2 Q. no. 13

*(iii) Discuss the electrolysis of $CuSO_4$ solution by using Cu electrodes & Platinum electrodes.*

Ans. Refers to chapter 2 Q. no. 10

*Q4. How mch copper will be deposited on the cathode of an electrolytic cell containing $CuSO_4$ solution by the passage of a current of 2 amperes for 30 minutes (At mass of Cu = 63.5)*

Ans. I = 2 amp : t = 30 minutes = $30 \times 60 = 1800$ sec.

Cu = 63.5 $Cu = Cu^{2+} + 2e^-$

$$Z = \frac{\text{equivalent weight}}{\text{mole of } e^-} = \frac{63.5}{2 \times 96500} = 3.3 \times 10^{-4}$$

$m = zit; = 3.3 \times 10^{-4} \times 2 \times 1800 = 1.184$ gram of Cu

So, 1.184 gm of copper will be deposited on the cathode of an electrolytic cell.

*Q5. Write down the two methods employed for the preperation of alloys.*

Ans. Refers to chapter 3 Q. no. 8

*Q6. Define and explain the term addition and condensation polymerisation with suitable example.*

Ans. Refers to chapter 4 Q. no. 1