Q1(A):

number of neutrons=mass number-number of protons=37-17=$\boxed{20}$.

Q1(B):

(1): Allotropes.

$\boxed{(2)}$: Isotopes as they are the same element with different mass numbers.

(3): Ions with different oxidation states.

(4): Different elements with the same electronic configuration.

(5): Same group elements.

Q1(C):

All the options has the same electron configuration.

Therefore, the atom (ion) with the smallest number of protons, which implies the weakest electric attraction, has the largest ionic radius.

Hence, $\boxed{(1)}$ has the largest ionic radius.

Q1(D):

Refer to the equation, MnO_4^- is reduced to Mn^{2+} and H_2O_2 is oxidised to O_2.

Therefore, $KMnO_4$ is the oxidising agent while H_2O_2 is the reducing agent $\boxed{(5)}$.

Q1(E):

(1): Has three $-OH$ groups and hence three oxygen atoms.

(2): Has only one $C = O$ bond with one oxygen atom.

(3): Has two $C = O$ bonds and one ether linkage and hence three oxygen atoms in total.

$\boxed{(4)}$: Has an ester linkage which contains two oxygen atoms.

(5): Has one $-OH$ group which contains one oxygen atom.

Q1(F):

A double bond is the necessary condition for a compound to exhibit geometric isomers. Hence (2), (3), (5) can be rejected.

As (4) is symmetric on one side, it has no geometric isomers.

Therefore, only $\boxed{(1)}$ has geometric isomers.

Q1(G):

The molar ratio $C : H : O = \frac{40.0}{12.0} : \frac{6.67}{1.0} : \frac{53.3}{16.0} \approx 1 : 2 : 1$.

Therefore, the empirical formula is $\boxed{CH_2O}$.

Q1(H):

$\boxed{Ca}$ has the strongest reactivity and hence the strongest ionisation tendency.

Q1(I):

Addition of Cl_2 to C_2H_4 gives $(CH_2Cl)_2$. Dehydrochlorination occurs when heated and $\boxed{\text{vinyl chloride}}$ is formed.

Q2:

(A): Balancing the equation: $C_2H_5OH + \boxed{3} O_2 \to 2CO_2 + 3H_2O$.

(B):

$$\Delta H_c[C_2H_5OH] = 2\Delta H_f[CO_2] + 3\Delta H_f[H_2O] - \Delta H_f[C_2H_5OH]$$

$$\Delta H_f[C_2H_5OH] = 2 \cdot (-394) + 3 \cdot (-286) + 1368 = -278\ kJ$$

Therefore, the heat of formation is $\boxed{278\ kJ}$.

Q3:

(A): $\frac{12 \cdot \frac{10}{1000}}{1.0} = \boxed{0.12\ mol/L}$.

(B): $0.12 \cdot \frac{100}{1000} = \boxed{0.012\ mol}$.

(C): Number of moles of $H^+ = 0.12 \cdot \frac{20}{1000} = 0.0024\ mol$.

Number of moles of $OH^- = M \cdot \frac{100}{1000} \cdot 2 = 0.2M$.

Solving $0.2M = 0.0024$, we have $M = \boxed{0.012\ mol/L}$.

Q4:

(A): $Q = It = 2.0 \cdot (1 \cdot 60 \cdot 60) = 720\ C = \frac{720}{9.65 \times 10^4} \approx \boxed{0.075\ mol}$.

(B): The half equation is given by $4OH^- \to O_2 + 2H_2O + 4e^-$.

As $0.075\ mol$ of e^- is consummed, $\frac{0.075}{4}\ mol = \frac{0.075}{4} \cdot 22.4 = \boxed{0.42\ L}$ of O_2 was liberated.

(C): The half equation is given by $Ag^+ + e^- \to Ag$. As $0.075\ mol$ of e^- is consummed, $0.075\ mol = 0.075 \cdot 108 = \boxed{8.1\ g}$ of Ag were deposited.

Q5:

(A): By the conservation of mass, we have 10.0-8.0=2.0 g of O_2 is used.

Therefore, $\frac{2.0}{2 \cdot 16.0} \cdot 22.4 = \boxed{1.4\ L}$ of O_2 is used.

(B): The weight percentage=$\frac{8}{10} \times 100\% = \boxed{80\%}$.

(C): Considering the weight percentage, $\frac{m}{m+16.0} = 80\%$, we have $m = \boxed{64}$.