

XI - chemistryUnit - I

Total mark: 30

I. Answer Any Three questions $3 \times 2 = 6$

1. What is limiting reagent?
2. Calculate the Empirical formula for the following. a) $C_6H_{12}O_6$ b) $C_4H_2O_8$

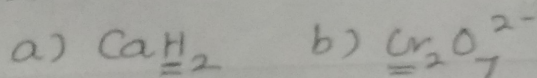
3. What is Methemoglobin?

4. $2NH_3 + CO_2 \rightarrow HN-\overset{\overset{O}{\parallel}}{C}-NH_2 + H_2O$. In this reaction urea obtained in 14 moles. Calculate the amount of urea in grams.

5. Molecular mass of "King of Acid" is 98.06 g/mol. Calculate the Molar mass of ^{the} above compound.

II. Answer Any Three questions. $3 \times 3 = 9$

6. Define Oxidation number and calculate the oxidation number of the following compounds.



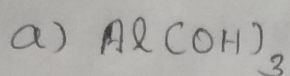
7. $A_2 + B_2 \rightarrow 2AB$. Following conditions, find the limiting reagents.

- a) 50 moles of A_2 + 5.0 moles of B_2
- b) 2 moles of A_2 + 2 moles of B_2
- c) 750 moles of A_2 + 570 moles of B_2

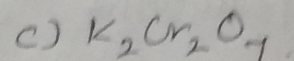
8. $\text{Zn} + \text{NO}_3^- \rightarrow \text{Zn}^{2+} + \text{NO}$ Balance the equation in Ion electron Method.

9. Calculate the GFM (gram equivalent mass) of the following compound, KMnO_4 in acid Medium. $\text{MnO}_4^- + 8\text{H}^+ + 5\text{e}^- \rightarrow \text{Mn}^{2+} + 4\text{H}_2\text{O}$

10. Mention the uses of following,



b) Iron porphyrin
ring
Cemithrocyte



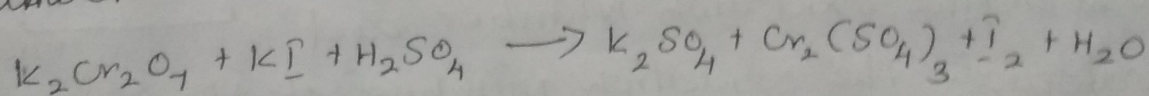
III. Answer all the questions.

$$[3 \times 5 = 15]$$

II. Calculate the Molecular Formula,

Compound	CH_2O	OH	CH_2O	$\text{C}_2\text{H}_3\text{O}_3$	CH
Vapour density	30	17	45	75	39
Molecular formula	?	?	?	?	?

12. Balance the following equation in Oxidation Number method.



13. Calculate the RAM

Isotopes	Atomic mass (Isotopes)	% (Abundance)
^{36}Ar	35.9675 g/mol	0.337%
^{38}Ar	37.9627 g/mol	0.063%
^{40}Ar	39.9624 g/mol	99.600%