

11. The correct Stock system name for $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is:

- a) cuprous sulfate pentahydrate
- b) copper(II) sulfate pentahydrate
- c) copper(II) sulfate hydrate
- d) copper(I) sulfate pentahydrate
- e) copper sulfate pentahydrate

12. Common examples of diatomic molecules from Group 7A elements include:

- a) fluorine, hydrogen, and nitrogen
- b) nitrogen, chlorine, and bromine
- c) chlorine, bromine, and iodine
- d) iodine, lead, and oxygen
- e) none of the above

13. What binary compound would be formed from barium ions and fluoride ion?

- a) Ba_2F_3
- b) BaF_3
- c) BaF
- d) Ba_2F
- e) BaF_2

Question Two:

8.5 Mark

How many phosphorous atoms are there in 2.57g of ^{31}P ? (1 Mark)

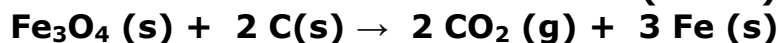
How many grams of acetylsalicylic acid (aspirin, $\text{C}_9\text{H}_8\text{O}_4$) are present in 1.32×10^{-2} mol of $\text{C}_9\text{H}_8\text{O}_4$? (^{12}C , ^1H , ^{16}O) (1 Mark)

Calculate the percent composition by mass of nitrogen in ammonium nitrate (NH_4NO_3)? (^{14}N , ^1H , ^{16}O) (1 Mark)

A compound with a percent composition by mass of 87.5%N and 12.5% H was recently discovered. What is the empirical formula of this compound? (1.5 Mark)

Ammonia is produced industrially from the reaction of nitrogen and hydrogen. Write a balanced chemical equation for this reaction, and determine the largest mass of NH₃ that could be produced from the reaction of 105g of N₂ and 15.0g of H₂? (2 Mark)

Calculate the percent yield of iron if 950g of Fe₃O₄ underwent the reaction shown in the chemical equation below and 533 g of Fe was isolated from the reaction mixture. (^{55.8}Fe)(2Mark)



Good Luck