Q1- Answer the followings true (T (/false (F)questions, then try to correct the underline if it’s false? (9Marks)

1. Identification of the compounds which means quantitative analysis (what is in the sample).

1. Gravimetric analysis is used for determination those elements that forms soluble and stable mass after reaction with precipitating reagents.
2. Gravimetric methods are classified as a micro analysis.
3. A sample must be protected as dry until weighing is completed, therefore we can keep it in a muffle furnace.
4. Oven is used for ignition, that capable of being heating up to 1400oC.
5. Post precipitation can be decrease by washing.
6. Inorganic precipitating agents are more selective.
7. Coagulation allows the precipitate to stand in contact with the liquid from which it was formed for complete precipitation.
8. Direct method: The weight of the residue remaining after the volatilization of constituent is determined.

1. The water present in the Ca(OH)2 is the type of water of hydration.
2. Occluded water is also named as hygroscopic water.
3. The [Sulfuric acid](https://en.wikipedia.org/wiki/Sulfuric_acid#:~:text=Sulfuric%20acid%20(American%20spelling)%20or,that%20is%20miscible%20with%20water.) added to the sulfate solution to prevent formation of other barium salts.
4. The precipitating agent for the sulfate ion is LiCl.
5. The results will be (+ve error) due to the removal of Cl- from the ppt. In the absence of excess silver nitrate (AgNO3).
6. The addition of more than %10 of the real volume of AgNO3 caused to decrease in the solubility of silver chloride due to the formation of the soluble complex cation.
7. The precipitating agent for the fluoride ion is lead nitrate.
8. Specific precipitating agents precipitate only a single chemical species.
9. CaSO4 is the type of desiccant that has a high capacity that can be regenerated.

Q2- A sample containing sulphate ion is to be analyzed by precipitation as BaSO4. If it is known that sulphate content in this sample is 55%, what is the sample mass should be taken to ensure that a precipitate mass about 0.2g is produced? (7Marks)

Q3- A hydrated magnesium salt, MgSO4.xH2O, was heated until all the water of hydration was lost. If a 3.188 gm sample of hydrated salt produced 1.558 gm of anhydrous salt, what is the value of x in MgSO4.xH2O? (8Marks)