**Long Answer Questions (Explain in detail):**

1. **Define theoretical yield and practical yield. How are they calculated? Explain with a suitable example.**
2. **Describe the steps involved in determining the theoretical yield of a chemical reaction starting from a balanced equation.**
3. **What is percent yield? Derive the formula and explain the significance of a high or low percent yield.**
4. **Explain the possible reasons why the practical yield of a reaction is often less than the theoretical yield.**
5. **A reaction between 10.0 g of calcium carbonate and excess hydrochloric acid produces 4.0 g of carbon dioxide. Calculate the theoretical yield and percent yield of carbon dioxide. Show all steps.**

**Short Answer Questions (Concise responses):**

1. **What is meant by theoretical yield?**
2. **How is percent yield calculated?**
3. **Why is the practical yield usually less than the theoretical yield?**
4. **Name two factors that can lead to a lower practical yield.**
5. **If a reaction has a theoretical yield of 20 g and a practical yield of 15 g, what is the percent yield?**