

Section 1: Multiple Choice Questions (10 questions, 20 marks)

- 1. The first step in the scientific process is to **ask a question**.
- 2. A hypothesis is a **testable prediction**.
- 3. The independent variable is the **factor that is manipulated**.
- 4. The dependent variable is the **factor that is measured**.
- 5. A control group is used to **compare the results of the experiment**.
- 6. The results of an experiment should be **shared with the scientific community**.
- 7. The scientific process is **iterative**.
- 8. The scientific process is **self-correcting**.
- 9. The scientific process is **open to criticism**.
- 10. The scientific process is **based on evidence**.

Section 2: Short Answer Questions (5 questions, 10 marks)

- 1. Describe the steps of the scientific process.
- 2. Explain the difference between a hypothesis and a prediction.
- 3. Describe the role of a control group in an experiment.
- 4. Explain why it is important to share the results of an experiment.
- 5. Describe the scientific process in your own words.

Section 3: Essay Question (1 question, 10 marks)

- 1. A scientist is studying the effect of temperature on the rate of photosynthesis. The scientist has set up three different temperatures: 10°C, 20°C, and 30°C. The scientist has measured the rate of photosynthesis at each temperature and has found that the rate of photosynthesis increases as the temperature increases. The scientist has concluded that temperature has a positive effect on the rate of photosynthesis. Write an essay explaining the scientific process that the scientist used to reach this conclusion. (10 marks)