**Task 9: Enzyme Validation**

**Science Inquiry Total Marks: 25**

**Conditions: In class validation. Students may use their hand written practical report.**

**Time for Task: 45 minutes**

**Weighting: 5%**

Equal quantities of a protein-digesting enzyme were added to 5cm3 of protein solutions of different pH. Each tube was kept at 37°C. The amount of amino acid in each tube was measured after 3 minutes. The results are shown in the table below.

|  |  |
| --- | --- |
| **pH** | **Amount of Amino Acid/ Arbitrary units** |
| 1 | 10 |
| 2 | 9 |
| 3 | 7 |
| 4 | 2 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 0 |
|  |  |

1. Graph the results. (5 marks)
2. Name the following
3. Independent Variable
4. Dependent variable (2 marks)
5. Explain why each tube was kept at 37oC (2 marks)

**You completed an experiment to test the enzyme amylase. Answer the following question in relation to your experiment**.

1. Write a suitable hypothesis for your experiment. (2 marks)
2. Explain the role of the test tubes labelled 1,2,3 in the experiment. (2 marks)
3. Explain why you had three identical test tubes for each condition you were testing. (2 marks)
4. Examine your results and identify trends that occurred. Using your knowledge of enzymes explain why this trends occurred. (8 marks)
5. Write a conclusion for your experiment. (2 marks)