

30  
32

Name

## Task 1

Make sure your BrainLink device is turned on and connected to the Basic Detection Apk.

Please select the task category and enter a name in the Apk now.

Press Start to begin the reading of the brain waves.

If you have done this already then please continue and proceed ahead by reading the following instructions for the task carefully.

Some questions have rubrics, while others have a marking scheme (expected answers). The marking scheme will be available after submission of the tasks.

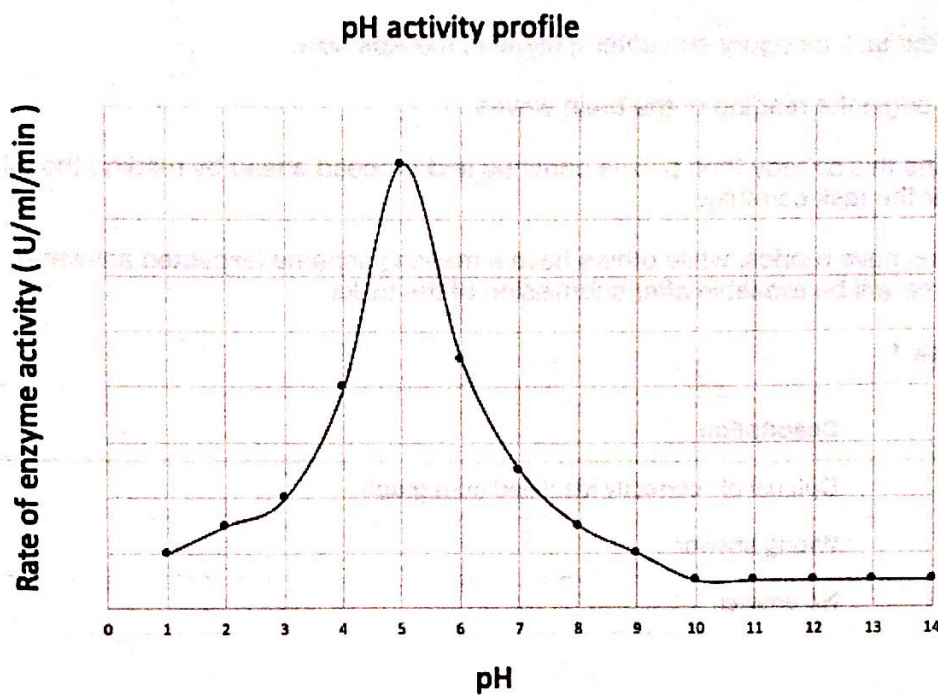
### Rubric for task 1

Marks	Description
1	Optimal pH correctly identified from graph
0	Wrong answer
0	No answer

Total questions in Task 1 - six

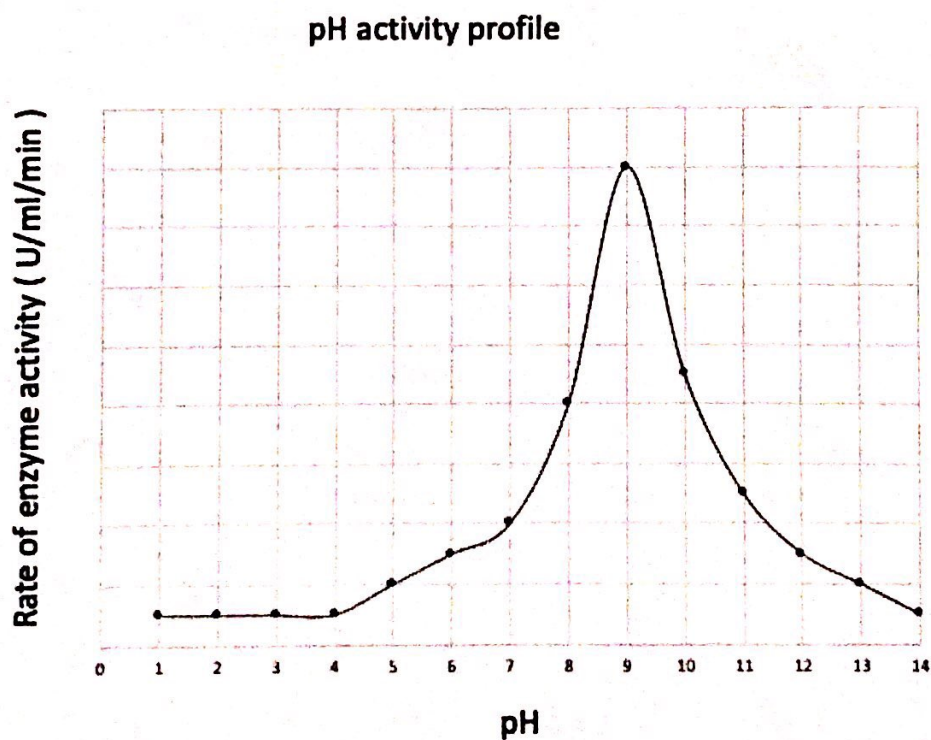
Total marks for Task 1 - six

Question 1 - From the graph, the optimal pH of the enzyme is 5 ✓



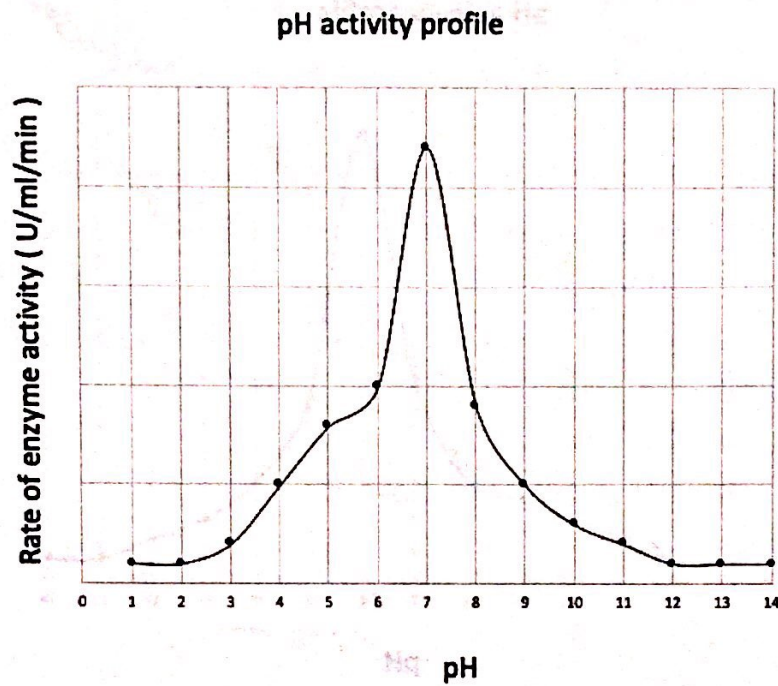
Question 2 - From the graph, the optimal pH of the enzyme is 9 ✓

(2)

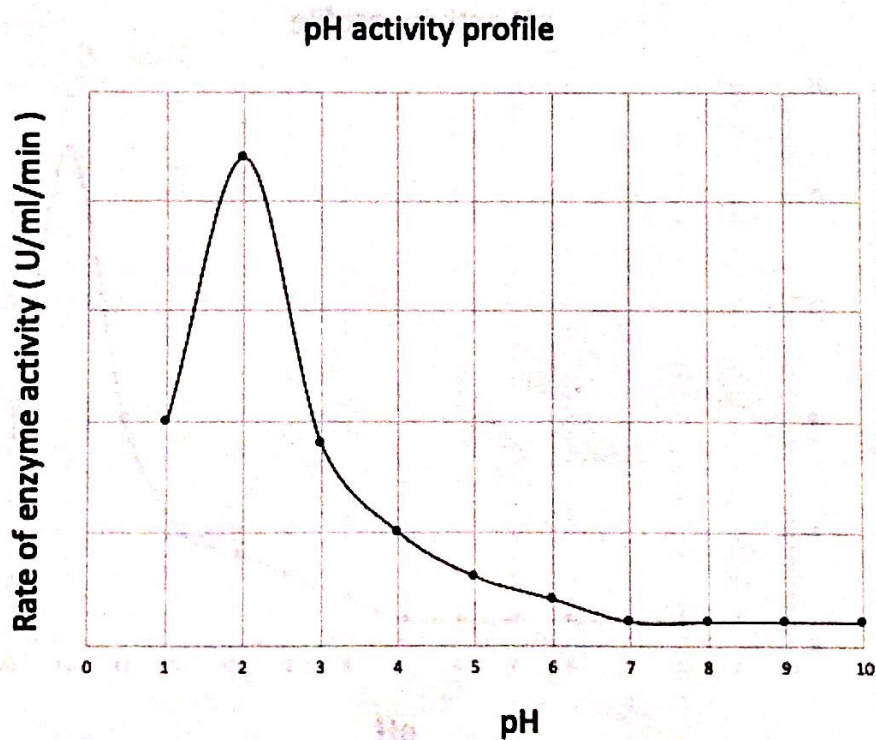




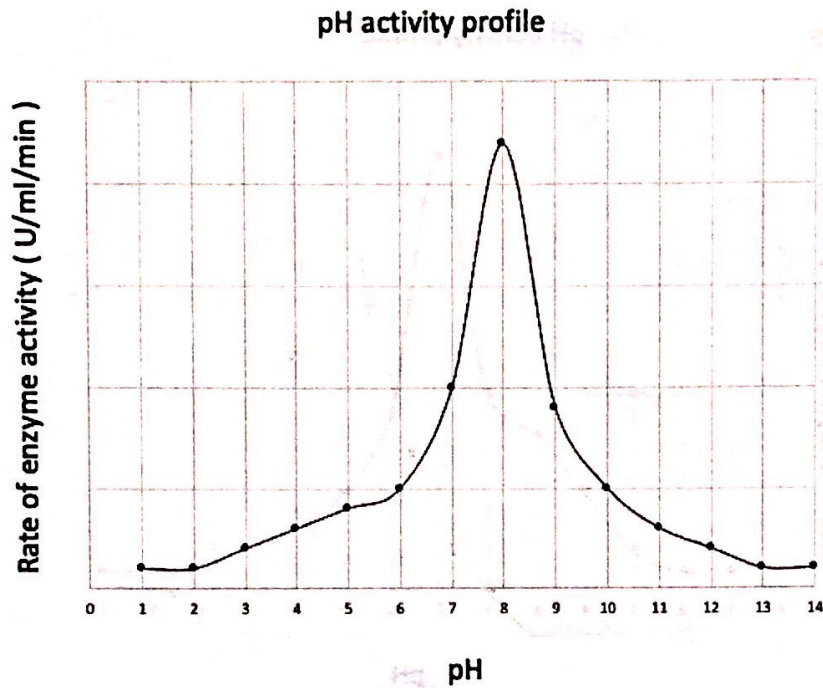
Question 3 - From the graph, the optimal pH of the enzyme is 7 ✓



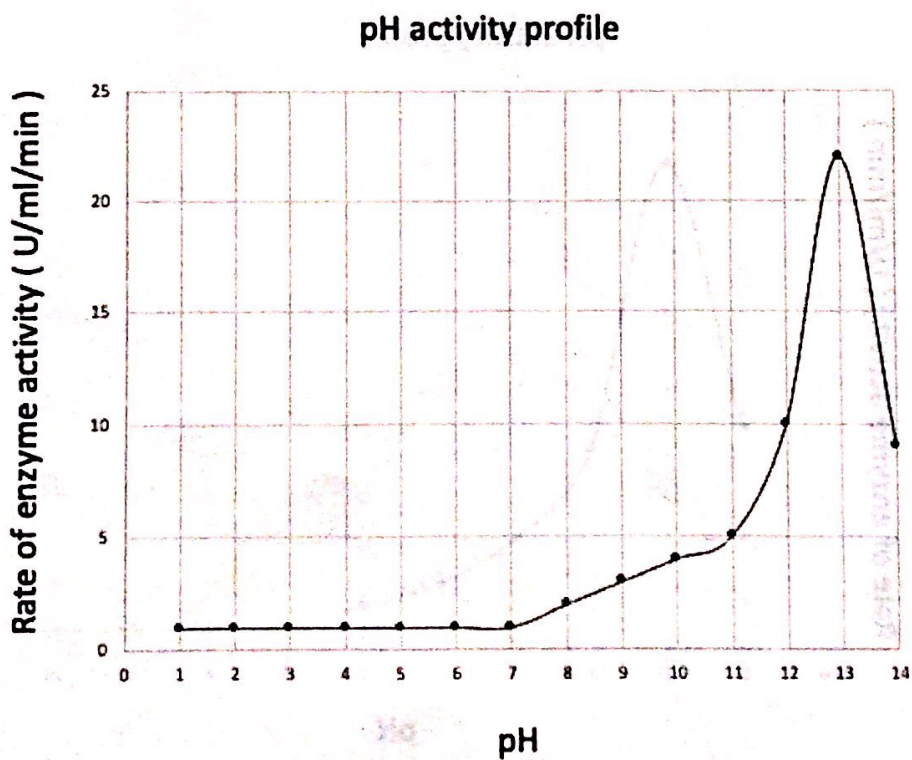
Question 4 - From the graph, the optimal pH of the enzyme is 2 ✓



Question 5 - From the graph, the optimal pH of the enzyme is 8 ✓



Question 6 - From the graph, the optimal pH of the enzyme is 13 ✓



Please end the reading of the brain waves. Create a new file for the next task.

## Task 2

### Instructions

Start the reading of the brain waves after you have created a new file name by selecting a category (Work) and adding your initials.

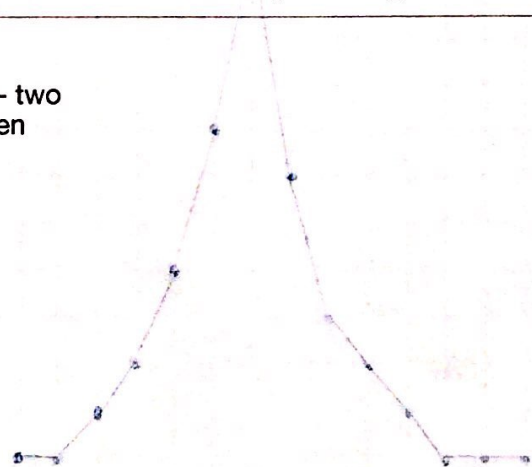
Please read the following instructions carefully

- 1) You are provided data of enzyme activities. Please plot graphs for the data.
- 2) You will identify optimal pH of the enzyme from the graph.

### Rubric for task 2

Marks	Description
5	1. X-axis drawn and labelled 2. Y-axis drawn and labelled 3. Data points clearly shown 4. Curve or line drawn through the points 5. Optimal pH correctly identified
4	One of the above items missing or wrong
3	Two of the above items missing or wrong
2	Three of the above items missing or wrong
1	Four of the above items missing or wrong
0	None of the above done or attempted wrong

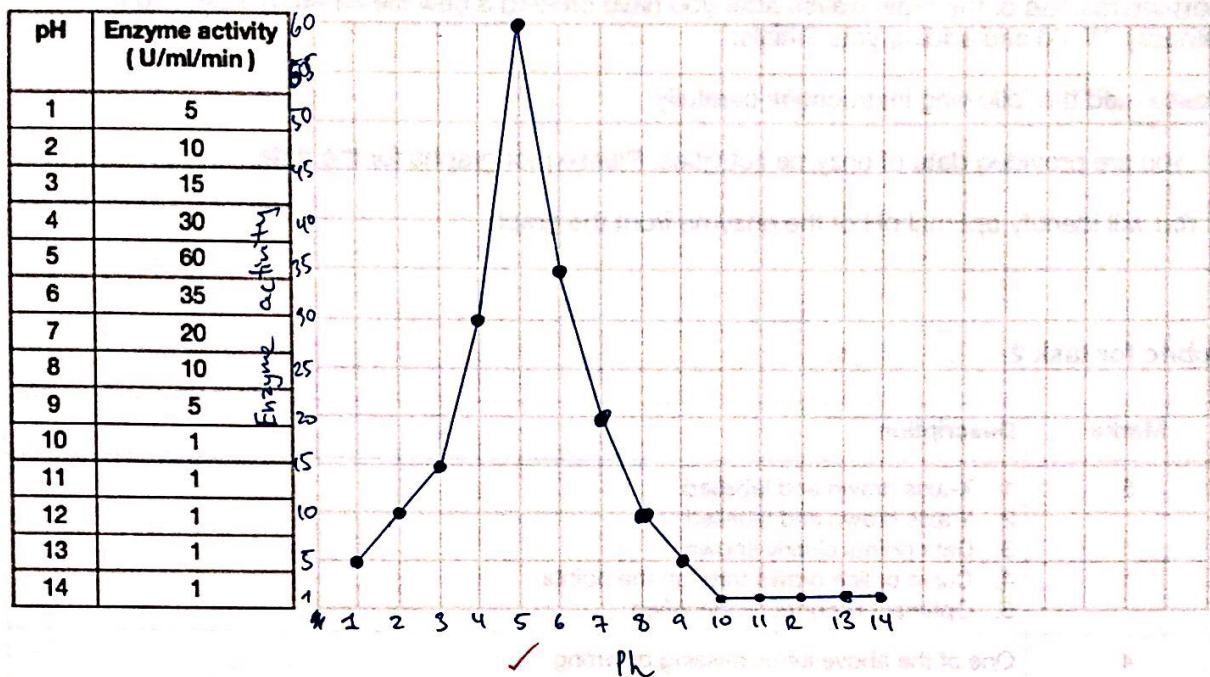
Total questions in task 2 - two  
Total marks for Task 2 - ten





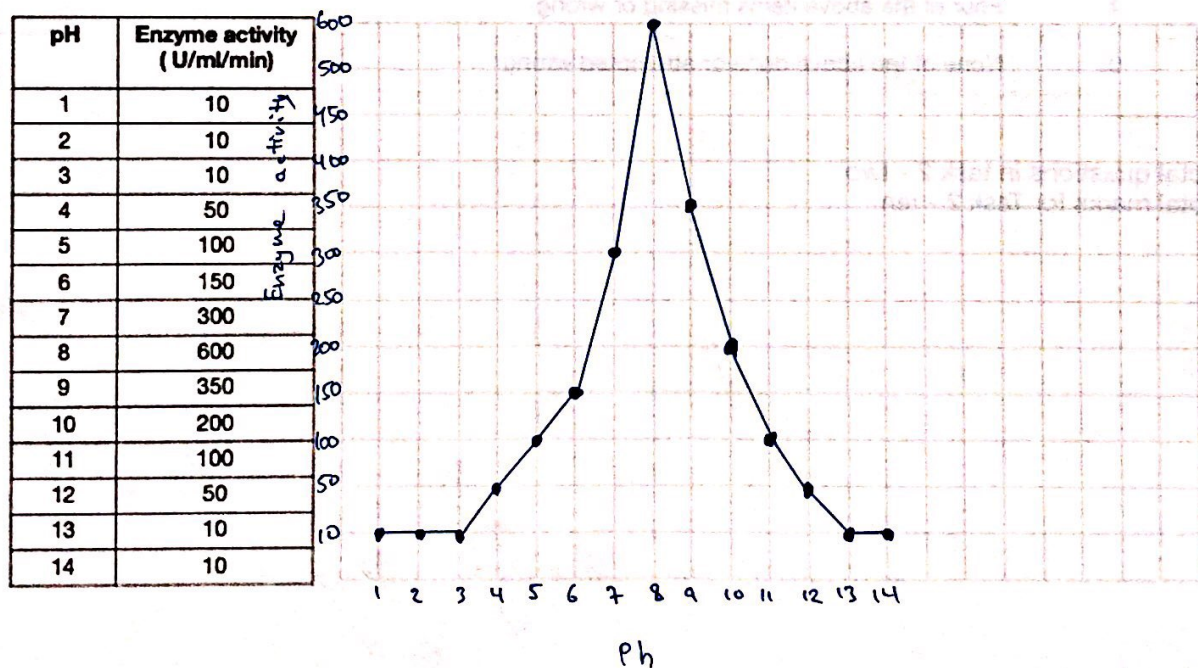
**Question 1** - Use the data shown in the table to plot a graph in the space on the right.

From your graph, the optimal pH of the enzyme is 5. ✓



**Question 2** - Use the data shown in the table to plot a graph in the space on the right.

From your graph, the optimal pH of the enzyme is 8. ✓



Please end the reading of the brain waves. Create a new file for the next task.

### Task 3 - Identifying enzymes that work in acidic, neutral and alkaline pH values

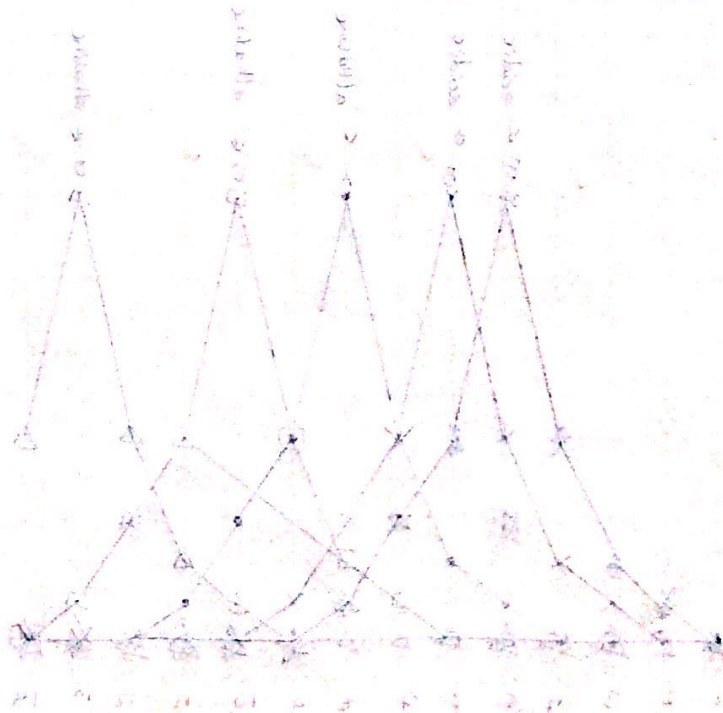
#### Instructions

- 1) You are provided data of 5 enzymes.
- 2) Please plot the data in a single graph. You will have 5 curves in one graph.
- 3) After plotting the graph, identify enzymes that are acidic, neutral and alkaline.

#### Rubric for task 3

Marks	Description
6	<ol style="list-style-type: none"><li>1. X-axis drawn and labelled</li><li>2. Y-axis drawn and labelled</li><li>3. Data points clearly shown using different symbols ( x, o, *, # ) or color</li><li>4. Curve or line drawn through the points</li><li>5. Single graph drawn for all the curves</li><li>6. Curves labelled A - E and correctly identified as acidic, neutral and alkaline</li></ol>
5	One of the above items missing or wrong
4	Two of the above items missing or wrong
3	Three of the above items missing or wrong
2	Four of the above items missing or wrong
1	Five of the above items missing or wrong
0	None of the above done or attempted wrong

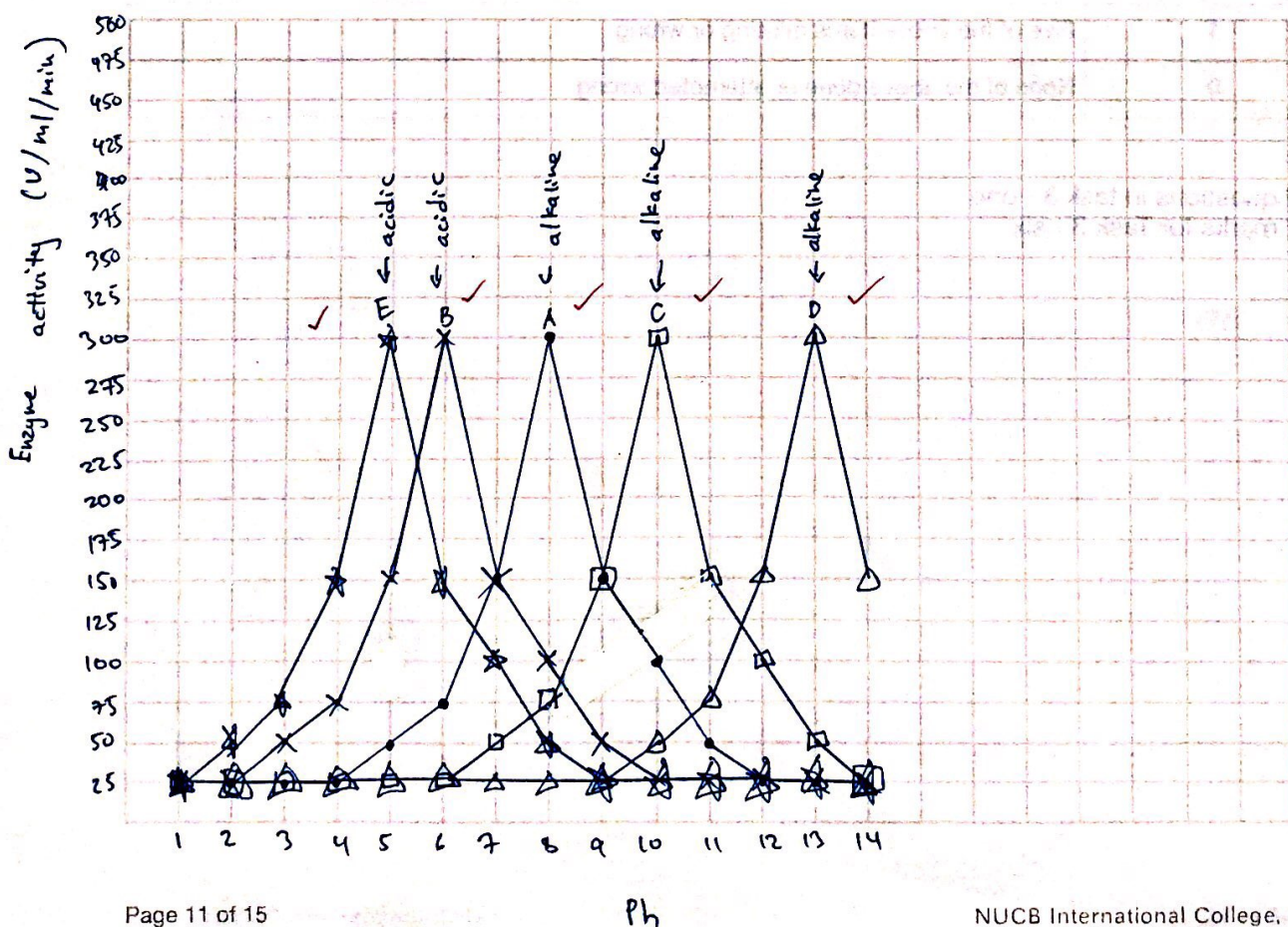
Total questions in task 3 - one  
Total marks for Task 3 - six





**Question** - You are provided data of 5 enzymes. Please plot the 5 curves in a single graph. Identify and mark enzymes that are acidic, neutral and alkaline.

pH	Enzyme Activity (U/ml/min)				
	Enzyme A	Enzyme B	Enzyme C	Enzyme D	Enzyme E
1	25	25	25	25	25
2	25	25	25	25	50
3	25	50	25	25	75
4	25	75	25	25	150
5	50	150	25	25	300
6	75	300	25	25	150
7	150	150	50	25	100
8	300	100	75	25	50
9	150	50	150	25	25
10	100	25	300	50	25
11	50	25	150	75	25
12	25	25	100	150	25
13	25	25	50	300	25
14	25	25	25	150	25



Please end the reading of the brain waves. Create a new file for the following task.

#### Task 4 - Interpreting data from graph

##### Instructions

- 1) You are provided 2 graphs.
- 2) Please analyze the curves of the 2 graphs and write your interpretations (conclusions) in the space provided.

Marking scheme for Task 4 will be provided after submission of the task.

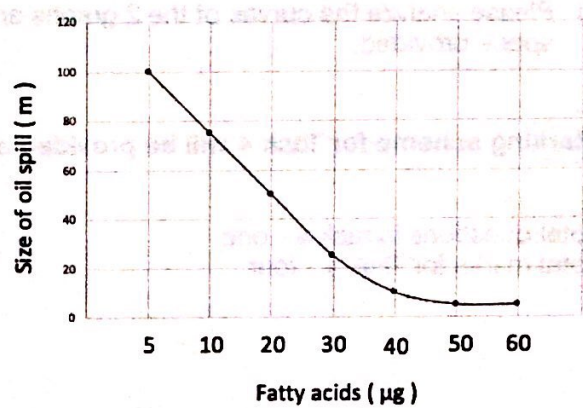
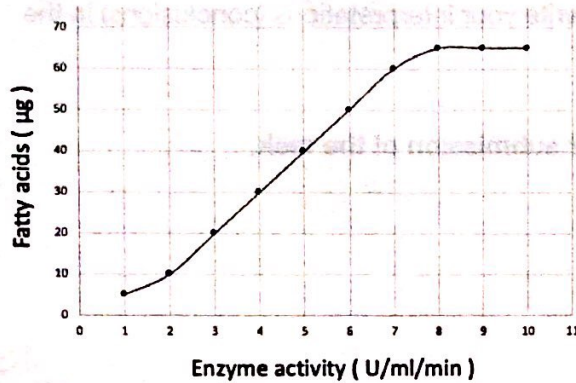
Total questions in task 4 - one

Total marks for Task 4 - four



#### Task 4

**Question** - Analyze the graph. Please write down what you can see in the two graphs in less than 300 words in the space provided below the graphs



In the graphs, the more fatty acids there are there will be more ~~the~~ enzyme activity. However, the ~~enzyme activities~~ <sup>fatty acids</sup> stop rising after the ~~fatty acids~~ <sup>enzyme activities</sup> reach ~~25 µg~~ 8 (U/ml/min) the fatty acids stop at 65 µg.

In the other graph, the size of oil spill gets lower as the fatty acids get higher. At 5 µg the size of oil spill is 100m, at 10 µg it's 75m, at 20 µg, it's 50m, at 30 µg it's 25m, at 40 µg it's 10m and ~~lastly it stops at 60 µg where~~ the spill of oil is 50 µg it's 5m and ~~lastly where it stops is~~ at 60 µg of fatty acids where the spill of oil is 5m.

In conclusion, as the fatty acids go up the enzyme activity rises <sup>✓</sup> while the size of oil spills goes down.

Please end the reading of the brain waves. Check and make sure you have four log files.



### Task 5 - Online game called Wordle

#### Instructions

1) The following link will take you a game called wordle.  
<https://wordlewebsite.com/>

You can play only once a day. If you finish the game or have played it once, you will not be able to play it again on the same day. A new game comes up the next day.

Please do not share answer with friends.

#### Rubric for task 5

Marks	Description
6	1. All six alphabets are correct. You have the solution.
5	One of the alphabets is wrong
4	Two of the alphabets are wrong
3	Three of the alphabets are wrong
2	Four of the alphabets are wrong
1	Five of the alphabets are wrong

Total questions in task 5 - one

Total marks for Task 5 - six

**Task 5 - Play Wordle to find the correct 5-letter word.**

Click the following click. It will take you to the day's wordle puzzle.  
<https://wordlewebsite.com/>

Fill the following grid with alphabets as you play Wordle

T <sub>x</sub>	A <sub>Δ</sub>	B <sub>x</sub>	L <sub>x</sub>	E <sub>✓</sub>
A <sub>Δ</sub>	N <sub>x</sub>	I <sub>x</sub>	M <sub>x</sub>	E <sub>✓</sub>
P <sub>x</sub>	L <sub>x</sub>	A <sub>✓</sub>	T <sub>x</sub>	E <sub>✓</sub>
S <sub>x</sub>	C <sub>Δ</sub>	A <sub>✓</sub>	R <sub>Δ</sub>	E <sub>✓</sub>
C <sub>✓</sub>	R <sub>✓</sub>	A <sub>✓</sub>	Z <sub>x</sub>	E <sub>✓</sub>
C <sub>✓</sub>	R <sub>✓</sub>	A <sub>✓</sub>	V <sub>✓</sub>	E <sub>✓</sub>

✓ - correct  
 Δ - wrong place  
 x - wrong

⑥