**GENERAL HUMAN BIOLOGICAL SCIENCE**

**TASK 8 – MICRO-ORGANISMS GROWTH INVESTIGATION**

**MARKING KEY**

***PART A – RESEARCH AND INVESTIGATION DEVELOPMENT (16 MARKS)***

|  |  |  |
| --- | --- | --- |
| **Description** | **Mark** | |
| **A- Grade**   * Descriptive * All facts included * Accurate information * Used own words | 5 |
| **B-Grade**   * Same as above but one area not so good | 4 |
| **C-Grade**   * Attempted question * Accurate | 3 |
| **D-Grade**   * Some attempt to answer * Vague attempt/surface knowledge | 2 |
| **E-Grade**   * No attempt * Wrong | 0 |
| **Total** | **5** |

1. Experiment Design

|  |  |  |
| --- | --- | --- |
| **Description** | **Mark** | |
| **Title** | /1 |
| **Materials**   * Specific values * All materials | /1  /1 |
| **Method**   * Step-by-step * Exact measurements | /1  /1 |
| **Way to record observations**   * Clear * Easy to use * Headings | /1  /1  /1 |
|  |  |
| **Total** | **11** |

***PART B – INVESTIGATION (31 MARKS)***

***ANALYSIS: (13 Marks)***

1. In the space below, draw your petri dishes and the class untouched petri dish (Be sure to use scientific drawings). (3 Marks)

|  |  |
| --- | --- |
| **Behaviour** | **Mark** |
| A – Scientific, pencil, outline, clear | 3 |
| B – as per above, some error | 2 |
| C – attempted/artistic (shading) | 1 |
| D/E – NO attempt/no idea | 0 |

1. Complete the table below describing the appearance of your bacterial colonies using you bacterial colony morphology information. (3 Marks)

|  |  |
| --- | --- |
| **Behaviour** | **Mark** |
| A – Scientific, accurate description, clear, all | 3 |
| B – as per above, some error, all complete | 2 |
| C – attempted, ¾ complete | 1 |
| D/E – NO attempt/no idea | 0 |

1. What was the purpose of including an untouched petri dish? (1 Mark)

Control (1) / to see if there is a difference between (1)

1. Where any of your results surprising? Such as, did any that you thought would be clean turn out to grow more bacteria than expected. (3 Marks)

|  |  |
| --- | --- |
| **Behaviour** | **Mark** |
| A – Scientific, accurate description, clear | 3 |
| B – as per above, some error, all complete | 2 |
| C – attempted | 1 |
| D/E – NO attempt/no idea | 0 |

***CONCLUSION: (11 Marks)***

1. List your locations from most colonies/bacteria to least. (1 Mark)

Lists from most to least (1)

1. If you were successful in culturing any micro-organisms, do you think they could be harmful? Why or why not? (3 Marks)

Yes / No (1)

Explanation – Scientific, accurate, link to content (2)

- Attempted / mention content from class (1)

1. What can you conclude from this experiment? (2 Marks)

Conclusion (1)

Data (1)

1. What is a ‘colony’ of bacteria? (1 Mark)

Definition (1)

1. List the various defences the body has to protect itself from micro-organism invasions AND describe how each one works? (4 Marks)

* Just states 1st , 2nd and 3rd line defence / Physical barriers, White Blood Cells, Immune Response (1)

|  |  |
| --- | --- |
| **Behaviour** | **Mark** |
| A – Scientific, accurate description, clear | 4 |
| B – as per above, some error, all complete | 3 |
| C – attempted | 2 |
| D/E – NO attempt/no idea | 0 |

***APPLICATION: (7 Marks)***

1. Use the piece of A3 paper supplied to you during class to create a Bacteria Fact Sheet. Select one bacterium to research and use the A3 paper to create a fact sheet.

* Include the following information:
  + Scientific name
  + Where can it be found (2)
  + Picture of chosen bacteria (1)
  + General description of bacteria (1)
  + Human or Environmental uses (2)
  + Interesting facts (1)