

Year 12 Biology

Pathogen Extended Answer

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Teacher:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- |
|  | Marks Received | Marks Available |
| Question 1 |  | 10 |
| Question 2 |  | 10 |
| Total |  | 20 |



Weighting: 5% Time: 40 minutes

**Question 1)**

There are four main groups of organisms that cause infectious disease. Protists are one of these groups. Name the **three** other groups and describe their structural characteristics.

(10 marks)



**Question 2)**

Ross River Virus and Malaria are two diseases caused by pathogens. Compare and contrast these two diseases.

(10 marks)

**Similarities: Max of 2 points for 2 marks**

* Both transmitted by mosquito vector to host
* Both pathogens invade the host via mosquito saliva
* An infected host can also pass the infection to an uninfected mosquito if bitten
* Both prevalent in tropical regions
* Both cause fatigue /headaches/ chills/ muscle and joint pain in the host
* (must have two symptoms in common for the mark)

**Differences: Max of 8 points for 8 marks**

|  |  |  |
| --- | --- | --- |
|  | **Ross River Virus** | **Malaria** |
| **Pathogen type** | • virus | • protist |
| **Impact on the host** | • Rarely fatal | • Often fatal |
| • Swollen joints | • Nausea, vomiting, diarrhoea |
| **Host species** | • Variety of mammals | • Only humans |
| **Lifecycle** | • Pathogen invades skeletal cells and replicates | • Pathogen invades RBCs and liver and replicates |
| • Pathogen uses host cell’s machinery to reproduce | • Pathogen does not use host cell’s machinery to reproduce |
| • Reproduction most like asexual reproduction | • Reproduce asexually and sexually |

One mark for each dot point.

Differences must be compared directly to achieve full marks.