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**Year 12 General Human Biology**

**Task 8: Practical – Infectious diseases (5%)**

RESULT

/ 16

**Task 8**

**TYPE:** Practical

**CONTENT:** Infectious Diseases

**WEIGHTING:** 5%

**Student Name: MARKING KEY**

**Due date: \_\_\_ / \_\_\_ / \_\_\_\_\_\_\_\_\_**

**Teacher:** Mrs. Cunningham

**CONDITIONS:**

Students will work individually to demonstrate their ability to follow instructions, manipulate apparatus, take accurate readings and work safely.

20 minutes allocated.

16 Marks

**TASK DETAILS:**

Work individually to demonstrate their ability to manipulate apparatus, make observations and take accurate readings to safely collect meaningful data.

You will be required to demonstrate your skills in the use of apparatus to demonstrate the:

* measure volume
* observe reactions
* use laboratory equipment safely and correctly

Your ability to manipulate apparatus, take accurate readings and work safely will be assessed.

Infectious diseases

**NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**BACKGROUND:**

Monitoring infectious diseases in the community enables public health authorities to restrict outbreaks and prevent possible epidemics.

In Western Australia, if a medical practitioner or nurse practitioner knows or suspects their patient has a notifiable infectious disease, they are legally required to report this to the Western Australian Department of Health. If a sample taken from a patient by a pathology laboratory is positive for a notifiable disease the laboratory is also legally required to report this to the Western Australian Department of Health.

To complete this task, you will demonstrate your skills follow directions and use apparatus.

You will have **20 minutes** to complete the activity. You will be provided with a set of equipment to use during the task. All observations and responses to questions should be recorded on the following pages.

The teacher will monitor your ability to manipulate the equipment correctly and safely.

**INSTRUCTIONS:**

* Read the information provided for each activity and record all observations and responses to questions on this sheet.
* Once you have completed the activities, make sure all the equipment is returned to the tray.

**PART 1: (Total 5 marks)**

You are a pathologist working at a regional Western Australia hospital. Your role requires you to be able to accurately measure volume and use a dropper to add small volumes of liquid to samples.

You have been provided with a sample of body fluids for testing.

1. Prepare a risk assessment for handling this sample, by identifying one potential hazard, a risk associated with the hazard, and a suggested management strategy for the hazard.

(2 marks)

|  |  |
| --- | --- |
| **Risk** | **Management strategy** |
| **Identifies one risk (1)**  **Liquid splashes in eyes**  **Liquid splashes on skin/clothing** | **Suggests a management strategy for the identified risk** |

1. Measure 20 mL of body fluid. Leave your 20mL of coloured liquid for your teacher to check.

(2 marks)

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| Measures the volume of body fluid accurately | **(1)** |  |

**Selects appropriate container for measuring volume of body fluid e.g. 50mL measuring cylinder (1)**

1. Use the dropper to add 5 drops of body fluid to the 10 mL measuring cylinder. Leave your measuring cylinder for your teacher to check. (1 mark)

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| Adds drops to measuring cylinder accurately **adds 5 drops to 10mL measuring cyclinder** | **(1)** |  |

**PART 2 (Total 10 marks)**

There has been an outbreak of influenza in your region. Influenza is a notifiable infectious disease in Western Australia. As the pathologist working at the regional hospital, you have received nasal swab samples from five hospitalised patients with flu-like symptoms.

You will complete a rapid influenza test on each sample to determine if the patients are positive for influenza. The rapid influenza test indicates if samples contain influenza antigens.

Follow the procedure below to test your samples.

**Equipment**

* Five test tubes, labelled A-E, containing nasal swab samples
* Dropper bottle of influenza testing reagent

**Procedure**

Step 1: Add 5 drops of influenza testing reagent down the inside of each test tube so it runs slowly down to the sample.

Step 2: Once the reagent reaches the sample, determine if there is a colour change for each patient’s sample. Record yes or no in the colour change row in the table below.

(5 marks)

**Correctly completes the colour change row by recording Yes or No in the results table**

Step 3: Determine if each patient is positive or negative for influenza. If the sample is positive an immediate colour change will occur. Record positive or negative in the diagnosis row in the table below.

(5 marks)

**Correctly completes the diagnosis row by recording Positive or Negative in the results table**

**Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Patient 1 | Patient 2 | Patient 3 | Patient 4 | Patient 5 |
| Colour change  (yes or no) | **(1)** | **(1)** | **(1)** | **(1)** | **(1)** |
| Diagnosis  (positive or negative) | **(1)** | **(1)** | **(1)** | **(1)** | **(1)** |

Note: Samples with more influenza antigens will have a stronger reaction to the reagent. These samples will have more colour.

**PART 3: Teacher observations (Total 1 mark)**

Whilst conducting activities 2 and 3 your teacher will be observing you using the equipment correctly.

(1 mark)

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| Uses equipment safely | **(1)** |  |

**Uses equipment safely, including the use of appropriate PPE**

**END OF ASSESSMENT**