**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

GTHBY Task 12: Test – Vaccines, immunology and Community and Global Health

25 marks 7% of course grade

**Overview**

Seasonal influenza is an acute respiratory infection caused by influenza viruses which circulate in all parts of the world. There are 3 types of seasonal influenza viruses, types A, B, and C. Influenza type A viruses are further classified into subtypes according to the combinations of 2 different proteins, the haemagglutinin (H) and the neuraminidase (N), located on the surface of the virus. The subtypes of influenza A viruses currently circulating among humans are influenza A(H1N1) and A(H3N2) subtypes. The circulating influenza A(H1N1) is also written as A(H1N1)pdm09 as it caused the pandemic in 2009 and subsequently replaced the seasonal influenza A(H1N1) virus which had circulated prior to 2009. Only influenza type A viruses are known to have caused pandemics.

Circulating influenza B viruses can be divided into 2 main groups (lineages), referred to as B/Yamagata and B/Victoria lineages. Influenza B viruses are not classified into subtypes.

Influenza A and B viruses circulate and cause outbreaks and epidemics. Due to this reason, relevant strains of influenza A and B viruses are included in seasonal influenza vaccines.

Influenza type C virus is detected much less frequently and usually causes mild infections, thus presents less significant public health implications.

**Scenario**

On Tuesday the 19/09/17 four individuals presented to Parry Court Medical Centre with the following symptoms a sudden onset of fever, cough (usually dry), headache, muscle and joint pain, severe malaise (feeling unwell), sore throat and a runny nose. The cough was severe and had persisted for a week.

The following Wednesday another five patients presented at the Medical Centre displaying the same symptoms.

Questions:

1 List 3 steps the doctor would recommend the patients to undertake to prevent the virus from spreading further. (3 marks)

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1. Once the diagnosis was confirmed describe 2 **local responses** the Medical Centre would implement to contain the virus and explain how they would help to prevent the spread of the disease. (4 marks)

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3 The Parry Medical Centre is located in Narrogin which is situated in the Upper Great Southern health region. Describe two likely region responses and explain how they would help to contain the outbreak. (4 marks)

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4 What does WHO stand for and what is their role in terms of managing disease outbreaks. (3 marks)

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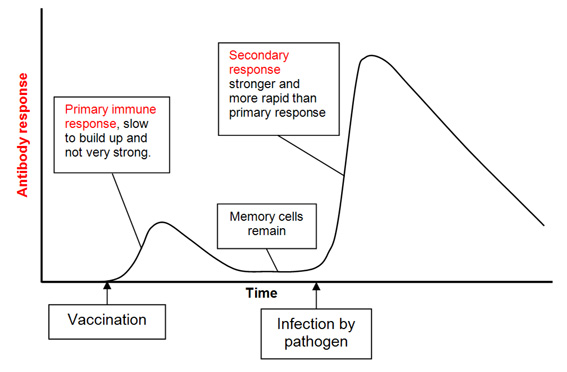
5 Using the case study you investigated explain a global response used to control the spread of a contagious disease. (4 marks)

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6. The phrase, herd immunity is used in relation to immunisation. Explain what is meant by this term and how it protects susceptible individuals within the population from diseases. (3 marks)

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7. Explain how vaccinating helps prevent the spread of infectious diseases by referring to the graph below. (4 marks)



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