The Flu

Read the following and answer the questions below.

Fever, chills, cough, body aches and more are some of the symptoms of **influenza**, or often called the **flu**. It is caused by the influenza **virus**, which is a microorganism and is so small, you need a powerful microscope to see it. The flu infects the **respiratory system**, which is made up of the nasal passages, larynx, trachea, bronchial tubes, and lungs. The system, when working properly, allows a person to breathe and exchange oxygen and carbon dioxide throughout the body. In most cases when the respiratory system is not working properly, a person may simply have a common cold, but other times it may be the flu or influenza virus.

There are two main types of flu or the influenza virus called **Influenza A** and **Influenza B**. Influenza A is the group that most commonly causes illnesses in humans. The strains are also named using the origin, geographical location, strain number, and the year of discovery of the virus. Nearly all major flu **pandemics** (spreads worldwide) in modern history have been caused by Influenza A.

Influenza B is less common but may still cause outbreaks of seasonal flu and have similar symptoms. When either influenza virus attacks the respiratory system, the symptoms include a high fever usually over 100°F, a cough, sore throat, stuffy or a runny nose, muscle pain, and weakness. The flu is a contagious illness meaning it can be spread from person to person by coughing and sneezing.

The virus can easily spread through the air and onto surfaces. When a person coughs or sneezes, virus-containing droplets from the person's mouth travel through the air and can be breathed in by another person or the droplets land on surfaces.

In addition, if a person with the flu sneezes or coughs into their hands and then touches something, the virus will remain on that item for a long time. A person who would touch the surface later could get the virus on their hand, touch their mouth, nose, or eyes, and then the virus could enter their body and could get the flu as well.

About every 10 years, the flu virus goes through major changes and many people can get severe cases. The large-scale outbreaks are called **epidemics**, and when they are worldwide, they are called pandemics. For example, the swine flu outbreak in 2009-2010 was epidemic and pandemic.

The body of the person who is exposed to the flu virus will go through an **incubation period**. First, once the person is exposed, the virus tries to invade a cell in your respiratory system. Once it gets into a cell it multiplies rapidly and clones itself many times while damaging the host cell. The newly-made viruses leave the damaged cell and begin invading other healthy cells. The process continues, and the virus spreads quickly throughout the body.

The incubation period may last two or more days to reproduce enough leading to the appearance of a variety of symptoms. A person can spread the virus to others during the incubation period, and then spread it about 5 to 7 days after they first get the symptoms.

People who get the flu should stay home from work or school, rest, and drink lots of liquids, which includes drinks without caffeine.

The best prevention of the flu is a **vaccine**. A flu vaccine is available as a shot and contains *dead* flu viruses. The body is tricked into believing it has the real flu and it makes new antibodies to fight off an infection if the person comes in contact with the live or real flu virus. Most people do not have a negative reaction to the flu vaccine but may notice a fever, sore muscles, and tiredness.

Write the answers in the space provided.

1) Which of the following systems of the body is most affected by influenza?

- **A:** Respiratory
- **B:** Circulatory
- **C:** Nervous
- **D:** Digestive

2) Which of the following is the most common influenza virus?

- **A:** Influenza A
- **B:** Influenza B
- **C:** Influenza C
- **D:** Influenza D

3) Which of the following are large-scale outbreaks of flu?

- **A:** Pandemics
- **B:** Epidemics
- **C:** Vaccines
- **D:** All the above

4) Which of the following amount of time is associated with the incubation period for the flu?

- **A:** 5 to 7 days
- **B:** 2 or more days
- **C:** 1 day
- **D:** 1 week

5) Which of the following is the best prevention for a flu?

- **A:** Hand-washing
- **B:** Covering the mouth during a sneeze or cough
- **C:** Receiving a vaccine
- **D:** Keeping surfaces clean

6) Strains of a flu may also be named based on which of the following?

- **A:** Origin
- **B:** Geographical location
- **C:** Year of virus discovery
- **D:** All the above