

## Diseases and Immunity Quiz Answer Key PDF

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#### Which of the following diseases is caused by a virus?

- A. Tuberculosis
- B. Malaria
- C. Influenza ✓**
- D. Ringworm

#### What is the primary role of antibodies in the immune system?

- A. Destroy pathogens directly
- B. Mark pathogens for destruction ✓**
- C. Produce white blood cells
- D. Stimulate nerve cells

#### Explain how vaccines contribute to herd immunity and why it is important for public health.

**Vaccines contribute to herd immunity by increasing the number of immune individuals in a population, thereby limiting the transmission of infectious diseases. This is important for public health because it protects vulnerable individuals who cannot be vaccinated, such as infants and those with certain medical conditions, and helps to control and prevent outbreaks.**

#### Which of the following is a characteristic of innate immunity?

- A. Specific response
- B. Memory formation
- C. Rapid response ✓**
- D. Antibody production

#### Which components are part of the innate immune system? (Select all that apply)

- A. Skin ✓**

**B. Mucos membranes ✓**

C. T-cells

**D. Phagocytes ✓**

**What are common symptoms of an allergic reaction? (Select all that apply)**

**A. Sneezing ✓**

B. Fever

**C. Itching ✓**

**D. Swelling ✓**

**What is the purpose of a vaccine?**

A. Cure diseases

**B. Stimulate immune response ✓**

C. Provide nutrients

D. Reduce inflammation

**What are the potential effects of a compromised immune system on an individual's health?**

**The potential effects of a compromised immune system on an individual's health include frequent infections, prolonged illness, and a greater likelihood of developing autoimmune disorders and cancers.**

**Which cells are involved in the adaptive immune response? (Select all that apply)**

**A. B-cells ✓**

B. Red blood cells

**C. T-cells ✓**

D. Phagocytes

**Which of the following are methods to prevent infectious diseases? (Select all that apply)**

**A. Vaccination ✓**

B. Regular exercise

**C. Handwashing ✓**

**D. Quarantine ✓**

**Discuss the role of hygiene practices in controlling the spread of infectious diseases.**

**Hygiene practices play a crucial role in controlling the spread of infectious diseases by minimizing the transmission of pathogens through proper handwashing, sanitation, and safe food handling.**

**Describe the process by which the immune system recognizes and responds to a pathogen.**

**The immune system recognizes pathogens through pattern recognition receptors (PRRs) that detect pathogen-associated molecular patterns (PAMPs). This recognition triggers a cascade of immune responses, including the activation of T cells and B cells, which work together to eliminate the pathogen.**

**Which of the following are characteristics of autoimmune diseases? (Select all that apply)**

- A. Immune system attacks own cells ✓**
- B. Caused by external pathogens
- C. Chronic inflammation ✓**
- D. Typically contagious

**What is the main function of T-cells in the immune system?**

- A. Produce antibodies
- B. Attack infected cells ✓**
- C. Transport oxygen
- D. Release hormones

**Which type of pathogen requires a host cell to replicate?**

- A. Bacteria
- B. Virus ✓**
- C. Fungus
- D. Parasite

**Which diseases can be transmitted through airborne particles? (Select all that apply)**

- A. Tuberculosis ✓**
- B. HIV/AIDS
- C. Influenza ✓**
- D. Malaria

**Which of the following is an autoimmune disease?**

- A. Hypertension
- B. Asthma
- C. Type 1 diabetes ✓**
- D. Influenza

**Which vaccine type uses a killed version of the pathogen?**

- A. Live-attenuated
- B. Inactivated ✓**
- C. Subunit
- D. mRNA

**Analyze the impact of autoimmune diseases on daily life and potential treatment options.**

**Autoimmune diseases can lead to chronic symptoms that affect daily activities, and treatment options include immunosuppressants, anti-inflammatory drugs, and lifestyle modifications.**

**How does the immune system differentiate between self and non-self cells, and what happens when this process fails?**

**The immune system differentiates between self and non-self cells by recognizing unique proteins (antigens) on the surface of cells. When this process fails, it can result in autoimmune disorders, where the immune system erroneously targets and attacks the body's own tissues.**