**Viruses** (p. 434 – 441)

**I. Is A Virus Alive?**

**1. Define the term virus.**

Virus –

**2. Viruses are a special type of cell that is very small in size.**

Circle One : True False

**3. Define the term pathogen.**

Pathogen –

**4. Circle the letter of the sentence that is false about why viruses are not living.**

a. Viruses do not achieve homeostasis.

b. They do not metabolize nutrients.

c. Viruses are incapable of reproducing.

d. Viruses do not grow.

**5. Who discovered the existence of viruses in 1935?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**II. Viral Structure**

**1. Match the viral components with the correct definitions.**

1. \_\_\_\_\_\_\_\_ Capsid A. Proteins with attached carbohydrate molecules.

2. \_\_\_\_\_\_\_\_ Nucleic Acid B. Viral membrane surrounding the capsid.

3. \_\_\_\_\_\_\_\_ Envelope C. Protein coat of a virus.

4. \_\_\_\_\_\_\_\_ Glycoproteins D. Consists of DNA or RNA.

**2. Viruses exist in a variety of shapes.**

Circle One : True False

**3. Define the term bacteriophage.**

Bacteriophage –

**4. What does a T4 bacteriophage look like?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**III. Viral Reproduction**

**1. Viruses are capable of living independently.**

Circle One : True False

**2. Define the term lytic infection (*cycle*).**

Lytic Infection –

**3. Complete the flowchart about a lytic infection.**

A bacteriophage \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to a bacterium’s protein capsid.

↓

The bacteriophage injects its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the cell.

↓

The host cell makes copies of the genes of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

↓

The virus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the cell, causing it to shut down.

↓

The bursting of the cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ new bacteriophage particles.

**4. Define the term lysogenic infection (*cycle*).**

Lysogenic Infection –

**5. Circle the letter of each sentence that is true about a lysogenic infection.**

a. The end result is the production of viral particles.

b. The virus embeds its DNA into the host’s DNA.

c. The virus’s DNA is replicated along with the host cell’s DNA.

d. A host cell makes copies of the virus indefinitely.

**6. Viruses are very specific and only infect certain types of organisms.**

Circle One : True False

**IV. How HIV Infects Cells** *(Not in the book.)*

**1. Define the term retrovirus.**

Retrovirus –

**2. What happens when a retrovirus, such as HIV, infects a cell?**

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**V. Viral Diseases**

**1. Differentiate between prions and viroids.**

Prion : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Viroid : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_