**Bacteria** (p. 441 – 450)

**I. Bacterial Structure**

 **1. Circle the correct characteristics of bacteria (*versus eukaryotes*).**

 Nucleus : Present Not present

 Cell Size : 1μ - 5μ 10μ - 100μ

 Multicellularity : Multicellular Single-celled

 Chromosomes : Single, circular DNA Linear, multiple pieces of DNA

 Reproduction : Binary Fission Mitosis

 Flagella : Single, spinning fiber Whipping, complex microtubules

 Metabolism : Limited Diverse

 **2. Identify the three basic shapes of bacteria.**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - rod-shaped

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - sphere-shaped

 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - spiral-shaped

 **3. What does each of the following pre-fixes mean?**

 Strepto (or Pneumo) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Staphylo = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **4. Why is Gram staining important in medicine?**

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

 **5. Define the term endospores.**

 Endospores –

 **6. What occurs in the process of binary fission?** *(p. 119)*

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 **7. What occurs during conjugation?**

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**II. Obtaining Energy**

 **1. Differentiate between anaerobic and aerobic bacteria.**

 Anaerobic Bacteria : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Aerobic Bacteria : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2. Match the types of bacteria energy styles with the correct definitions.** *(Not in the book.)*

 1. \_\_\_\_\_\_\_\_ Photoautotroph A. Photosynthetic and capable of “eating”.

 2. \_\_\_\_\_\_\_\_ Chemoautotroph B. “Eats” organic molecules & breaks them down.

 3. \_\_\_\_\_\_\_\_ Heterotroph C. Obtains energy directly from organic molecules.

 4. \_\_\_\_\_\_\_\_ Photoheterotroph D. Carries out photosynthesis similar to plants.

 **3. List the four main types of photosynthetic bacteria.**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **4. What kind of relationship does *Rhizobium* have with plants?**

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**III. Pathogenic Bacteria**

 **1. What does each strain of bacteria cause?**

 1. *Propionibacterium acnes* : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2. *Staphylococcus aureus* : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 3. *Clostridium botulinum* : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4. *Escherichia coli* : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2. Define the term toxins.**

 Toxins –

 **3. What is the intent of biowarfare?**

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**IV. Antibiotics**

 **1. Define the term antibiotics.**

 Antibiotics –

 **2. Who discovered the antibiotic, penicillin, in 1928?**

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 **3. Over time, resistant strains of bacteria can evolve.**

 Circle One : True False

**V. Importance Of Bacteria**

 **1. List six types of foods produced using bacteria.**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_