CHAPTER 2 QUIZ (33 marks)

Part A) Knowledge/Understanding (20 marks total)

Multiple Choice: For each question, select the best answer from the four alternatives. (9 marks)

1. What characteristic causes a type of bacteria to be classified as a pathogen? (2.1)

(a) It is rod shaped.

(b) It has flagella.

(c) It causes disease.

(d) It requires oxygen to live.

2. Which of the following characteristics is shared by all obligate aerobes? (2.1)

(a) They are spiral shaped.

(b) They require oxygen.

(c) They have antibiotic resistance.

(d) They reproduce asexually.

3. Which of the following diseases is caused by a type of bacteria? (2.1)

(a) malaria

(b) tuberculosis

(c) chicken pox

(d) rabies

4. Conjugation, transformation, and horizontal gene transfer are three processes that increase what? (2.1)

(a) the metabolism of bacteria

(b) the reproductive rate of bacteria

(c) the genetic diversity of bacteria

(d) the rate of photosynthesis in bacteria

5. Which of the following viral diseases is transmitted through the air? (2.2)

(a) common cold

(b) mumps

(c) HIV/AIDS

(d) rabies

6. In gene therapy, which of the following can be used to deliver genes to targeted cells? (2.2)

(a) archaea

(b) bacteria

(c) viruses

(d) amoebas

7. What is the key difference between autotrophic bacteria and heterotrophic bacteria? (2.1)

(a) They obtain nutrients and energy in different ways.

(b) Autotrophic bacteria cause disease, and heterotrophic bacteria do not.

(c) They use different methods of reproduction.

(d) Their physical appearance is different.

8. Which of the following organisms are targets for viruses? (2.2)

(a) animals

(b) bacteria

(c) plants

(d) all of the above

9. Which statement correctly describes a way in which viruses are different from living things? (2.2)

(a) They are classified into genera and species.

(b) They do not produce or use energy.

(c) They reproduce and pass on genetic information.

(d) They contain proteins.

True or False: If you think the statement is false, rewrite it to make it true. (9 marks)

10. Most bacteria have a very slow rate of reproduction. (2.1)

11. Photosynthetic bacteria are decomposers in many ecosystems. (2.1)

12. Chlamydia is a sexually transmitted infection that is caused by prions. (2.1, 2.2)

13. Flagella are structures of bacteria used in protein synthesis. (2.1)

14. Binary fission is a form of asexual reproduction. (2.1)

15. Archaea inhabit extreme environments, such as extremely hot or cold areas. (2.1)

16. HIV/AIDS is a disease caused by a virus. (2.2)

17. Smallpox and human papillomavirus are two diseases that can be prevented with antibiotics. (2.2)

18. Viroids are classified as living things. (2.2)

Short Answer: Write a short answer to the question.

19. What do viruses have? (Aryn) (2 marks)

Part B: Thinking/Inquiry (9 marks)

20. Bacteria often have structures called flagella and pili. (2.1)

(a) Compare and contrast the structures of flagella and pili. (2 marks)

(b) Contrast the functions of flagella and pili. (2 marks)

21. Describe an investigation that a scientist could carry out to find out whether a type of bacteria is autotrophic or heterotrophic (2.1) (2 marks)

22. For several weeks, your friend has been suffering from a cold sore on her lip. When the sore healed, she stated that she was cured. (2.2)

(a) Explain why your friend's statement is not accurate. (2 marks)

(b) What is a more accurate explanation your friend could state? (1 mark)

Part D: Application (4 marks)

23. Many organisms rely on mutualistic relationships with other species to ensure their success. Describe an example of mutualism between prokaryotes and eukaryotes to support this statement. (2.1) (2 marks)

24. Bacteria are classified into groups based on their characteristics. (2.1)

(a) Which group would a bacterium with spiral-shaped flagellum in its cytoplasm belong to? (1 mark)

(b) Describe one other specific characteristic you would expect this bacterium to display, based on the group into which it is classified. (1 mark)

Have a great March Break! Mrs. Tien-Chow ☺