

# Biology 11 Midterm

Mr. Blois, 2019

Total:

Name: \_\_\_\_\_

/36

*Note: you may answer with Chinese characters (汉字) AND pinyin (拼音) for marks!*

## Part I) Taxonomy: 7 marks

1. What does taxonomy mean? (2 marks)

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2. Arrange the terms *species, class, kingdom, order, genus, family, phylum* into order from most inclusive (largest) to most specific (smallest) (2 marks)

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3. What's an example of a *shared derived characteristic* (evolutionary relationship)?

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4. Aristotle classified animals on the basis of

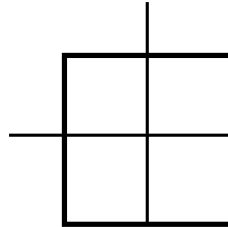
- A) their size.
- B) their evolutionary history.
- C) where they lived.
- D) what they ate.

5. The molecular-clock model of evolutionary relationships is based on the assumption that changes in amino acid sequence

- A) are not random.
- B) are affected by natural selection.
- C) occur at different rates in different organisms.
- D) are greater in species with more-distant common ancestors.

**Part II) Genetics: 14 marks (15 possible)**

6. a) A green pea plant (Gg) is crossed with a yellow pea plant (gg). Draw and fill in a Punnett square listing the parent and offspring genotypes. (4 marks)



- b) What are their phenotypes? (2 marks)

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- c) Identify the genotypic ratio (x:y), and the phenotypic ratio. (2 marks)

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7. What would offspring look like if yellow color was co-dominant (not recessive)?

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8. Who is the founder of modern genetics? (Hint: Plant experiments.)

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9. How is bacterial resistance to medicine related to Neo-Darwinian evolution?

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10. Name and describe a genetic disease that affects some people. (2 marks)

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11. Does random mutation and natural selection explain origins of life on earth? \_\_\_\_\_

**Bonus Mark:** Explain why/why not. \_\_\_\_\_

**Microbiology: 15 marks (16 possible)**

12. Name two kinds of bacterial sicknesses. (2 marks)

\_\_\_\_\_ and \_\_\_\_\_

13. Name a good kind of bacteria for the environment. What does it do? (2 marks)

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

14. Name a good kind of bacteria for our body. What does it do? (2 marks)

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

15. Give an example of how (in what way) bacterial illness can be prevented. (1 mark)

\_\_\_\_\_

16. How can bacterial illness be treated? (Hint: How can we reduce bacteria?) (1 mark)

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17. What is our body doing we have a fever? Are fevers useful? Why? (2 marks)

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18. Describe a part of our body's natural defense system. What does it do? (2 marks)

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19. Why is AIDS (HIV) a dangerous disease? (What does it do to our body.) (1 mark)

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20. Name one other (not AIDS/HIV) Sexually Transmitted Disease (STD). (1 mark)

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21. Do you think viruses are living or non-living? State your reason(s). (1 mark)

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**Bonus mark:** What is one exciting possibility that virus reproduction presents us?

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