

22041353



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Course No.: SCI120BG



250112

**Introduction to Biology
Proctored Final Examination
Exam Number: 250112**

PART A: Answer each of the following questions in one or two paragraphs. Each answer is worth 20 points.

1. Describe the five types of prezygotic reproductive barriers. Give a brief description of each.
2. Ralph wants to breed two of his prize bulldogs. For the dominant alleles, he has selected small ears (E) and a curly tail (T). Linus, the male bulldog, is homozygous dominant for both traits. Lucy, the female, is heterozygous dominant for both traits.
 - a. What are Linus's and Lucy's genotypes?
 - b. What percent of their pups will have small ears and curly tails?
 - c. What percent will have large ears (e) and straight tails (t)?
3. Beginning with fertilization, describe the main stages of animal development. Give a brief description of each stage.

PART B: Answer each of the following questions in one to four sentences. Each answer is worth 4 points.

1. From G1 through M, what are the stages of the cell cycle, and what is the main occurrence in each stage?
2. Briefly describe the three-domain system of classification.
3. Explain the difference between a scientific theory and a scientific law.

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4. Name the three types of RNA and describe their functions.
5. What are the functions of the three specialized tissues in plants? In which of these tissues does photosynthesis occur?
6. Name the functions of four of the six types of membrane proteins.
7. Briefly explain the functions of sensory neurons, interneurons, and motor neurons in the nervous system.
8. Explain the differences between open and closed circulatory systems.
9. Explain the difference between ionic bonds and covalent bonds.
10. Explain why sex-linked traits are more common in boys than girls