BIOL 1 > Potential Topics *for* Essay Questions > Lecture Exam #3 (Sp2021) >> Apr.08.2021

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1. Explain the law of segregation and its implication during gamete formation
2. Explain the law of independent assortment and its implication during gamete formation
3. Compare and contrast the 2 types of meiotic nondisjunction mechanisms
4. Elaborate on experiments **REFUTING** proteins are candidates to carry genetic information
5. Elaborate on the experiments **DEMONSTRATING** DNA carrying genetic information
6. Provide a detailed explanation about DNA replication
7. Provide a detailed explanation about DNA transcription
8. Provide a detailed explanation about post-transcriptional modifications
9. Provide a detailed explanation about mRNA translation
10. Compare and contrast the functions of free-floating *versus* fixed ribosomes
11. Compare & contrast between spliceosomes and ribosomes
12. Compare & contrast between general and specific transcription factors
13. Compare & contrast between negative and positive gene regulation
14. Explain the mechanism of action of a repressible operon by using the *trp* operon
15. Explain the mechanism of action of an inducible operon by using the *lac* operon

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