Assignments and solutions

Bởi:

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Assignments cover the topics discussed in the corresponding lecture sessions

VN-LEC#	MIT-LEC #	ASSIGNMENTs	SOLUTIONS
3, 23, 29, 30, 32	1-5	Problem Set 1 (PDF)	(PDF)
18, 27, 29, 30	6-9	Problem Set 2 (PDF)	(PDF)
16, 20-23	11-15	Problem Set 3 (PDF)	(PDF)
24, 25	16-19	Problem Set 4 (PDF)	(PDF)
25-28	20-24	Problem Set 5 (PDF)	(PDF)
33, 28	25-30	Problem Set 6 (PDF)	(PDF)
31	31-35	Problem Set 7 (PDF)	(PDF)

A chromosome:

- A. is composed of amino acids
- B. is organized in the nucleus by histones
- C. is produced from RNA
- D. is present in 46 pairs in human cells

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Genes:

- A. never function when they contain a mutation
- . directly produce proteins
- C. contain random pairings of nucleotides
- D. all of the above
- E. none of the above

E. none of the above

During the process of transcription, genetic information is transferred from:

- A. DNA to RNA

- B. RNA to DNA
- C. DNA to protein
- D. Protein to RNA

A. DNA to RNA

A mutation that _____ production of a given _____ can manifest as clinical disease.

- A. increases/protein
- B. decreases/mRNA
- C. decreases/ protein
- D. increases/mRNA
- E. all of the above
- F. none of the above

F. none of the above

A mutation occurs that disrupts the normal structure and function of hemoglobin. Which of the following is true?

- A. clinical disease will develop based on the mutation alone.
- B. environmental factors can play a large role in the development of clinical disease.
- C. each person with the same mutation will follow the same clinical course.
- D. family members should be tested for this hereditary condition.

A. clinical disease will develop based on the mutation alone.

A germline mutation _____ while a somatic mutation _____.

- A. is never passed from parents to offspring // is present in all cells of one's body
- B. is always passed from parents to offspring // is present in all cells of one's body
- C. is present in all cells of one's body // is never passed from parents to offspring
- D. is responsible for non-hereditary cancers // is not often a direct cause of inherited disease

C. is present in all cells of one's body // is never passed from parents to offspring

A missense mutation

- A. does not affect protein structure
- B. does not affect protein function
- C. leads to substitution of an amino acid in a new place in the protein

- D. all of the above
- E. none of the above

C. leads to substitution of an amino acid in a new place in the protein

A nonsense mutation
- A. does not affect protein structure
- B. may not lead to clinical disease
- C. involves an inappropriate stop codon
- D. A and B
- E. A and C
- F. All of the above

C. involves an inappropriate stop codon

A silent mutation
- A. results in no change in protein structure/function
- B. can sometimes lead to clinical disease
- C. involves substitution of one amino acid for another
- D. A and C
- E. A and B

A. results in no change in protein structure/function

A polymorphism is a form of mutation that leads to clinical disease.
- True
- Flase

False