

QUIZ 1

QUESTION BANK • 15 QUESTIONS

Q01 In eukaryotic chromatin, the nucleosome is the repeating structural unit and consists of a single-stranded segment of DNA wrapped around an octamer of histone proteins.

A True

B False

Q02 Which of the following statements describes molecular genetics?

A a. Is understanding how traits are passed from parents to offspring

B b. Studies mutant genes

C c. Focuses on genetic variation

D d. All the above

Q03 Which set of statements correctly characterizes moderately repetitive sequences?

A a. are found a few hundred to several thousand times in a genome

B b. May consist of multiple copies of the same gene in few cases

C c. Some may not have a functional role

D a, b and c

Q04 DNA linker regions connect nucleosomes that are not adjacent to one another.

A True

B False

Q05 When a DNA strand is formed, how are its nucleotides linked together?

A a. By hydrogen bonds

B b. Covalently

C c. By salt bridges

D d. all the above

Q06 Eukaryotic chromosomes contain multiple origins of replication.

- A True
- B False

Q07 Evolutionary change caused by natural selection can result in species showing which of the following?

- A a. Greater complexity
- B b. Greater survivor
- C c. Greater reproduction
- D d. a, b and c

Q08 Which of the following lists the components of a single nucleosome?

- A a. 146 bp of DNA and seven core histone proteins
- B b. 146 bp of DNA and octamer core histone proteins
- C c. 147 bp of DNA and eight core histone proteins
- D d. b and c

Q09 Which of the following statements applies to a double-stranded region of RNA?

- A a. Forms non helical structure
- B b. Has no base pairing
- C c. Results in the formation of stem loop
- D d. a and b

Q10 What major types of structural alterations can affect chromosomes?

Answer

Q11 A retroelement is transferred from its original site through which of the following?

- A a. Cut-and-paste mechanism
- B b. RNA intermediate
- C c. Reversible modification
- D d. a and b

Q12 Retrotransposons are transposable elements that depend on an RNA intermediate for transposition.

- A True
- B False

Q13 Which statement best describes what Watson and Crick determined?

- A a. Double helix structure of DNA by X ray
- B b. Double helix structure of DNA by building models
- C c. Double helix structure of Proteins by building models
- D d. Double helix structure of DNA by linking together simple ball-and-stick unit

Q14 Which of the following descriptions applies to highly repetitive sequences?

- A a. Significantly long
- B b. Found couple times throughout a genome
- C c. Repeated TTTT sequences
- D d. Relatively short

Q15 Which specialized eukaryotic chromosome region is essential for replication and for maintaining chromosome stability?

Answer
