

SELF-TEST CORNER OF MOLBIOL **UNDERGRADUATE: DESIGNING OWN TESTS Part 3.**

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GENETIC ROLE OF NUCLEIC ACIDS

Submitted by Nina Deryabina

Biotechnology 13-10

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The role, biological significance, and structure of nucleic acids.

1. Which of the followings contains all the molecules involved in the structure of DNA?
 - a) Ribose, thymine, adenine, inosite, phosphate group
 - b) Deoxyribose, nitrogenous bases and carboxylic group
 - c) Ribose, nitrogenous bases, phosphate group
 - d) Nucleoside (nitrogenous base+deoxyribose) and phosphate group.
 - e) Nucleoside (nitrogenous base+ribose) and phosphate group.

2. Which of the following nucleotides has a double ring structure. Indicate the most completed answer.
 - a) 5'methyluridine, guanine, cytosine
 - b) 7'methyladenine, guanine, adenine
 - c) 5'hydroxymethylcytosine, 1'methylguanine, cytosine
 - d) cytosine, thymine, uracil
 - e) guanine, adenine, 4'thiouracil

3. Which of the following nucleotides has a single ring structure? Indicate the most completed structure.

- a) 5'hydroxymethylcytosine, 4'thiouracil, 7'methyladenine
- b) Adenine, guanine, dihydrouracil
- c) 1'methylguanine, 5'hydroxymethyluracil, thymine
- d) Thymine, adenine, guanine

e) Dihyrouracil, cytosine, thymine

4. Which of the following statements does not represent the function of DNA?

a) This molecule delivers the aminoacids to the ribosome

b) This molecule encodes the genetic instructions used in the functioning of the whole organism

c) This molecule can influence the phenotype of an organism

d) It stores the genetic information which can also be transmitted to next generations

e) It provides the mechanism for heredity

5. Which of the followings is not a part of RNA?

a) Uracil and guanine

b) Adenine and cytosine

c) Thymine and carboxylic group

d) Phosphate group and ribose

e) Ribose and uracil

6. What is the difference between DNA and RNA? (More than one right answer may be fair)

a) They are polymers consisting of monomers

b) They play a significant role in protein synthesis

c) They have different sugars in their structures

d) They both have adenine, cytosine and guanine in their structures

e) They both have nucleosides, which do not contain a phosphate group

7. Which of the followings is not true about pyrimidines?

a) Aromatic heterocyclic organic compound

- b) They are thymine, uracil, cytosine, and their derivatives
- c) Have oxygen with the double bond in the structure
- d) Single ring structure

e) They are adenine, guanine and their derivatives

8. Which of the followings is true about pyrimidines?

- a) Pyrimidines can be found only in DNA structure
- b) Pyrimidines are single ringed aromatic structures
- c) Pyrimidines can be connected only with purines

d) Their derivatives are adenine, and 1'methylguanine

e) The bonds between pyrimidines are of hydrophobic nature

9. Which of the followings cannot be a part of DNA?

a) Uracil and ribose

- b) Phosphate group and thymine
- c) Deoxyribose and adenine
- d) Guanine and cytosine
- e) Deoxyribose and cytosine

10. Which of the followings is not a function of RNA?

a) It transports amino acids to a ribosome

b) It transmits the stimuli from extracellular domain to cytoplasmic domain of complex kinases

- c) It links amino acids to form a protein
- d) It directs the assembly of proteins on ribosomes
- e) It transfers genetic information from nucleus to cytoplasm

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