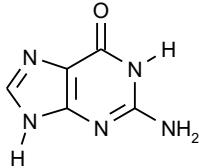
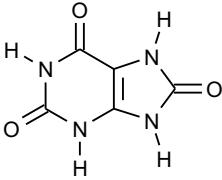
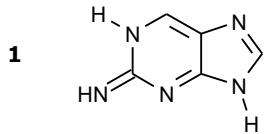
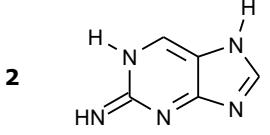


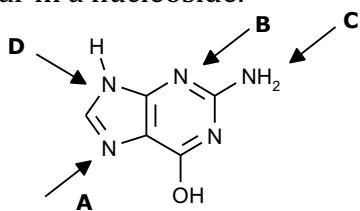
NUCLEIC ACIDS PRACTICE TEST

| | |
|----|---|
| 1) | <p>Indicate which compound is a purine base.</p> <p style="text-align: center;">(1) Guanine; (2) Serine.</p> <p style="text-align: center;">A) 1 = Yes; 2 = Yes. C) 1 = No; 2 = Yes.</p> <p style="text-align: center;">B) 1 = Yes; 2 = No. D) 1 = No; 2 = No.</p> |
| 2) | <p>Indicate the base sequence complementary to the fragment 5'-TCACGCCTGG-3'.</p> <p style="text-align: center;">A) 3'-GACATAAGTT-5'. C) 3'-AGTGC GGACC-5'.</p> <p style="text-align: center;">B) 3'-GGTCCGCACT-5'. D) 3'-ATGTATTAAA-5'.</p> |
| 3) | <p>Indicate which compound is found in RNA.</p> <p style="text-align: center;">(1) Alanine; (2) Uracil.</p> <p style="text-align: center;">A) 1 = Yes; 2 = Yes. C) 1 = No; 2 = Yes.</p> <p style="text-align: center;">B) 1 = Yes; 2 = No. D) 1 = No; 2 = No.</p> |
| 4) | <p>Indicate which definition regarding DNA is correct.</p> <p style="text-align: center;">(1) It is stabilized by interactions between bases; (2) It consists of two strands, aligned in opposite directions, forming a double helix.</p> <p style="text-align: center;">A) 1 = Yes; 2 = Yes. C) 1 = No; 2 = Yes.</p> <p style="text-align: center;">B) 1 = Yes; 2 = No. D) 1 = No; 2 = No.</p> |
| 5) | <p>Indicate the common name of the following molecule.</p> <div style="text-align: center; margin: 10px 0;">  </div> <p style="text-align: center;">A) Adenine. B) Guanine. C) Thymine. D) Uracil.</p> |
| 6) | <p>Indicate which compound is found in RNA.</p> <p style="text-align: center;">(1) Cytosine; (2) Uracil.</p> <p style="text-align: center;">A) 1 = Yes; 2 = Yes. C) 1 = No; 2 = Yes.</p> <p style="text-align: center;">B) 1 = Yes; 2 = No. D) 1 = No; 2 = No.</p> |

| | | | | |
|-----|---|-----------------------------------|-----------------------------------|----------------------------------|
| 7) | Predict how many hydrogen bonds will form between the Adenine-Guanine pair in the DNA double helix. | | | |
| | A) 0. | B) 1. | C) 2. | D) 3. |
| 8) | Indicate which compounds present in nucleic acids form uric acid through deamination and oxidation reactions.. | | | |
| |  | | | |
| | A) Adenine and Cytosine. | B) Adenine and Guanine. | C) Cytosine and Thymine. | D) Cytosine and Uracil. |
| 9) | Predict how many hydrogen bonds will form between the Adenine-Guanine pair in the DNA double helix. | | | |
| | A) 0. | B) 1. | C) 2. | D) 3. |
| 10) | Indicate the base sequence complementary to the fragment: 5'-ATGGCTAAC-3'. | | | |
| | A) 3'-GAAATATGGT-5'. | B) 3'-CGTTAGACCA-5'. | C) 3'-CAACTCGGTA-5'. | D) 3'-TACCGAGTTG-5'. |
| 11) | Indicate which compound is found in DNA. | | | |
| | (1) Guanine; (2) Uracil. | | | |
| | A) 1 = Yes; 2 = Yes. | B) 1 = Yes; 2 = No. | C) 1 = No; 2 = Yes. | D) 1 = No; 2 = No. |
| 12) | Indicate which characteristic of the DNA double helix is variable.. | | | |
| | (1) The molar ratio between Adenine and Cytosine; (2) The molar ratio between Guanine and deoxyribose. | | | |
| | A) 1 = Yes; 2 = Yes. | B) 1 = Yes; 2 = No. | C) 1 = No; 2 = Yes. | D) 1 = No; 2 = No. |
| 13) | Indicate which base is found only in RNA. | | | |
| | A) Uracil. | B) Adenine. | C) Guanine. | D) Cytosine. |
| 14) | Indicate which structure is a tautomer of Adenine. | | | |
| |  1  2 | | | |
| | A) 1 = Yes; 2 = Yes. | B) 1 = Yes; 2 = No. | C) 1 = No; 2 = Yes. | D) 1 = No; 2 = No. |

15)

Indicate which of the nitrogen atoms of Guanine indicated by an arrow is bonded to carbon 1' of the sugar in a nucleoside.



A)

B)

C)

D)