

**This set of Biochemistry Multiple Choice Questions & Answers (MCQs) focuses on
“Nucleic Acids”.**

1. Number of hydrogen bonds between adenine and thymine?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
2. Number of hydrogen bonds between guanine and cytosine?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
3. Which ratio is constant for DNA?
 - a) $A + G / T + C$
 - b) $A + T / G + C$
 - c) $A + C / U + G$
 - d) $A + U / G + C$
4. According to Chargaff's rule, in a DNA molecule
 - a) The amount of adenine and thymine is equal to the amount of guanine and cytosine
 - b) The amount of adenine and guanine is equal to the amount of thymine and cytosine
 - c) The amount of adenine and uracil is equal to the amount of guanine and cytosine
 - d) The amount of adenine and guanine is equal to the amount of uracil and cytosine
5. Arrangement of nucleotides in DNA can be seen by
 - a) Ultracentrifuge
 - b) X-Ray crystallography
 - c) Light microscope
 - d) Electron microscope
6. The monomeric unit of nucleic acid are called _____
 - a) Nucleotides
 - b) Nucleosides
 - c) Pyrimidines
 - d) Purines
7. Who discovered nucleic acid?
 - a) Watson and Crick
 - b) Griffith
 - c) Friedrich Miescher
 - d) Walter Gilbert
8. Name the pyrimidine base which is found in RNA but not in DNA?
 - a) Thymine
 - b) Uracil
 - c) Adenine
 - d) Guanine

1. What enables cells to have different forms and perform different functions?
2. What is the primary function of DNA?
3. What role do proteins have in a cell?
4. What is the basic unit of DNA and how are these units arranged?
5. What are the three parts of a nucleotide?
6. What are the four possible nitrogen bases found in DNA and what are their abbreviations?
7. Which nitrogen bases are purines and which are pyrimidines and what is the difference between them?
8. How are the nitrogen bases connected to the backbone and how are they connected to each other?
9. What is meant by complementary base pairing?
10. What is meant by DNA replication?
11. What basically occurs in DNA replication?
12. What is a replication fork?
13. What is it that DNA helicases do?
14. What do the DNA polymerases do?
15. What is the foundation for accurate DNA replication?
16. How does DNA replication proceed?
17. What is the final product of the DNA replication?
18. How accurate is DNA replication?
19. What do we call a change in the nucleotide sequence?