

# C# 9 Biochem.

1) A

2) D

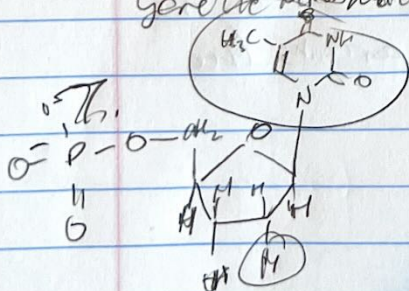
3) B

- a) phosphodiester joins adjacent nucleotides in one strand
- b) glycosidic links base to pentose in nucleotide
- c) phosphate ester difference between nucleoside and nucleotide
- d) hydrogen bond joins complementary nucleotides in two strands

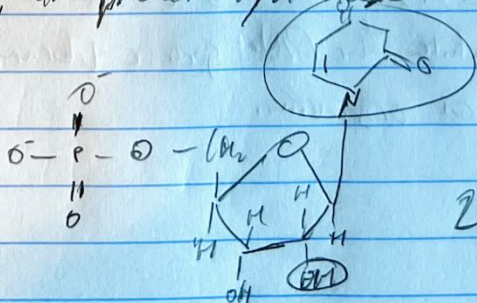
8, The greater the amount of ions in solution, the more competing interactions exist for the complementary nucleotides. Therefore, higher ionic strength means they are more likely to not bind the nucleotides together, resulting in denaturation.

6, DNA is used to ~~store genetic data~~ code and store genetic data, as well as genome wide functions such as vaccines, and information coding in synthetic chemical libraries.

RNA is used for transmission of genetic info, processing of genetic information, and protein synthesis.



deoxythymine



uracine

1. difference in uracine
2. difference in ribose base



8. C

9. C

10. C

11. (a) tetracycline

(b) tetracycline resistance ( $tet^R$ )

(c) the  $tet^R$  gene will contain human DNA, so only tetracycline resistance will remain.

12. Protein complex isolation is where a protein is epitope tagged and gently isolated, which will also separate any interacting proteins. These proteins then can also be separated and identified.

13. (a) cDNA is DNA created by transcribing the messenger mRNA.

(b) It is synthesized with reverse transcriptase, which creates ~~double~~ complementary to a second mRNA strand.

This is then converted to cDNA.

(c) cDNA library contains the entire mRNA of an organism, while the DNA genomic library contains the genome of an organism.