Assignment 4

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

1) DNA polymerase _______ is responsible for the synthesis of lagging strand at the time of DNA synthesis. 1 point
   - α (alpha)
   - β (beta)
   - ε (epsilon)
   - δ (delta)

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   ε (epsilon)

2) Which one among the following enzymes is responsible for unwinding the DNA and formation of replication fork? 1 point
   - SSB
   - Helicase
   - Ligase
   - Primase

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Helicase

3) _________ is a highly heat stable DNA polymerase, used in PCR amplification. 1 point
   - DNA polymerase α
   - Taq polymerase
   - Topoisomerase I

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Taq polymerase

4) Which of the following statements depicts all the major components of PCR experiment correctly? 1 point
   - Template, Taq polymerase, primers, NTPs, CaCl₂, buffer
   - Template, Taq polymerase, primers, NTPs, MgCl₂, buffer
   - Template, Taq polymerase, primers, dNTPs, MgCl₂, buffer
   - Template, polymerase I, primers, dNTPs, MgCl₂, bufferDNA

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Template, Taq polymerase, primers, dNTPs, MgCl₂, buffer

5) Identify the nucleotide. 1 point
   ![Chemical structure of a nucleotide]
   - Deoxyguanosine triphosphate
   - Deoxyadenosine triphosphate
   - Deoxycytidine triphosphate
   - Deoxythymidine triphosphate

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   Deoxyadenosine triphosphate

6) Arrange the events involved in PCR in a correct order from start to end, keeping the specificity of temperature in mind. 2 points
   - Denaturation (95°C) > Annealing (45°C) > Extension (72°C)
   - Denaturation (95°C) > Annealing (54°C) > Extension (72°C)
   - Denaturation (95°C) > Annealing (54°C) > Extension (72°C)
   - Denaturation (95°C) > Extension (72°C)

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   Denaturation (95°C) > Annealing (54°C) > Extension (72°C)

7) If a DNA sample containing 150 molecules of DNA is amplified in a master cycle. Then after 30 round of amplification what will be the final amount of DNA? 2 points
   - 3.75 x 10⁹ molecules of DNA
   - 3.5 x 10⁹ molecules of DNA
   - 3.5 x 10⁹ molecules of DNA
   - 3.0 x 10¹⁰ molecules of DNA

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   3.5 x 10⁹ molecules of DNA

8) What is the key component of Sanger's chain termination methods of DNA sequencing? 1 point
   - dNTPs
   - ddNTPs
   - Template DNA
   - Taq polymerase enzyme

   No, the answer is incorrect.
   Score: 0
   Accepted Answer:
   ddNTPs