Unit 6 - Week 4 : DNA Replication, Polymerases, DNA Sequencing and PCR

Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-26, 23:59 IST.

1) DNA polymerase _____ is responsible for the synthesis of lagging strand at the time of DNA synthesis. *1 point*

- a (alpha)
- b (beta)
- e (epsilon)
- d (delta)

No, the answer is incorrect.
Score: 0

Accepted Answers:
e (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 d
- Taq polymerase
- Topoisomerase I

No, the answer is incorrect.
Score: 0

Accepted Answers:
Taq polymerase

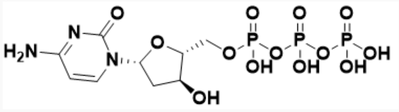
4) Which of the following combinations depicts all the major components of PCR experiment correctly? *1 point*

- Template, Taq polymerase, primers, NTPs, $CaCl_2$ buffer
- Template, Taq polymerase, primers, NTPs, $MgCl_2$ buffer.
- Template, Taq polymerase, primers, dNTPs, $MgCl_2$ buffer.
- Template, polymerase I, primers, dNTPs, $MgCl_2$ buffer.DNA

No, the answer is incorrect.
Score: 0

Accepted Answers:
Template, Taq polymerase, primers, dNTPs, $MgCl_2$ buffer.

5) Identify the nucleotide: *1 point*



- Deoxyadenosine triphosphate
- Deoxyguanosine triphosphate
- Deoxycytidine triphosphate
- Deoxythymidine triphosphate

No, the answer is incorrect.
Score: 0

Accepted Answers:
Deoxycytidine 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 ^{0}C) > Annealing (45 ^{0}C) > Extension (100 ^{0}C)
- Denaturation (95 ^{0}C) > Annealing (54 ^{0}C) > Extension (72 ^{0}C)
- Denaturation (100 ^{0}C) > Extension (54 ^{0}C) > Annealing (72 ^{0}C)
- Denaturation (100 ^{0}C) > Extension (75 ^{0}C) > Annealing (45 ^{0}C)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Denaturation (95 ^{0}C) > Annealing (54 ^{0}C) > Extension (72 ^{0}C)

7) If a DNA sample containing 350 molecules of DNA is amplified in a master cycler. Then after 30 round of amplification what will be the final amount of DNA? *2 points*

- $3.75*10^9$ molecules of DNA
- $3.75*10^{11}$ molecules of DNA
- $3.50*$ molecules of DNA 10^{15}
- 3.00*105 molecules of DNA

No, the answer is incorrect.
Score: 0

Accepted Answers:
$3.75*10^{11}$ molecules of DNA

8) What is the key component of Sangers's chain termination methods of DNA sequencing? *1 point*

- dNTPs
- ddNTPs
- Template DNA
- Taq polymerase enzyme

No, the answer is incorrect.
Score: 0

Accepted Answers:
ddNTPs