

# Unit 10 - Week 8

## Course outline

How does an NPTEL online course work?

Week 0 Assignment 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

● Lecture 16 : Nucleic Acids - I

● Lecture 17 : Nucleic Acids - II

○ Lecture 18 : Nucleic Acids - III

● Lecture material of Week 8

○ Quiz : Week 8 Assignment 8

○ Week 8 Feedback Form

Week 9

Week 10

Week 11

Week 12

Download Videos

Detail Solution

Live Interactive Session

## Week 8 Assignment 8

The due date for submitting this assignment has passed.

**Due on 2020-03-25, 23:59 IST.**

As per our records you have not submitted this assignment.

1) In the Central Dogma of biology, the process of involving the formation of protein from RNA is called

- a) Translation
- b) Transcription
- c) Replication
- d) Transmission

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

2) Which of the following options correspond to the pyrimidine bases found in RNA?

- a) Uracil and Thymine
- b) Thymine and Cytosine
- c) Adenine and Thymine
- d) Cytosine and Uracil

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

d)

3) Which among the following statement is TRUE for a nucleotide?

- a) It consists of a nitrogenous base, a sugar and a phosphate.
- b) It consists of only a nitrogenous base and a sugar.
- c) It consists of only a nitrogenous base.
- d) It consists of only a sugar and a phosphate.

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

4) One of the differences between DNA and RNA is that of the type of sugar they have. DNA has a deoxyribose sugar. From which position in the ribose ring of DNA is the OH group missing?

- a) C2
- b) C3
- c) C4
- d) C5

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

5) In a DNA, the nitrogenous base is attached to the \_\_\_\_ end of the sugar?

- a) 1'
- b) 2'
- c) 5'
- d) 4'

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

6) The torsional angle generated due to the rotation around the glycosidic bond is designated as

- a)  $\alpha$
- b)  $\beta$
- c)  $\epsilon$
- d)  $\chi$

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

d)

7) In the synthesis of a nucleic acid polymer, the \_\_\_\_ hydroxyl group of one nucleotide attacks the \_\_\_\_ phosphate of a nucleotide triphosphate.

- a) 3',  $\beta$
- b) 5',  $\alpha$
- c) 3',  $\alpha$
- d) 5',  $\beta$

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

c)

8) According to Watson and Crick model, which base pairing is CORRECT?

- a) A pairing with G
- b) G pairing with C
- c) C pairing with T
- d) T pairing with G

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

b)

9) What should be the complementary strand of 3'ATGCCTGA5'?

- a) 3'TACCTAAG5'
- b) 5'TACGGAAG3'
- c) 3'TAGGCAGGT5'
- d) 5'UAGGCAAGU3'

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

b)

10) Which type of tautomerization happens in case of Adenine and Cytosine?

- a) Keto-Enol
- b) Lactam-Lactim
- c) Amide-Imidic acid
- d) Amine-Imine

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

d)

11) A segment of B-DNA double helix consists of 101 base pairs. What would be the approximate length of that segment in nm?

- a) 34
- b) 32
- c) 30
- d) 340

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

12) Which of the following statement is TRUE for Z-DNA?

- a) It is a left-handed helix with 12 base pairs per turn.
- b) It is a right-handed helix with 10.5 base pairs per turn.
- c) It is a left-handed helix with 10.5 base pairs per turn.
- d) It is a right-handed helix with 12 base pairs per turn.

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

13) Which of the following represents the CORRECT order of the pitch among the different types of DNA?

- a) A-DNA > B-DNA > Z-DNA
- b) A-DNA < Z-DNA < B-DNA
- c) A-DNA < B-DNA < Z-DNA
- d) B-DNA > A-DNA > Z-DNA

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

c)

14) The rate of hydrolysis is faster in RNA than DNA. Which among the following options would be the most probable reason?

- a) The ribose sugar present in DNA is in deoxy form than in RNA.
- b) The presence of different pyrimidine in RNA than DNA.
- c) The stacking of nitrogen bases.
- d) The phosphate in the backbone of RNA favours hydrolysis in faster rate.

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

a)

15) The monomers of DNA are joined together by

- a) an amide bond
- b) a phosphodiester bond
- c) a glycosidic bond
- d) a disulfide bond

- a)
- b)
- c)
- d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

b)