

## Unit 6 - Week 4

### Course outline

How to access the portal

Pre-requisite Assignment

Week 1

Week 2

Week 3

Week 4

Lesson 18, Mendelian genetics: Pedigree analysis

Lesson 19, Mendelian genetics: Non-Mendelian inheritance

Lesson 20, DNA replication

Lesson 21, Transcription

Lesson 22, Translation

Quiz : Assignment 4

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## Assignment 4

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

**Due on 2019-08-28, 23:59 IST.**

1) Choose the correct statement about Non Mendelian Inheritance 1 point

- Dominance is not always absolute
- The same gene may affect multiple characteristics
- Genetic disorders are always X-linked in Non-Mendelian Inheritance
- None of the above

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*Dominance is not always absolute*  
*The same gene may affect multiple characteristics*

2) The blood group of a healthy mother (XX) and a diseased father (XD Y) is O and A respectively. The disease is X-linked and recessive in nature. If they have children which of the following can be expected? 1 point

- The blood group of boys will be AB and will have the disease
- The blood group of girls will be A or O and all will be carriers for the disease
- No girls with blood group O will be carrier
- All of the above

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*The blood group of girls will be A or O and all will be carriers for the disease*

3) Select the correct meaning of symbols used in pedigree analysis chart 1 point

Symbols	Meaning
A. <input type="checkbox"/>	Affected male
B. <input type="radio"/>	Normal Female
C. <input type="checkbox"/> — <input type="radio"/>	Mating
D. <input type="radio"/>	Affected female

- A and D only
- C and D only
- A, C and D only
- B, C and D only

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*B, C and D only*

4) Which of the following is an example of polygenic inheritance 1 point

- Skin Colour
- Sickle cell anemia
- Blood group
- None of the above

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*Skin Colour*

5) Choose the correct statement about DNA Replication. 1 point

- Polymerisation of nucleotides happens from 5' to 3' direction.
- At the time of DNA replication, DNA is in condensed form.
- DNA replication can start randomly from any site.
- None of the above.

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*Polymerisation of nucleotides happens from 5' to 3' direction.*

6) Recognize the correct statements among the following 1 point

- Okazaki fragments are part of lagging strand
- One codon can code for only one amino acid
- Multiple amino acids can be coded by one codon
- Without the primer, DNA polymerase can attach the new nucleotides during DNA replication

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*Okazaki fragments are part of lagging strand*  
*One codon can code for only one amino acid*

7) Which of the following post translational modifications occur in eukaryotic mRNA 0 points

- Poly thymine tail at 3' end
- 5'- capping
- Poly Adenine tail at 3' end
- None of the above

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*5'- capping*  
*Poly Adenine tail at 3' end*

8) Which of the following is a stop codon? 1 point

- AUG
- UAG
- UAC
- UCA

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*UAG*

9) The anticodon sequence is present in 1 point

- t-RNA
- DNA
- Ribosomal RNA
- All of the above

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*t-RNA*

10) Below is the given sequence of mRNA. 1 point  
 5'-AUGC UAAUAUGACCG-3'

Recognize the codon for Methionine

- 5'-AUG-3'
- 5'-CCG-3'
- 5'-UGC-3'
- None of the above

No, the answer is incorrect.  
 Score: 0

Accepted Answers:  
*5'-AUG-3'*