



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTIONS - 22

Class: XII Sub: Biological Science Dat

Date: 25.06.2020

Topic: Chapter 5 (part 11) Mutation and Mendelian disorders F.M. : 15

Choose the correct option:

(1x15=15)

- Mendelian disorders occur due to the mutation of : a) Entire Chromosome b)Genome c) Single gene d) All of these
 - Answer : Single gene (c)
- The genetic disorder where coagulation of blood takes longer time than the normal blood clotting time :
 - a) Red green colour blindness b) Haemophilia c) Sickle cell anaemia d) Haemolytic anaemia Answer : Haemophilia (b)
- 3. Example of X-linked disease :-

a)Haemophilia b) Sickle cell anaemia c) Phenylketonuria d) Both (a) and (b)

Answer : Both (a) and (b) (d)

4. Phenylketonuria is an example of :-

a)X-linked dominant disorder b) X-linked recessive disorder c) Autosomal recessive trait d) Autosomal dominant trait

Answer : Autosomal recessive trait (d)

- 5. Phenylketonuria results in an abnormal increase in the levels of :
 - a) Phenylalanine b) Phenol c) Phenyl groups d) All of these

Answer : Phenylalanine (a)

6. In phenylketonuria the ______ is formed which damages brain.

a) Phenylalanine b) Phenylpyruvic acid c) Phenol d) None of these

Answer : Phenylpyruvic acid (b)

Haemophilia occurs in males occur with single gene while in females it has to be present in _____ condition.

a) Homozygous recessive b) Heterozygous c) Hemizygous d) None of these **Answer : Homozygous recessive (a)**

- 8. Heterozygous condition of haemophilic gene in females make them :
 - a) Affected individual b) Inaffected individual c) Carrier d) Inaffected and carrier **Answer : Inaffected and carrier (d)**

9. If a cross is made between a carrier female for haemophilia and a normal male. How much percent of male children would be haemophilic?

a) 100% b) 50% c) 0% d) None of these

Answer : 50 % (b)

- 10. If a cross is made is between a a haemophilic female and a normal. What percentage of male children would be haemophlic?
 - a) 100% b) 50% c) 0% d) 75%

Answer : 100% (a)

- 11. In sickle cell anaemia amino acid glutamic acid is substituted with the following amino acid :
 - a) Alanine b) Methionine c) Valine d) Phenylalanine

Answer : Valine (c)

- 12. Sickle cell anaemia disease is manifested in ______ condition.
 - a) Homozygous for Hb^s b) Homozygous for Hb c) Heterozygous d) None of these

Answer: Homozygous for Hb^s (a)

- 13. Sickle cell anaemia trait is manifested in ______ condition.
 - a) Homozygous b) Heterozygous c) Hemizygous d)All of these

Answer : Heterozygous (b)

14. Sickle cell anaemia is common in the parts of worlds where the following disease is prevalent :a) Malaria b) Dengue c) Sleeping d) Filaria

Answer : Malaria (a)

- 15. The sickle cell anaemia gene (Hb^s) is said to be a ______ gene as it is sufficient enough to kill the bearer :
 - a) Dominant b)Lethal c) Recessive d) Co-dominant

Answer : Lethal (b)

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