



Date: 30-10-2018
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART-A

Answer the following, each within 50 words:

(10 x 2 = 20 marks)

1. Define Alleles.
2. What is Pleiotropism?
3. What is Epistasis?
4. Define Centimorgan.
5. What is the significance of Messelson-Stahl experiment?
6. What are transposable elements?
7. Define Transversion.
8. What is a clone?
9. What is mustard gas?
10. What proportion of off springs will be Colour blind when a Colour blind woman marries a normal man?

PART-B

Answer the following, each within 500 words. Draw diagrams and flowcharts

wherever necessary:

(5 x 7 = 35 marks)

- 11.a. Enumerate the history of scientific developments in the Pre-Mendelian period.
(or)
b. Write short notes on blending Inheritance.
- 12.a. Describe complementary interaction of genes with an example.
(or)
b. Write notes on sex-linked inheritance with an example.
- 13.a. Describe the double helical structure of DNA.
(or)
b. Enumerate the characteristics of genetic code.

14.a. Briefly explain the types of structural aberrations in chromosomes.

(or)

b. Write short notes of Down's syndrome and its etiology.

15.a. Explain briefly about the genetic basis of heterosis with suitable crosses.

(or)

b. Write notes on mass-selection and its disadvantages.

PART- C

Answer any three of the following, each answer within 1200 words. Draw diagrams and flowcharts wherever necessary **(3 x 15 =45 marks)**

16. Discuss in detail about non-allelic interaction with two examples.

17. Explain polygenic inheritance with an example.

18. Write an account of gene regulation in *lac* operon with neat diagrams.

19. Write detailed notes on DNA repair mechanisms.

20. Explain the role of polyploidy in plant breeding.
