

## August Monthly Test, 2024

## Standard 12

## Botany

## Part A

Time 45 minutes

Marks : 25

I. Choose the correct answer:

5 × 1 = 5

1. Removal of introns and joining of exons in a defined order during transcription is called

a) Splicing b) Looping c) Inducing d) Slicing

2. How are RNA molecules transported out of the nucleus

a) Passive diffusion through the membrane b) Through membrane pores in an energy independent process c) Through membrane pores in an energy dependent process d) Through a channel in the membrane that leads to the Endoplasmic reticulum.

3. Which of the following correctly represent the flow of genetic information?

a) DNA → RNA → Protein b) RNA → DNA → Protein c) RNA → Protein → DNA  
d) Protein → RNA → DNA

4. Transposons are the DNA sequences which can move from one position to another position in a genome

a) RNA editing b) Jumping genes c) RNA splicing d) Translation

5. Who independently proposed the chromosome theory of inheritance?

a) Montgomery b) T.H. Morgan c) Barbara Mc clintok d) Sutton and Boveri

## Part B

II. Answer any three of the following :

3 × 2 =

6

6. Define gene mapping.

7. What is TATA Box ?

8. What is meant by capping?

9. Write short notes on chromosomal aberrations.

## Part C

III. Answer any three questions:

3 × 3 =

9

10. Distinguish between linkage and crossing over.

11. Write the significance of RNA editing.

12. Write the salient feature of Sutton and Boveri concept.

13. Differentiate coding and non coding strand.

## Part D

IV. Answer in detail :

1 × 5 =

5

14. How is Nicotiana exhibits self incompatibility. Explain its mechanism (or) Explain the mechanism of crossing over.