

OCTOBER 2012

P/ID 40228/PBTH

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Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 50 words.

Write short notes on:

1. Incomplete dominance.
2. Autosome.
3. Incompletely sex linked genes.
4. Cistron.
5. Eugenics.
6. Germplasm.
7. Parthenogenesis.
8. Mode.
9. Types of probability.
10. Applications of poisson distribution.

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 250 words.

11. (a) Explain the different theories of the mechanism of crossing over.

Or

- (b) Explain the mechanism of Mendel's law of independent assortment.

12. (a) What are the characteristics of multiple alleles? Explain with example.

Or

- (b) Explain the method of sex determination in plants.

13. (a) Explain the process of specialized and generalized transduction.

Or

- (b) Illustrate the structure and characteristics of exon and intron.

14. (a) Illustrate the methods of vegetative propagation.

Or

- (b) Discuss briefly the role of Aneuploid in crop improvement.

15. (a) Distinguish between population and sample of a biological investigation.

Or

- (b) Mention the different types of probability.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 500 words.

16. (a) Describe the Nature and types of Antibodies.  
Or  
(b) Elucidate the characteristics of chloroplast genome with the schematic diagram.
17. (a) Give a detailed account on factors affecting genetic drift.  
Or  
(b) Outline the process of protein synthesis.
18. (a) Illustrate the Beadle and Tatum experiment.  
Or  
(b) What is polyploidy and its types? Discuss the importance of polyploidy in crop improvements.
19. (a) What is Students 't' distribution? How is it useful in genetics studies?  
Or  
(b) State the Null hypothesis and the level of significance.
20. (a) Discuss briefly the various methods of improving inbred lines with examples.  
Or  
(b) Briefly explain the standard deviation and standard error.