

MAY 2016

P/ID 40228/PBTH

Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Write short note on :

1. Chiasma
2. Autosome
3. Kappa particle
4. Codon
5. Monosomic
6. Cistron
7. Degrees of freedom
8. Standard deviation
9. Triticale
10. Trisomics.

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Explain the importance of *Neurospora* in genetic studies.

Or

- (b) What is crossing over? Explain the mechanism and significance.

12. (a) What is mass selection? Mention its merits and demerits.

Or

- (b) Give an account on heterosis and its causes.

13. (a) Differentiate autopolyploid and allopolyploid.

Or

- (b) What is standard deviation and mention its uses.

14. (a) Write a brief note on Rh factor and *Erythroblastosis foetalis*.

Or

- (b) List the salient features of sex linked inheritance and mention the types.

15. (a) State and explain Hardy- Weinberg law.

Or

- (b) Explain the binomial distribution and mention its uses.

PART C — (5 × 10 = 50 marks)

Answer ALL questions each in 500 words.

16. (a) Explain the process of virus mediated gene transfer in bacterium.

Or

- (b) What is gene and gene concept? Explain.

17. (a) Explain male sterility in corn.

Or

- (b) Give an account of mutation breeding.

18. (a) Write an essay on inheritance of kappa particle inheritance.

Or

- (b) Describe the structure of an antibody and mention the types of antibody.

19. (a) What is tetrad analysis? Mention its significance.

Or

- (b) Write an essay on genetic counseling.

20. (a) What is eugenics? Explain its types.

Or

- (b) A cross involving different genes gave rise to F₂ generation of Tall and Dwarf individuals in the ratio of 110 : 90. Test by means of chi-square whether this value is deviated from Mendel's monohybrid ratio 3 : 1.
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