

APRIL/MAY 2019

BABT 32 — PRINCIPLES OF GENETICS

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Mention any two characteristics of Mendel's experimental plant.
2. State the law of Independent assortment.
3. Define linkage.
4. What are Multiple alleles?
5. Define transduction.
6. What is a karyotype?
7. What happens to DNA in Radioactive mutation.
8. Give two examples of Insertional Mutation.
9. Differentiate between monozygotic and dizygotic twins.
10. Define monoplasmmy.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) With a neat punnet square explain Mendel's Monohybrid Cross

Or

- (b) What were the characteristics chosen by Mendel in *Pisum sativum*?

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

Or

- (b) Explain pleiotropy and its effect on gene expression.

13. (a) Write briefly about transformation in bacteria.

Or

- (b) What are genetic disorders? Explain with any two examples.

14. (a) What is the difference between transitional and transversional mutation?

Or

- (b) Write briefly about molecular basis of mutation.

15. (a) Discuss briefly about Pedigree analysis.

Or

- (b) What are characteristics exhibited by male sterility plants?

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the principles of segregation and independent assortment.

17. Elaborate on the characteristics of ABO blood group.

18. What is gene mapping? Explain its importance of in genetic sequencing.

19. Explain point mutation and chromosomal dislocation with proper examples

20. Describe about mitochondrial inheritance.