SE – 198

PART – C

(2×10=20)

III. Answer **any two** of the following.

1) Describe in detail the ABC model of floral morphogenesis in arabidopsis.

2) Explain speciation. Add a note on methods of speciation.

3) An experiment was conducted in randomized block design to study the comparative performance of fodder sorghum (fodder yield tons/ha) under rain fed condition. Find out the genotypic, phenotypic and environmental variance.

Variety	Replication			
	I	II	III	IV
1	22.9	25.9	39.1	33.9
2	29.5	30.4	28.3	29.6
3	28.8	24.4	22.1	28.1
4	47.1	40.9	42.8	32.1
5	28.9	20.4	21.1	31.8

4) Write notes on :

a) Fate mapping

b) Dominance variance.

PART – D

(1×10=10)

IV. Answer **any one** of the following.

1) Explain Hardy-Weinberg principle. Add a note on factors affecting the equilibrium.

2) Discuss :

a) Differential expression of haemoglobin genes.

b) QTL.

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SE – 198

VI Semester B.Sc. Examination, September 2020
(Fresh and Repeaters) (CBCS 2016-17 and Onwards)
GENETICS – VII
GNT 601 : Developmental and Evolutionary Genetics

Time : 3 Hours Max. Marks : 70

Instruction : *Draw diagrams* ***wherever*** *necessary.*

PART – A

I. Answer **any five** of the following. **(5×3=15)**

1) What is the role of maternal genes in the development of Drosophila.
2) What are homeotic genes ?
3) Define tissue specific methylation.
4) Define fitness.
5) Give the postulates of Lamarckism.
6) What is correlation ?
7) Define additive variance. Give the formula.

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PART – B

II. Answer **any five** of the following. **(5×5=25)**

1) Describe nuclear transplantation experiments in amphibians.
2) Explain the role of segmentation genes in the development of Drosophila.
3) Give an account of isolating mechanisms.
4) What is selection ? Mention its types.
5) List any 5 features of polygenic traits.
6) Explain quantitative trait with reference to ear length in corn.
7) Give the significance of polygenic inheritance in animal breeds.

P.T.O.