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VI Semester B.Sc. Examination, September/October 2022
(CBCS)
GENETICS – VIII
Developmental, Evolutionary and Biometrical 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 gastrula ?
- 2) Write the role of pair rule genes.
- 3) Mention the function of homeotic selector genes.
- 4) Define fitness.
- 5) Write the postulates of Darwin.
- 6) What is epistatic variance ?
- 7) What is the difference between additive and dominance variance ?

PART – B

II. Answer **any five** of the following :

(5×5=25)

- 8) Write a note on ABC model involved in Arabidopsis development.
- 9) Explain nuclear transplantation in amphibians.
- 10) Describe transgressive inheritance in poultry.
- 11) Write a note on speciation.

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- 12) Write a note on IQ in humans.
- 13) What is heritability ? Explain the types.
- 14) Explain correlation with examples.

PART – C

III. Answer **any three** of the following : (3×10=30)

- 15) Explain the anterior-posterior polarity development of Drosophila.
- 16) Give a detailed note on switching genes on and off during development.
- 17) State Hardy-Weinberg principle. Add a note on evolutionary factors affecting the equilibrium.
- 18) Explain :
 - a) QTL
 - b) Ear length in corn.
- 19) Differentiate quantitative and qualitative inheritance. Explain with examples.



(2x2=25)