



‘সমানো মন্ত্র: সমিতি: সমানী’

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 3rd Semester Examination, 2021

CC7- ZOOLOGY
GENETICS

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

1. Answer any *five* questions from the following: 1×5 = 5
- (a) What is linkage group?
 - (b) What is heterochromatin?
 - (c) What is epistasis?
 - (d) What is pleiotropism?
 - (e) What is sex-limited inheritance?
 - (f) Name two chemical mutagens.
 - (g) What is the significance of crossing over?
 - (h) Write the relationship between interference and coincidence.

GROUP-B

2. Answer any *three* questions from the following: 5×3 = 15
- (a) “Bombay phenotype is an example of epistasis.” — Explain.
 - (b) Explain the phenomenon of incomplete linkage with suitable example.
 - (c) Describe sex-linked inheritance in *Drosophila*.
 - (d) Explain incomplete dominance with suitable example.
 - (e) Write a note on the role of SRY and XIST in human sex determination.

GROUP-C

3. Answer any *two* questions from the following: 10×2 = 20
- (a) Describe the molecular mechanism of crossing over.
 - (b) Describe the molecular mechanism of sex determination in *Drosophila*. Discuss the role of Y-chromosome in the sex determination in mammals. 7+3
 - (c) Describe Mendel’s monohybrid cross experiment. State the principles of inheritance. 6+4
 - (d) Explain the inheritance of ‘Kappa’ particles in *Paramecium*.

—x—