B.Sc. General Examination 2020
(Under CBCS Pattern)
Semester-IV
Subject: ZOOLOGY
Paper : DSC-1D (T+P)
Genetics and Evolutionary Biology (Theory + Practical)

Candidates are requested to give their answer in their own word as far as practicable.
Questions are of equal value

Part A: Theory

Answer any one question [within 250 words]

1. What is Linkage? Explain mechanism of incomplete linkage with suitable example. What is coincidence and Interference?

2. Prove that ABO blood group is a multiple allelic system. Write the difference between incomplete dominance and codominance. Give an example of Sex-linked inheritance in Man.

3. Write the difference parametric and pericentric inversion. What is Tautomeric Shift? Give an example of Tautomerism. Give the identity of ClB stock.

4. What is dosage compensation? Write the role of gene in dosage compensation of Drosophila sp. Explain the mechanism of dosage compensation in Man.

5. Define fossil? Explain phylogeny of Horses on the basis of limb structure, dentition, height and skull structure.

6. Define Species. Write the advantage and disadvantage of Biological Species Concept. Write the difference between Allopathic and Sympatric Speciation.

7. Explain Directional Selection with suitable example. Write the difference between Stabilizing and Disruptive Selection.

Part B: Practical

Answer any one question [within 150 words]

1. In cron ,a plant heterozygous for three gene pairs A,a ; B,b; C,c ; is test crossed to the triple recessive with the following results: ABC -142,ABc-22, abc-148, abC-18,Abc-235, AbC-95, Abc-255,aBc-85 What is the Parental cross? Determine the correct gene order of the genes. Map the genes. Calculate the coefficient of coincidence.
2. What is chi-square test? Write its formula and characteristics.
3. Write the phylogenetic characters with diagram of horse limb and teeth.
4. Write the characteristics of beak of different species of Darwin's Finches.

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