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Q5(a)

Balanced and transient genetic polymorphism

UPSC Civil Services Mains 2022 · Anthropology GS 1 · 10 marks · Concept of genetic polymorphism and selection, Mendelian population, Hardy-Weinberg law

9.3 Concept of genetic polymorphism and selection, Mendelian population, Hardy-Weinberg law; causes and changes which bring down frequency-mutation, isolation, migration, selection, inbreeding and genetic drift. Consanguineous and non-consanguineous mating, genetic load, genetic effect of consanguineous and cousin marriages.

Facts & figures for this PYQ only.

Numbers move. Confirm the latest Budget, Economic Survey or census round. This sheet is for revision, not a substitute for the model answer.

<https://wrapexams.com/upsc/mains-answers/anthropology-gs-1/2022/balanced-and-transient-genetic-polymorphism/>

Allison

Showed the geographic fit of haemoglobin S and falciparum malaria, the classic balanced case.

Ford

Defined genetic polymorphism as the occurrence of two or more forms in frequencies too high for recurrent mutation alone.

Kettlewell

Peppered-moth studies illustrated a visible transient change under industrial selection.

HLA

High diversity at immune loci is often read as balancing selection, though not all alleles are proven balanced.

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