

**B.Sc. 6<sup>th</sup> Semester (Honours) Examination, 2021 (CBCS)**

**Subject: Zoology**

**Paper: CC-14 (Evolutionary Biology)**

**Full Marks: 40**

**Time: 2 Hrs**

*Candidates are required to give the answers in their own words as far as practicable.*

Answer any **eight** questions of the following:

**5×8=40**

1. Describe the evolution of horse as revealed by fossil records.
  2. Compare and contrast the characteristic features of Peking man and Cro-Magnon man.
  3. Let **A** and **a** represent dominant and recessive alleles respectively, whose respective frequencies are  $p$  and  $q$  in a given interbreeding population at equilibrium (where,  $p + q = 1$ ). Now, if 16% of the individuals in the population have recessive phenotype, what will be the probable percentage of heterozygous diploid in the population?
  4. Differentiate between allopatric and sympatric speciation.
  5. Distinguish between background extinction and mass extinction with a short note on K-T boundary extinction.
  6. Distinguish between convergent and divergent evolution with suitable examples.
  7. Elucidate briefly the significance of bipedalism to the evolution of modern human (*Homo* sp.).
  8. Explain the phenomenon of 'directional-selection' citing the example of Peppered moth.
  9. Describe in brief the isolating mechanisms leading to speciation.
  10. Write a short note on chemical basis of origin of life (Chemogeny).
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