

**2021**

**ZOOLOGY — HONOURS**

**Paper : CC-14**

**(Evolutionary Biology)**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

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

Answer **any ten** questions.

1. Briefly describe Urey and Miller's experiment and observations. What was the conclusion drawn from the experiment? 4+1
2. State the characteristic features of **any two** of the following : 2½+2½
  - (a) *Eohippus*
  - (b) *Merychippus*
  - (c) *Pliohippus*.
3. Explain the terms stabilizing and disruptive selection with examples. 5
4. What is meant by mass extinction? With example explain causes of K-T extinction. 2+3
5. Distinguish with example sympatric and allopatric speciation. 5
6. Write a short note on ecological and ethological isolating mechanisms. 5
7. What is adaptive radiation? State the causes of adaptive radiation. Comment on the adaptive radiation that has occurred in Darwin's finches. 1+2+2
8. State the trend in changes of skull structures in hominid evolution. 5
9. Write a short note on the different types of fossils. 5
10. (a) Explain the RNA world hypothesis.  
(b) Comment on founder effect. 2+3
11. (a) What is meant by Darwinian fitness?  
(b) What is biological species concept? Comment on its limitation. 2+3

**Please Turn Over**

12. Write briefly on the postulates of Neo-Darwinism. 5
13. What is geological time scale? What period is called the 'age of fishes' and why? 2+3
14. What is Hardy-Weinberg Equilibrium? How does mutation influence Hardy-Weinberg equilibrium? 2+3
15. Write briefly on **any two** of the following : 2½×2
- (a) Hybrid breakdown
  - (b) Convergent evolution
  - (c) Chromosome evolution in *Drosophila*.
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