



**2023/TDC (CBCS)/EVEN/SEM/  
ZOOHCC-602T/263**

**TDC (CBCS) Even Semester Exam., 2023**

**ZOOLOGY**

**( Honours )**

**( 6th Semester )**

Course No. : ZOOHCC-602T

**( Evolutionary Biology )**

*Full Marks : 50*

*Pass Marks : 20*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**SECTION—A**

Answer any *ten* questions of the following :  $2 \times 10 = 20$

1. Write a brief note on preformation theory.
2. Briefly discuss Redi's experiment to establish the theory of biogenesis.
3. Write the differences between homologous and analogous organs with examples.
4. Write a brief note on transitional forms.



( 2 )

5. Write a brief note on the determination of the age of fossils.
6. Define gene pool. How is the integrity of a gene pool maintained?
7. Write a brief note on the conditions of Hardy-Weinberg equilibrium.
8. Briefly discuss the 'bottleneck effect' for genetic drift.
9. Briefly discuss the essential features of 'biological species concept'.
10. Write the differences between allopatric and sympatric speciation.
11. Define adaptive radiation. Add a note on the adaptive radiation in limb structure of mammals.
12. Write a brief note on *Dryopithecus*.

J23/728

( Continued )

( 3 )

13. Mention the names of the scientists along with their contribution to the study of human evolution.
14. Mention the important characteristics of *Australopithecus*.
15. Write a brief note on the characteristics of *Ramapithecus*.

SECTION—B

Answer any five questions of the following : 6×5=30

16. Discuss the basic postulates of Darwinism. Add a note on the objections to Darwinism. 4+2=6
17. Discuss the postulates of Lamarckism. Add a note on the criticisms to Lamarckism. 4+2=6
18. Define variation. Discuss the sources of heritable and non-heritable variations. Add a note on the nature of variations. 1+3+2=6
19. Define geological time scale. Mention the dominant animal and plant groups of Cenozoic Era. 1+5=6

J23/728

( Turn Over )



20. Discuss the Hardy-Weinberg principle of equilibrium with suitable illustration. Add a note on the significance of Hardy-Weinberg principle.  $4+2=6$
21. Define genetic drift. Discuss the 'founder effect' with suitable illustration and examples. Add a note on the significance of 'founder effect'.  $4+2=6$
22. Define speciation. Discuss the different modes of speciation with suitable illustrations.  $1+3+2=6$
23. Define microevolution. Discuss the mechanism of microevolution. Add a note on mass extinction.  $1+3+2=6$
24. Discuss the course of evolution of human being from *Homo habilis* to *Homo sapiens* mentioning the transitional forms with suitable illustrations.
25. Define phylogenetic tree. Discuss the anatomy of a phylogenetic tree with suitable illustrations.  $1+3+2=6$

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