B.Sc./6th Sem (H)/ZOOL/23(CBCS)

2023

6th Semester Examination

ZOOLOGY (Honours)

Paper : C 14-T

[Evolutionary Biology]

[CBCS]

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Full Marks : 40 Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

Answer any ***five*** questions : 2×5=10

1. What is heterozygous superiority?
2. State the principle of parsimony.
3. Define monophyly.
4. What are the unique hominin characters?
5. What is founder effect?
6. What is Handicap Principle?
7. What is Back ground extinction?

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8. A population of 200 individuals is composed of 90TT, 60Tt and 50 tt. Calculate the frequencies of T and t.

Group - B

Answer any ***four*** questions : 5×4=20

9. Write a short note on Directional selection. What do you mean by molecular clock? 3+2=5

10. Describe the effects of migration on Hardy-Weinberg equilibrium. What is micro and macro-evolution? 3+1+1=5

11. What is the single origin of human? Why Australopithecus left the tree? Which species considered as the first human? 2+2+1=5

12. Compare and contrast between allopatric, parapatric and sympatric modes of speciation. 5

13. Write a note on neo Darwinism. Discuss on pre-zygotic isolating mechanism. 3+2=5

14. What supports the RNA world hypothesis? What are the arguments against the RNA world hypothesis? 3+2=5

Group - C

Answer any ***one*** question : 10×1=10

15. State Hardy-Weinberg law. Mention the forces disrupting Hardy-Weinberg equilibrium. Prove that Hardy-Weinberg

equilibrium exists in a biallelic idealised population. What are the forces that upset the equilibrium?

16. Define adaptive radiation. Discuss the mechanism of adaptive radiation with the example of Australian marsupials or Darwin finches. 3+7

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