B.Sc./6th Sem (H)/ZOOL/24(CBCS)

2024

6th Semester Examination

ZOOLOGY (Honours)

Paper : C 14-T

[Evolutionary Biology]

[CBCS]

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 population bottleneck?

2. What do you mean by co-acervates?

3. What is parallel evolution?

4. What do you mean by industrial melanism?

5. Differentiate macroevolution from microevolution. Give example.

6. What do you mean by principle of parsimony?

P.T.O.
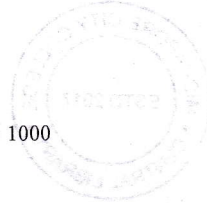
(2)

7. State the characters of *Homo erectus*.

8. What is vestigial organ? Give example.

Group - B

Answer any *four* questions : 5×4=20

9. Write briefly on neutral theory of molecular evolution. What are the forces that alter Hardy-Weinberg equilibrium? 3+2=5

10. Write a short note on disruptive selection. What do you mean by microsphere? 3+2=5

11. Illustrate Urey-Miller experiment on understanding the origin of life. What is convergent evolution? 3+2=5

12. Distinguish between anagenesis and cladogenesis. What is biogenesis? What do you mean by homologous structures? 2+1+2=5

13. What is mass extinction? State the significance of mesozoic era. What are the post zygotic isolating mechanisms? 2+2+1=5

14. Write briefly on monophyly, paraphyly and polyphyly. 5

Group - C

Answer any *one* question : 10×1=10

15. A population consists of the following genotypes in the percentage given :

64% AA, 32%Aa, 4% aa

(3)

If the population is panmictic (random mating) in generation P1 and all subsequent generation, find out whether the population is in equilibrium after one generation of random mating (Assuming that fitness of both alleles is equal). What do you mean by molecular clock? Write a note on parapatric speciation.

6+2+2=10

16. Write a short note on Biological species concept. Differentiate between phenetics and cladistics. Write a note on molecular analysis of human origin. 4+3+3=10

———————