

U.G. 6th Semester Examination - 2021

ZOOLOGY

[HONOURS]

Course Code : ZOOL-H-CC-T-14

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

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

1. Answer any **five** questions of the following:

2×5=10

- i) Write two important characteristics of modern horse.
- ii) a) Which era is known as 'age of reptiles'?
- b) In which epoch of tertiary period of coenozoic era first man like Apes appeared?
- iii) Write two important characteristics of Java man.
- iv) What do you mean by genetic drift?
- v) Write down the periods of Mesozoic era.
- vi) Define Demes.

vii) What is gene pool?

viii) Write two salient features of disruptive selection.

2. Answer any **two** questions of the following:

5×2=10

- i) a) Write down the essential features of Biological species concept.
- b) Why biological species concept is considered as the most acceptable one?

2½+2½

ii) Under what conditions the gene frequency in the individual of a population remains constant?

5

iii) Write short notes on :

2½+2½

- a) Molecular clock
- b) Merychippus

iv) a) Write down the essential features of macroevolution.

- b) Distinguish between Allopatric and Sympatric speciation.

3+2

3. Answer any **two** questions of the following:

10×2=20

- a) Write down the characteristics of Australopithecines.
- b) Name two species of Australopithecines evolved from *Australopithecus afarensis* lineage.
- c) Write four unique hominid characteristics contrasted with primate characteristics.

4+2+4

4. a) State Hardy-Weinberg's law of equilibrium.

- b) One hundred persons from a small town in West Bengal were tested for their MN blood types, the genotypic data are MM-41; MN-38 and NN-21, calculate gene frequency of M&N. Is the population in Hardy-Weinberg equilibrium?

c) Name the force which can alter Hardy-Weinberg equilibrium.

d) Distinguish gene frequency and genotype frequency.

2+4+2+2

5. a) What do you mean by natural selection?

b) Justify the statement 'natural selection is differential reproduction'.

c) Write a short note on Bottle neck phenomenon.

2+3+5

6. a) Define convergent and divergent evolution with example. How do they differ from each other?

b) What is the difference between synapomorphy and symplesiomorphy?

c) What is paraphyletic group? 3+3+2+2
