

## U.G. 6th Semester Examination - 2021

### ZOOLOGY

Course Code : BZOCCHC602

Course Title : Evolutionary Biology

Full Marks : 30

Time : 2 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 **ten** from the following:  $1 \times 10 = 10$
- Who gave the idea of Chemogeny?
  - How does fitness related to Natural selection?
  - Define adaptive radiation.
  - Define convergent evolution.
  - What does the Natural theory of molecular evolution contend?
  - What is heterozygous superiority?
  - What is Sewall-Wright effect?
  - Give an example of bottleneck effect.
  - What is Epoch?

- Define 'Biological species'.
- Why is parsimony important in Phylogenetic trees?
- Define 'Geologic time scale'.
- Which of the molecular study indicates the human evolution?
- What does the Hardy-Weinberg law mean?
- What is panmictic population?

2. Answer any **five** from the following:  $2 \times 5 = 10$
- Why does photosynthesis causes the largest extinctions?
  - Explain Founder effect with an example.
  - Why fossils are important evidence for support evolution?
  - What are the main difference between Darwinism and Neo-Darwinism?
  - Write down the sources of 'Genetic variation'.
  - What is convergent evolution?
  - What is Biogeny in evolution?
  - What is allele frequency?

[Turn over]

3. Answer any **two** of the following:  $5 \times 2 = 10$

- a) In a survey at Purulia Town 1000 persons were tested for MN blood types and genotypic data obtained was MM=640, MN=320 and NN=40. Calculate the frequencies of M and N genes. Comment whether the population is in Hardy-Weinberg equilibrium or not.
- b) Write a short note on Evolution of modern humans. What features are unique to primates only?
- c) Define mass extinctions. Write down the causes and effects of the mass extinctions.

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