

2022

**ZOOLOGY (Honours)**

**Paper Code : ZOOL-H-DC-10**

**(Systematics and Evolution)**

[CBCS]

Full marks : 25

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.*

1. Answer any *eight* questions taking *four* questions from each group :  $\frac{1}{2} \times 8 = 4$

**(Group A : Systematics)**

- (a) Smallest taxon of classification is \_\_\_\_\_. (Fill in the blank)
- (b) Linnaeus evolved a system of nomenclature called \_\_\_\_\_. (Fill in the blank)
- (c) What is the term given to a duplicate specimen of original type?
- (d) Artificial system of classification was first used by \_\_\_\_\_. (Fill in the blank)
- (e) *Systema Naturae* was authored by \_\_\_\_\_. (Fill in the blank)
- (f) Who is considered as the father of taxonomy?

**(Group B : Evolution)**

- (g) \_\_\_\_\_ is considered as a missing link between reptiles and birds. (Fill in the blank)
- (h) Wing of Hawkmoths and the wing of hawks are example of \_\_\_\_\_ evolution. (Fill in the blank)
- (i) *Equus, Orohippus, Merychippus, Parahippus, Miohippus*: Write the correct sequence of evolutionary line of horse.
- (j) "Genetic drift is a directional change in frequency of alleles in a population." (True/False)
- (k) The first terrestrial vertebrates evolved from lobe-finned fishes late in the \_\_\_\_\_ period. (Fill in the blank)
- (l) Write the correct sequence of geological time scale: Cambrian, Permian, Jurassic, Quaternary.

2. Answer any *two* questions taking *one* question from each group : 2½×2=5

**(Group A : Systematics)**

- a) What do you mean by Linnaean hierarchy?
- b) Define micro and macro taxonomy.

**(Group B : Evolution)**

- c) Explain founder effect with an example.
- d) Write a short note on biological species concept.

3. Answer any *four* questions taking *two* questions from each group : 4×4=16

**(Group A : Systematics)**

- a) What do you mean by Law of priority?
- b) Write a short note on molecular taxonomy.
- c) Briefly describe the principles of zoological nomenclature.
- d) Define with examples primary and secondary types. What is cladistics? 3+1

**(Group B : Evolution)**

- e) Explain adaptive radiation with reference to Galapagos finches.
  - f) What do you mean by Lamarckism? What was the objection on Lamarckism? 2+2
  - g) Mention the geographical boundary of Australian realm. Give two examples each of mammalian and avian fauna of Australian realm. 2+1+1
  - h) What is KT extinction? Write the major causes of loss of fauna during this extinction. 1+3
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