

2014

ZOOLOGY

(Major)

Paper : 1.1

Full Marks : 60

Time : 2½ hours

*The figures in the margin indicate full marks
for the questions*

1. Write the correct answer : 1×7=7

(a) In the hierarchical scheme of taxonomic classification, the grouping just below 'order' is

(i) species

(ii) family

(iii) genus

(iv) class

(b) Which of the following is the work of Linnaeus?

(i) Origin of species

(ii) New systematics

(iii) Systema naturae

(iv) None of the above

(c) The term 'taxonomy' was coined by

(i) A. P. de Comdolle

(ii) Linnaeus

(iii) Aristotle

(iv) Cuvier

(d) Polytypic species concept was introduced by

(i) Beckner

(ii) Mayr

(iii) Linnaeus

(iv) John Ray

(e) In taxonomy, infraspecific categories include

(i) subspecies, deme, cline

(ii) deme, cline, tribe

(iii) subspecies, deme, cohort

(iv) variety, cline, tribe

(f) Gamma taxonomy is the

(i) study of speciation

(ii) characterization of new species

(iii) identification of collected specimen

(iv) study of classification

(g) In taxonomic hierarchy, various categories are arranged in

- (i) horizontal series
- (ii) ascending order
- (iii) descending order
- (iv) None of the above

2. Distinguish between the following : $2 \times 4 = 8$

- (a) Sympatric species and Allopatric species
- (b) Essentialism and Nominalism
- (c) Monophyletic taxon and Polyphyletic taxon
- (d) Artificial and Natural system of classifications

3. Write short notes on (any three) : $5 \times 3 = 15$

- (a) Sibling species
- (b) Law of priority
- (c) Indented key
- (d) Importance of museum collections
- (e) International code of zoological nomenclature

4. Enumerate the relationship between taxonomy and systematics. Discuss the importance of taxonomy in conservation of biodiversity. 5+5=10

Or

Define binomial and trinomial nomenclature with one example each. Mention the rules followed in binomial nomenclature. 4+6=10

5. Mention the significance of fixation of collected specimen. Write about the preservation techniques of invertebrates. 4+6=10

Or

Define species according to biological species concept. Write the difficulties in application of biological species concept. 5+5=10

6. Mention the purpose of classification in biological science. Discuss the salient features of cladistic classification. 5+5=10

Or

Explain the application of cytotaxonomy. Write the limitations of cytological approach in taxonomy. 6+4=10
