

**3 (Sem-1) ZOO M 1**

**2 0 1 2**

**ZOOLOGY**

**( Major )**

**Paper : 1.1**

**Full Marks : 60**

**Time : 2½ hours**

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

**1. Choose the correct answer : 1×7=7**

**(a)** The taxonomic level concerned with the arranging of species into a natural system of lower and higher taxa is

- (i)** alpha taxonomy
- (ii)** beta taxonomy
- (iii)** gamma taxonomy
- (iv)** systematics

**(b)** The system of biological classification based on genealogy and degree of similarity is

- (i)** omnispective classification
- (ii)** cladification
- (iii)** evolutionary classification
- (iv)** numerical phenetics

- (c) The principle of binominal nomenclature is applied in the naming of a
- (i) family
  - (ii) genus
  - (iii) species
  - (iv) All of the above
- (d) A type specimen of opposite sex to the holotype is known as
- (i) cotype
  - (ii) genotype
  - (iii) neotype
  - (iv) allotype
- (e) Homologous characters arise due to
- (i) inheritance from the nearest common ancestor
  - (ii) mimicry
  - (iii) convergent evolution
  - (iv) parallel evolution
- (f) Cladistic classification is due to
- (i) Darwin
  - (ii) Linnaeus
  - (iii) Hennig
  - (iv) Adanson

(g) The evolutionary species concept was originally proposed by

(i) Dobzhansky

(ii) Simpson

(iii) Paterson

(iv) Mayr

2. Distinguish between : 2×4=8

(a) Monotypic species and Polytypic species

(b) Monophyletic group and Paraphyletic group

(c) Apomorphy and Plesiomorphy

(d) Category and Taxon

3. Write short notes on (any three) : 5×3=15

(a) Chromosome banding

(b) Bracket keys

(c) Principle of priority in zoological nomenclature

(d) Curating of taxonomic collections

(e) Linnaean hierarchy

4. Define taxonomy. Discuss the importance of animal taxonomy to agriculture and public health. 2+4+4=10

Or

Discuss cladism in biological classification. What are the merits and demerits of cladistic classification system? 4+3+3=10

5. What is chemotaxonomy? Discuss the methods of chemotaxonomy. 2+8=10

Or

Describe the common methods of collection for the taxonomic study of animals. 10

6. Explain the biological species concept. What are the difficulties in applying biological species concept? 7+3=10

Or

State the principle of typification. Discuss briefly any four of the types that are used in zoological nomenclature. 2+8=10

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