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ZOOLOGY

(Major)

Paper : 1-1

(**Biosystematics and Taxonomy**)

Full Marks : 60

Time : 3 hours

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

1. Choose the correct answer : 1×7=7

(a) The term 'Taxonomy' was coined by

- (i) G. G. Simpson
- (ii) A. P. de Candolle
- (iii) Christofferson
- (iv) Blackwelder

(b) Which of the following have been used
in chemotaxonomy?

- (i) Pheromones
- (ii) Isozymes
- (iii) Colour pigments
- (iv) All of the above

- (c) Gamma taxonomy concerns with
- (i) analysis of intraspecific variation and evolutionary studies
 - (ii) defining the boundaries between species
 - (iii) arrangement of species into a natural system of classification
 - (iv) description of new species
- (d) Binomial nomenclature was mentioned for the first time in the book
- (i) *Systema Naturae*
 - (ii) *Genera Animalium*
 - (iii) *Historia Plantarum*
 - (iv) *Genera Plantarum*
- (e) Biological species concept as proposed by Mayr applies to
- (i) sexually reproducing species
 - (ii) paleospecies
 - (iii) species which form hybrids
 - (iv) All of the above

- (f) The main purpose of identification key is
- (i) to distinguish one organism from the other
 - (ii) to facilitate identification
 - (iii) Both (i) and (ii)
 - (iv) Neither (i) nor (ii)
- (g) According to current code of zoological nomenclature, the names of family must end with
- (i) oidea
 - (ii) ini
 - (iii) idae
 - (iv) inae

2. Distinguish between the following : 2×4=8

- (a) Phenon and Taxon
- (b) Homologies and Analogies
- (c) Syntype and Paratype
- (d) Monotypic species and Polytypic species

3. Write short notes on any *three* of the following : 5×3=15

- (a) Chemotaxonomy
- (b) Essentialism
- (c) Sibling species
- (d) Branching type key
- (e) Law of priority

4. What do you mean by biosystematics? Give an account of importance and application of biosystematics in the study of Zoology. 3+7=10

Or

What is species? Give an account of biological concept of species with its demerits. 2+6+2=10

5. Discuss the salient features of cladistic classification. 10

Or

What is the purpose of classification? Write the differences between natural and artificial classification. 3+7=10

6. What is binomial nomenclature? Mention the rules followed in this type of nomenclature. Write its advantages and disadvantages. 2+6+2=10

Or

What is preservation and curating of animals? Write the techniques used in preservation of invertebrates. 3+7=10
