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3 (Sem-1) ZOO M1

2021

(Held in 2022)

ZOOLOGY

(Major)

Paper : 1:1

(Biosystematics and Taxonomy)

Full Marks : 60

Time : Three hours

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

1. Choose the correct answer : $1 \times 7 = 7$
- (a) In the hierarchical scheme of taxonomic classification, the grouping just below 'order' is
- (i) species
 - (ii) family
 - (iii) genus
 - (iv) class
- (b) One of the major works of the Swedish taxonomist, C. Linnaeus is
- (i) *Origin of Species*
 - (ii) *New Systematics*
 - (iii) *Systema Naturae*
 - (iv) None of the above

Contd.

(c) The term 'taxonomy' was coined by

(i) - A P de Candolle

(ii) Linnaeus

(iii) Aristotle

(iv) Cuvier

(d) Systematics deals with

(i) classification and nomenclature

(ii) taxonomy and evolution

(iii) identification and classification

(iv) identification and preservation

(e) One of the techniques used in molecular taxonomy is

(i) Chromatography

(ii) electrophoresis

(iii) DNA bar coding

(iv) hybridizing

(g) In taxonomic hierarchy, categories are arranged on

(i) horizontal series

(ii) ascending order

(iii) descending order

(iv) None of the above

2. Distinguish between the following :

$2 \times 4 = 8$

(a) Alpha and Beta taxonomy

(b) Monotypic and Polytypic species

(c) Essentialism and Nominalism

(d) Artificial and Natural system of classification

3. Write short notes on : (any three)

$5 \times 3 = 15$

(a) Gamma taxonomy

(b) Sibling species

(c) Law of priority

(d) Eucaritique

(e) Molecular taxonomy

(c) The term 'taxonomy' was coined by

(i) - A P de Candolle

(ii) Linnaeus

(iii) Aristotle

(iv) Cuvier

(d) Systematics deals with

(i) classification and nomenclature

(ii) taxonomy and evolution

(iii) identification and classification

(iv) identification and preservation

(e) One of the techniques used in molecular taxonomy is

(i) chromatography

(ii) electrophoresis

(iii) DNA bar coding

(iv) karyotyping

(f) Carolus Linnaeus is credited as

(i) father of taxonomy

(ii) father of biological classification

(iii) father of genetics

(iv) father of evolution

(g) In taxonomic hierarchy, categories are arranged on

(i) horizontal series

(ii) ascending order

(iii) descending order

(iv) None of the above

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(e) Molecular taxonomy

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

5. What are the techniques employed in chemotaxonomy? Write the limitations of biochemical approach in solving taxonomical problems. 7+3=10

Or

Write about the process of typification. Mention the necessity of type specimen in Zoology. 7+3=10

6. What is taxonomic key? State its utility in taxonomic work. Write a note on simple bracket key. 2+3+5=10

Or

Give an account of the methods of collection of invertebrates. State the importance of biological collections. 7+3=10

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