

2016  
ZOOLOGY

( Major )

Paper : 1-1

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Choose and write the correct answer 1×7=7

(a) Taxonomy deals with

- (i) classification and nomenclature
- (ii) systematics and evolution
- (iii) collection and preservation
- (iv) classification and evolution

(b) Which one of the following is not involved in biochemical approach of modern taxonomy?

- (i) Chromatography
- (ii) Electrophoresis
- (iii) Infrared spectrophotometry
- (iv) Scanning electron microscope

(c) Biological species concept was introduced by

- (i) Grant
- (ii) Mayer
- (iii) Paterson
- (iv) Cuvier

(d) The term 'phenon' is applied for

- (i) a taxonomic group of any rank
- (ii) phenotypically similar samples
- (iii) genetically similar samples
- (iv) reproductively isolated samples

(e) Alpha taxonomy is concerned with

- (i) arrangement of species
- (ii) evolutionary study of species
- (iii) characterization and naming of species

(f) Which one of the following is involved in modern taxonomy?

- (i) A. P. Candolle is known for coining the term Taxonomy
- (ii) as Father of Genetics
- (iii) as author of 'Systema Naturae'
- (iv) as author of 'Origin of Species'

( 3. )

(g) Family is a taxonomic division between

(i) Genus and Species

(ii) Phylum and Order

(iii) Class and Order

(iv) Order and Genus

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

(a) Sympatric species and Allopatric species

(b) Homology and Analogy

(c) Synonymy and Homonymy

(d) Holotype and Lectotype

3. Write short notes on any three of the following :  $5 \times 3 = 15$

(a) Taxonomist as a curator

(b) Sibling species

(c) Indented key

(d) Trinomial nomenclature

(e) Subspecies

4. Discuss the importance of taxonomy in the field of Applied Biology.

10

What do you mean by International Code of Zoological Nomenclature? Write briefly the rules of nomenclature. 2+8=10

5. Why is classification important in Biological Science? Write about cladistic Classification. 4+6=10

Or  
Discuss briefly the Biological Species Concept. Write its demerits. 6+4=10

6. Write about the cytological techniques applied in modern taxonomy. 10  
Or

Describe the methods of collection and preservation of insects. 5+5=10

(a) Taxonomy as a science

(b) Sibling species

(c) Indented key

(d) Trinomial nomenclature

(e) Subspecies

4. Discuss the importance of taxonomy in the field of Applied Biology.