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ZOOLOGY

(Major)

Paper : 1.1

Full Marks : 60

Time : 2½ hours

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

Answer all questions

1. Choose the correct answer : 1×7=7

(a) In biological classification, a phylum
is a

- (i) character
- (ii) taxon
- (iii) category
- (iv) hierarchy

(b) Biological taxonomy based on DNA
sequences is

- (i) nucleotaxonomy
- (ii) cytotaxonomy
- (iii) chemotaxonomy
- (iv) molecular taxonomy

- (c) G-banding is a technique used in studying
- (i) tissues
 - (ii) cells
 - (iii) nuclei
 - (iv) chromosomes
- (d) The number of categories in Linnaean hierarchy needed to satisfactorily classify an animal is
- (i) 5
 - (ii) 7
 - (iii) 21
 - (iv) 24
- (e) A taxon consisting of a common ancestor and all of its descendants is known as a
- (i) monophyletic taxon
 - (ii) paraphyletic taxon
 - (iii) polyphyletic taxon
 - (iv) None of the above
- (f) An example of a primary type is
- (i) syntype
 - (ii) holotype
 - (iii) paratype
 - (iv) allotype

(g) Resemblance due to inheritance from a common ancestor is

(i) homoplasy

(ii) analogy

(iii) homology

(iv) mimicry

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

(a) Synonyms and Homonyms

(b) Binominal and Trinominal nomenclature

(c) α -taxonomy and β -taxonomy

(d) Genetical species and Evolutionary species

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

(a) The importance of biological classification

(b) Phylogenetic tree

(c) Essentialism

(d) Preservation of specimens

(e) Taxonomic characters

4. (a) Discuss the salient features of cladistic classification. 10

Or

Discuss the salient features of evolutionary classification.

- (b) Give an account of the cytological methods used in taxonomy and comment briefly on their significance. 6+4=10

Or

Discuss the approach of molecular taxonomy. 10

- (c) What are taxonomic keys? Describe any two kinds of dichotomous keys. How is a synoptic key different from a dichotomous key? 2+6+2=10

Or

Discuss the salient features of the International Code of Zoological Nomenclature. 10
