2017

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 and write the correct answer : 1×7=7

(a) Who is known as the father of taxonomy?

(i) Mendel

(ii) Linnaeus

(iii) Cronquist

(iv) Hubbs

(b) Beta taxonomy concerns itselt with

(i) analysis of infra-specific variation

(ii) description of new species

(iii) defining the boundaries between species

(iv) arrangement of species into a natural system of classification

(c) The species that are reproductively isolated but morphologically identical are referred as

(i) allopatric species

(ii) cryptic species

(iii) sibling species

(iv) sympatric species

(d) Classification of organisms with the help of chromosome number and type is called

(i) karyotaxonomy

(ii) cytotaxonomy

(iii) Both (i) and (ii)

(iv) numerical taxonomy

(e) Species that are divided into two or more sub-species are called

(i) monotypic species

(ii) polytypic species

(iii) sibling species

(iv) None of the above

(f) The purpose of fixation of species is

(i) to prevent autolysis

(ii) to prevent degradation of tissue

(iii) to coagulate and stabilize protein

(iv) All of the above

(g) A taxonomic key which has two choices at each step is

(i) dichotomous

(ii) polytomous

(iii) diaretic

(iv) diploid

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

(a) Cladistics and evolutionary classification

(b) Monophyletic and polyphyletic taxon

(c) Genetical species and evolutionary species

(d) Syntype and lectotype

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

(a) Binomial nomenclature

(b) Cytotaxonomy

(c) Cladism

(d) Biological species concept

(e) Curation

4. What are the stages of taxonomy? Discuss the contribution of Linnaeus in the field of systematics. 3+7=10

Or

What is taxonomy? Write the differences between systematics and taxonomy. Describe briefly the contribution of taxonomy in applied zoology. 2+2+6=10

5. What are the modern aspects of systematics? Discuss the molecular aspects applied in the study of biosystematics. 4+6=10

Or

What is classification? Write down the theories of biological classification. 2+8=10

6. Enumerate the value of biological collections and their importance to society. 5+5=10

Or

What is taxonomic key? State its utility in taxonomic work. Write a brief note on bracket key and circular key. 2+2+6=10

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