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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2017

ZOOLOGY

(Major)

Paper : 1·2

[Animal Diversity (Invertebrates)]

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer the following questions : 1×7=7

(a) Name a multinucleate protozoa.

(b) Name any one type of spicules found in Porifera.

(c) What is the function of statocyst in prawn?

(d) What is a hexacanth?

(e) What is hermaphroditism?

(f) Which larva of Mollusca is an ectoparasite of fishes?

(g) Name the larval forms of Asterias.

2. Answer the following questions : 2×4=8

(a) What is hepatopancreas? How does it help in digestion in prawn?

(b) Write the significance of polymorphism in Siphonophora.

(c) Describe the salient features of Miracidium larva.

(d) Describe the structure and function of compound eye.

3. Answer any *three* questions : 5×3=15

(a) Describe the locomotion in protozoa.

(b) What are endoparasites? Describe the parasitic adaptation of *Ascaris lumbricoides*.

(c) Write a note on the larval forms of Echinodermata.

(d) Why is *Peripatus* known as connecting link between Annelida and Arthropoda?

(e) Define pre-erythrocytic schizogony of sporozoite in liver of infected animal.

4. Answer the following questions : 10×3=30

(a) What is nutrition? Describe the mode of nutrition in protozoa with suitable examples. 2+8=10

Or

(b) What is canal system? Describe the canal system found in sponge with diagram. 3+7=10

(c) Give details of the life cycle, pathogenecity and prophylaxes measure of *Ancylostoma duodenale.* 6+2+2=10

Or

(d) Describe the life-history and parasitic adaptation of *Fasciola hepatica.* 8+2=10

(e) Describe the salient characters of phylum Mollusca and classify the class Gastropoda up to order with suitable examples. 4+6=10

Or

(f) Write a note on water vascular system in Echinodermata with its significance. 8+2=10

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