4. Describe the methods for the collection and preservation of insects for taxonomic study. 6+4=10

Or

Describe the activities involved in the curation of a taxonomic collection. 10

5. Discuss the salient features of evolutionary classification. What are the merits and demerits of this method of classification? 5+5=10

Or

What are taxonomic keys? Describe the basic properties of indented keys and bracket keys used in taxonomy. 2+4+4=10

6. Write about the importance of taxonomy in the fields of applied biology. 10

Or

Discuss the methods and application of molecular taxonomy. 6+4=10

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2013

ZOOLOGY

(Major)

Paper : 1.1

Full Marks : 60

Time : 2½ hours

The figures in the margin indicate full marks for the questions

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

(a) Taxon names which are spelt in an identical manner but designate different taxa are called

(i) synonyms

(ii) homonyms

(iii) tautonyms

(iv) antonyms

(b) A dichotomous key is used to

(i) find an organism

(ii) divide the animal kingdom

(iii) identify an organism

(iv) interbreed species

(c) Scientific names of animal taxa are uninomial for

(i) subspecies

(ii) species

(iii) genera

(iv) None of the above

(d) The more ancient homology of two homologies in a transformation series is termed a/an

(i) apomorphy

(ii) plesiomorphy

(iii) synapomorphy

(iv) heteromorphy

(e) The hierarchical system of categories used in biological classification is due to

(i) Aristotle

(ii) Lamarck

(iii) Linnaeus

(iv) Darwin

(f) In typification, a lectotype is selected from among

(i) syntypes

(ii) paratypes

(iii) holotypes

(iv) neotypes

(g) Which of the following is not the name of a taxonomic category?

(i) Phylum

(ii) Class

(iii) Cohort

(iv) Deme

2. Distinguish between : 2×4=8

(a) Systematics and Taxonomy

(b) α-taxonomy and β-taxonomy

(c) Homology and Analogy

(d) Binomial and Trinomial nomenclature

3. Write short notes on (any *three*) : 5×3=15

(a) The importance of biological classification

(b) Type specimens

(c) Typological species concept

(d) Objectives of the International Code of Zoological Nomenclature

(e) Phylogenetic trees

2013

ZOOLOGY

(Major)

Paper : 1.2

[Animal Diversity (Non-Chordate)]

Full Marks : 60

Time : 2½ 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) Which spicules are never triaxon?

(c) What is gemmule?

(d) Give an example of a bilaterally symmetrical Coelenterata.

(e) Define apolysis.

(f) How many numbers of appendages are in Palaemon?

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

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

(a) Write a short note on choanocytes. 2

(b) Write briefly the pathogenicity of *Taenia* in man. 2

(c) What are exonephric and enteronephric nephridia? 1+1=2

(d) What is hepatopancreas? How does it help in digestion in prawn? 1+1=2

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

(a) What is canal system? Describe the leuconoid type of canal system. 1+4=5

(b) Give a detailed account on the structure of *Fasciola.* 5

(c) Write a brief note on Brachiopoda. 5

(d) Describe the pleopod and uropod with diagram. 3+2=5

(e) Write what you know about the Brachiolaria larva with suitable diagram. 5

4. *(a)* What are the different types of locomotory organelles found in various groups of Protozoa? Describe each type with proper diagram. 3+7=10

Or

(b) What do you understand by polymorphism? Give an account on polymorphism in Siphonophora. 2+8=10

(c) Describe the life history of *Ascaris.* 10

Or

(d) Classify phylum Annelida up to orders stating the characters with examples. 8+2=10

(e) Describe the radular apparatus and digestive glands of *Pila.* 5+5=10

Or

(f) Discuss the water vascular system and its importance in *Echinodermata.* 8+2=10

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