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3 (Sem – 1) ZOO M1

2020

(Held in 2021)

ZOOLOGY

(Major)

(Biosystematics and Taxonomy)

Paper : 1·1

Full Marks : 60

Time : Three hours

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

1. Choose and write the correct answer : $1 \times 7 = 7$

(a) The term taxonomy was coined by

(i) A. P. de Candolle

(ii) Linnaeus

(iii) Aristotle

(iv) Cuvier

Contd.

(b) Biosystematics has been explained as alpha and beta taxonomy by

(i) Turrill

(ii) Hutchinson

(iii) Julian Huxley

(iv) Adanson

(c) The term systematics was for the first time used by Linnaeus in

(i) 1st edition of Systema Naturae in 1758

(ii) 1st edition of Species Plantarum in 1753

(iii) 4th edition of Systema Naturae in 1735

(iv) 4th edition of Systema Naturae in 1758

(d) A holotype in case of protista when consists of more than one related individuals is

(i) Neotype

(ii) Hapanotype

(iii) Syntype

(iv) Isotype

(e) The starting point of zoological nomenclature is

(i) Jan 1, 1758

(ii) May 1, 1753

(iii) Jan 1, 1753

(iv) May 1, 1758

(f) The evolutionary species concept was originally proposed by

(i) Dobzhansky

(ii) Simpson

(iii) Paterson

(iv) Mayr

(g) The hierarchical system of categories used in biological classification was first proposed by

(i) Aristotle

(ii) Lamarck

(iii) Linnaeus

(iv) Darwin

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

(a) Taxonomy and Systematics

(b) Allopatric and Sympatric species

(c) Lectotype and Paralectotype

(d) Binomial and Trinomial nomenclature.

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

(a) Gamma Taxonomy

(b) Phylogenetic trees

(c) Chromosome banding

(d) Subspecies

(e) Law of Priority.

4. Define systematics. Comment on the contribution of systematics to theoretical biology. 2+8=10

Or

What is chemotaxonomy ? Discuss the methods of chemotaxonomy. 2+8=10

5. Explain the biological species concept. What are the difficulties in applying biological species concept ? 4+6=10

Or

Discuss the salient features of evolutionary classification. What are the merits and demerits of this method of classification ? 4+3+3=10

6. What is meant by curation ? What are the jobs of a curator ? Describe the activities involved in the curation of a taxonomic collection. 2+3+5=10

Or

What is holotype ? What are the rules for the designation of a holotype ? Comment on the data that needs to be published while describing a holotype. 2+3+5=10

2020

(Held in 2021)

ZOOLOGY

(Major)

Paper : 1·2

[Animal Diversity (Non-Chordates)]

Full Marks : 60

Time : Three hours

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

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

   (a) What is a digenetic parasite ? Give an example.

   (b) Name the *two* types of pores on the body of sponges.

   (c) Name the class to which corals belong.

(d) Write the name of anticoagulant found in the saliva of leeches.

(e) What is the study of insects called as ?

(f) Classify the cattle fish upto class.

(g) What is the other name of the water vascular system ?

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

(a) What do you mean by intermediate host ? Give *one* example.

(b) Distinguish between polyp and medusa.

(c) What is the role of hepatopancreas in prawn ?

(d) List *two* peculiar characteristics of phylum mollusca.

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

(a) Write the different types of locomotory organs found in protozoa.

(b) Write a note on Scolex with labelled diagram.

(c) Describe the parasitic adaptation of Ascaris lumbricoides.

(d) Write on torsion in mollusca and its significance.

(e) Write distinguishing features of the Phylum Echinodermata.

4. Answer ***any three*** of the following questions : 10×3=30

(a) What is nutrition ? Describe in brief, the various types of nutrition found in protozoa with suitable examples. 2+8=10

(b) Write in brief, the life history and pathogenecity of Wuchereria bancrofti. 7+3=10

(c) What do you mean by nephridia and coelomoduct ? Describe the structural and functional significance of nephridia and coelomoduct in Annelida. 3+7=10

(d) What is connecting link in Phylogeny ? Describe the significance of Peripatus in evolution. 3+7=10

(e) What are the distinctive characters of Arthropoda ? Classify the Phylum Arthropoda upto classes with examples. 5+5=10

(f) Give an account of the different larval forms of Echinodermata and their evolutionary significance. 10