

2018

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 the correct answer : 1×7=7

(a) The term 'Taxonomy' was coined by

- (i) G. G. Simpson
- (ii) A. P. de Candolle
- (iii) Christofferson
- (iv) Blackwelder

(b) Which of the following have been used
in chemotaxonomy?

- (i) Pheromones
- (ii) Isozymes
- (iii) Colour pigments
- (iv) All of the above

- (c) Gamma taxonomy concerns with
- (i) analysis of intraspecific variation and evolutionary studies
 - (ii) defining the boundaries between species
 - (iii) arrangement of species into a natural system of classification
 - (iv) description of new species
- (d) Binomial nomenclature was mentioned for the first time in the book
- (i) *Systema Naturae*
 - (ii) *Genera Animalium*
 - (iii) *Historia Plantarum*
 - (iv) *Genera Plantarum*
- (e) Biological species concept as proposed by Mayr applies to
- (i) sexually reproducing species
 - (ii) paleospecies
 - (iii) species which form hybrids
 - (iv) All of the above

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- (f) The main purpose of γ taxonomy is
- (i) to distinguish one species from the other
 - (ii) to facilitate identification
 - (iii) Both (i) and (ii)
 - (iv) Neither (i) nor (ii)
- (g) According to current practice of binomial nomenclature, the name of a genus ends with
- (i) oidea
 - (ii) ini
 - (iii) idae
 - (iv) inae

2. Distinguish between the following:
- (a) Phenon and Taxon
 - (b) Homologies and Analogies
 - (c) Syntype and Paratype
 - (d) Monotypic species and Polytypic species
3. Write short notes on any two of the following :
- (a) Chemotaxonomy
 - (b) Essentialism
 - (c) Sibling species
 - (d) Branching type key
 - (e) Law of priority

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4. What do you mean by biosystematics? Give an account of importance and application of biosystematics in the study of Zoology. 3+7=10

Or

What is species? Give an account of biological concept of species with its demerits. 2+6+2=10

5. Discuss the salient features of cladistic classification. 10

Or

What is the purpose of classification? Write the differences between natural and artificial classification. 3+7=10

6. What is binomial nomenclature? Mention the rules followed in this type of nomenclature. Write its advantages and disadvantages. 2+6+2=10

Or

What is preservation and curating of animals? Write the techniques used in preservation of invertebrates. 3+7=10

2018

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*

[**Animal Diversity (Non-chordates)**]

1. Answer the following questions : 1×7=7
- (a) Name a parasitic Protozoa.
 - (b) Which sponge is commonly known as glass-rope sponge?
 - (c) Name the reproductive zooids of obelia.
 - (d) What is hermaphroditism?
 - (e) How many segments are present in walking legs of a typical insect?
 - (f) Write the scientific name of a monogenetic parasite.
 - (g) Name the larval forms of Asterias.

2. Answer any four of the following questions :

2×4=8

- What are the different types of spicules found in sponge?
- What is the significance of polymorphism in Siphonophora?
- Describe the salient features of miracidium larva.
- Mention the function and structural peculiarities of hexacanth larva.
- Describe the significance of trochophore larva.
- Write the significance of tube feet in Echinodermata.

3. Answer any three of the following questions :

5×3=15

- Describe pre-erythrocytic schizogony of sporozoite in liver of infected animal.
- Write a short note on spongocoel.
- Discuss alternation of generation in Coelenterata with examples.
- Why is peripatus known as connecting link between Annelida and Arthropoda?
- Give an account of the structure and function of compound eyes.

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4. Answer any three of the following questions :

- What is locomotion? I of locomotion in examples.
- Write the general cha Porifera and classify i examples.
- What do you unders and intermediate host history and parasit *Fasciola hepatica*.
- Give details of the pathogenicity of *Wuch*
- Give an account detorsion in Gastropo
- Write the distinctive f Echinodermata. Writ larval forms of Echin

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