

**CC/M/EXAM.
2020**

ZOOLOGY

PAPER—I

Time : 3 hours]

[Full Marks : 250

Note : Question Nos. **1** and **5** are compulsory and out of the remaining, any **three** are to be attempted choosing at least ONE question from each Section. The number of marks carried by a question/part is indicated against it.

SECTION—A

1. Answer *any five* of the following questions :

- (a) Write five salient features of bilateria and give a comparative account of Protostomia and Deuterostomia. 5+5=10
- (b) Mention the chief types of locomotory organelles of protozoa. Explain briefly how they bring about locomotion. 3+7=10
- (c) Describe various types of leuconoid type of canal system in sponges with suitable diagram. 6+4=10
- (d) What is polymorphism? Write a note on polymorphism in hydrozoa. 10
- (e) Give an account of the life cycle of *Taenia solium*. 10
- (f) Write a brief note on social behaviour of termite. 10
- (g) Write the salient features of phylum Chordata. 10

2. Answer the following questions :

- (a) Write an elaborate note on the larval forms of Echinodermata with suitable diagram. 20
- (b) Write a brief account on the origin of chordates and describe the life history of *Branchiostoma*. 5+10=15
- (c) What is torsion? How does torsion occur and affect the gastropods? 1+4+10=15

3. Answer the following questions :

- (a) What is migration? Write common/scientific names of five migratory fishes and write a brief note on different types of fish migration. 1+5+14=20
- (b) Discuss parental care of amphibia. 15
- (c) What is herpetology? Write about the skull types of reptiles with suitable diagrams. 2+13=15

4. Answer the following questions :

- (a) Write a comparative account of aortic arches in reptiles, birds and mammals. 20
- (b) Write a brief note on the origin of bird. 15
- (c) What do you know about dentition in mammals? Write a brief note on the types of dentition in mammals with suitable diagram. 15

SECTION—B

5. Answer *any five* of the following questions :

- (a) Write short notes on the following : 5×2=10
(i) Gel electrophoresis
(ii) ELISA
- (b) What is remote sensing? What role does it play in the sustainable development? 2+8=10
- (c) Write notes on classical conditioning and operant conditioning. 10
- (d) Write short notes on the following : 5×2=10
(i) Biological clock
(ii) Orientation
- (e) Write a brief account on the impact of pollution on the environment and its possible remedies. 10
- (f) Write short notes on the following : 5×2=10
(i) Ecotone and edge effect
(ii) Gene therapy
- (g) Discuss the major conservation problems of wildlife in India. 10

6. Answer the following questions :

- (a) Define biogeochemical cycle. Write in detail about gaseous cycle citing example. 2+18=20
- (b) What is ecological succession? Discuss about the general process of ecological succession. 2+13=15
- (c) Define population and write different characteristics of population. 2+13=15

7. Answer the following questions :

- (a) Write the systematic position of lac insect and mention the names of major food plants on which lac insects breed and thrive. Describe briefly the life cycle of lac insect. 3+3+14=20
- (b) Write short notes on the following : 5×3=15
- (i) Transgenic animal
- (ii) Tuberculosis and its vector
- (iii) Causes and prevention of AIDS
- (c) What do you know about sericulture? Write about the rearing of silkworm and its management. 2+13=15

8. Answer the following questions :

- (a) What are correlation and regression? Explain major types of correlation with examples and also write about Karl Pearson correlation coefficient with the formulae. 3+12+5=20
- (b) What is statistical hypothesis? Explain null and alternative hypotheses. How many errors are there in hypothesis testing and what are they? 2+8+5=15
- (c) What is degree of freedom? Describe Chi-square test with its formulae. Write the main property of Chi-square distribution. 2+8+5=15
