



**B.Sc. Part-II (Semester-III) Examination**

**ZOOLOGY**

**(Life and Diversity of Chordata and Concept of Evolution)**

Time : Three Hours]

[Maximum Marks : 80

**Note :—** (1) **ALL** questions are compulsory.

(2) Question No. 1 carries 8 marks and remaining SIX questions carry 12 marks each.

(3) Illustrate your answer with suitable diagrams wherever necessary.

1. (A) Fill in the blanks :

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(i) *Amphioxus* is commonly known as \_\_\_\_\_.

(ii) Sweat and sebaceous glands are found in the skin of class \_\_\_\_\_.

(iii) The connecting link between annelida and arthropoda is \_\_\_\_\_.

(iv) The *Rana tigrina* is commonly called as \_\_\_\_\_.

(B) Choose the correct alternative from the following :

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(v) \_\_\_\_\_ is a cartilaginous fish.

(a) *Catla*

(b) *Labeo*

(c) *Cyprinus*

(d) *Scoliodon*

(vi) Coiling around eggs to guard them is found in \_\_\_\_\_.

(a) Echidna

(b) Ichthyophis

(c) Salamander

(d) Calotes

(vii) The mammalian kidney is \_\_\_\_\_.

(a) Protonephric

(b) Mesonephric

(c) Metanephric

(d) None of these

(viii) *Homo erectus* evolved in \_\_\_\_\_.

(a) Asia

(b) Europe

(c) Africa

(d) Australia

(C) Answer in **ONE** sentence each :

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(ix) What is gene flow ?

(x) How many chambers are present in mammalian heart ?

(xi) Name of the additional chambers of *Scoliodon* heart.

(xii) Sound producing organ of birds.

2. Give an account of respiratory system of *Scoliodon* with its mechanism.

12

**OR**

Describe the digestive system of *Amphioxus*.



3. Explain the following : 12
- (a) External features of *Rana tigrina*.
  - (b) Internal structure of heart of frog. (Only labelled diagram).
  - (c) Urinogenital system of female *calotes*.
- OR
- (d) Parental care in anura.
  - (e) Internal structure of heart of *calotes*. (Only labelled diagram)
  - (f) Snake venom.
4. Describe the migration in birds. 12
- OR
- Describe the salient features of Prototheria.
5. Explain the following : 12
- (g) Embryological evidences of evolution
  - (h) Petrified fossils
  - (i) Peripatus as connecting link.
- OR
- (j) Anatomical evidences of evolution
  - (k) Importance of fossils records
  - (l) Radioactive carbon dating of fossils.
6. Describe the following : 12
- (m) Gene frequency
  - (n) Sympatric speciation
  - (o) Hardy Weinberg equilibrium.
- OR
- (p) Genetic drift
  - (q) Natural selection
  - (r) Convergent evolution.
7. Attempt the following : 12
- (s) Ramapithecus
  - (t) Aortic arches in fish
  - (u) Desert adaptation.
- OR
- (v) Dryopithecus
  - (w) Neanderthal man
  - (x) Terrestrial adaptation.