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4. (a) Define adaptive radiation and explain the structural modifications in locomotory appendages of mammals in relation to their habitats. (8)
- (b) Explain the retrogressive metamorphic changes during the development of Urochordates. (4)
5. Describe the parental care and its significance in Amphibians with suitable examples. (12)
6. (a) How is the internal balance of salt and water maintained in freshwater fishes? (4)
- (b) Describe the salient features and fauna of Australian and Ethiopian regions. (8)
7. Write short notes on **ANY THREE** of the following :
- (a) *Archaeopteryx*
- (b) Plate tectonic theory
- (c) *Sphenodon*
- (d) Dipleurula concept of origin of chordates

(3×4=12)

(1000)

[This question paper contains 4 printed pages.]



28.12.2023(M)  
Your Roll No.....

Sr. No. of Question Paper : 4355

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Unique Paper Code : 32231301

Name of the Paper : Diversity of Chordates

Name of the Course : **B.Sc. (Hons.) Zoology,  
LOCF**

Semester : III

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **FIVE** questions in all.
3. Question No. **1** is compulsory.
4. Illustrate your answers with diagram wherever necessary.

1. (a) Define :

(i) Neoteny

(ii) Realm

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(iii) Pterylosis

(iv) Amniotes

(4×1=4)

(b) Differentiate between the following :

(i) Prototheria and Eutheria

(ii) Placoid and Ctenoid scales

(iii) Altricial and Precocial development

(iv) Anura and Urodela

(4×2=8)

(c) Give the scientific name and classify the following upto order :

(i) Flying lizard

(ii) Mud puppy

(iii) Mongoose

(iv) Rat fish

(4×1½=6)

(d) Mark the following statement as TRUE or FALSE :

(i) Terrestrial ectotherms have evolved from the Crossopterygian fishes.

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(ii) Tail feathers of birds are called as remiges.

(iii) Amphibians possess a dicondylic skull.

(iv) R.B.Cs. of birds are enucleated.

(v) Stomach of ruminants is three chambered.

(vi) Quadrate is immovable in snakes.

(6×1/2=3)

(e) Give the location and function of the following :

(i) Jacobson's organ

(ii) Chloride cells

(iii) Endostyle

(iv) Pecten

(4×1½=6)

2. Describe the various morphological, anatomical and physiological features of birds for a successful aerial life. (12)

3. (a) Explain the different types of migratory movements of fishes. (6)

(b) Describe the poison apparatus and biting mechanism of venomous snake. (6)

P.T.O.