

3. (a) Classify receptors based on their functions and give examples. (6)
- (b) With the help of labelled diagrams, illustrate the evolution of aortic arches in vertebrates. (9)
4. (a) Discuss the evolution of vertebrate kidney with the help of labelled diagrams. (12)
- (b) What is the name, nature and innervations of VII cranial nerve in mammals? (3)
5. (a) Explain the structure and function of mammalian ear with the help of suitable diagrams. (9)
- (b) Describe the structure of the gills in cartilaginous and bony fishes. (6)
6. Write short notes on **any three** of the following : (3×5=15)
- (i) Fate of first two visceral arches
- (ii) Swim bladder
- (iii) Scales in fishes
- (iv) Male genital ducts

(1000)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5540

J

Unique Paper Code : 2232012401

Name of the Paper : DSC – Comparative Anatomy of Vertebrates

Name of the Course : B.Sc. (H) Zoology NEP-UGCF

Semester : IV

Duration : 2 Hours

Maximum Marks : 60

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt four questions in all.
3. Question No. 1 is compulsory.
4. Draw well labelled diagrams wherever necessary.

1. (a) Define the following (**any four**) : (4)

(i) Corpus callosum

P.T.O.

(ii) Neurocranium

(iii) Craniostyly

(iv) Iter

(v) Carapace

(vi) Holobranch

(b) Differentiate between the following **(any two)** :  
(4)

(i) Amphicoelous and heterocoelous centrum

(ii) Uteri duplex and uteri simplex

(iii) Horns and antlers

(iv) Ductus caroticus and ductus arteriosus

(c) Give exact location and function of the following  
**(any four)** : (4)

(i) Fovea centralis

(ii) Spiracle

(iii) Aqueduct of Sylvius

(iv) Jacobson's organ

(v) Helicotrema

(vi) Foramen of panizzae

(d) State whether following statements are True/False  
**(any three)** : (3)

(i) Mammalian skulls have a single temporal fossa.

(ii) The neurocranium of chondrichthyes is well ossified.

(iii) Cerebrospinal fluid is secreted by choroid plexus.

(iv) Post ganglionic fibres of parasympathetic nervous system are adrenergic.

(v) All mammals have seven cervical vertebrae.

2. (a) Briefly discuss the comparative account of stomach in amniotes. (6)

(b) What are the different hard derivatives of epidermis of skin in vertebrates? (9)