

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**Group-A**

1. Answer *any five* questions from the following:  $2 \times 5 = 10$

- (a) Write two unique characteristics of Class Cephalaspidomorphi.
- (b) Write two morphological differences between poisonous and non-poisonous snakes.
- (c) Write four cardinal characteristics of chordates.
- (d) Distinguish between horn and antler.
- (e) Write the scientific names of the salamander and an apodan amphibian found in India.
- (f) Differentiate between remiges and retrices.
- (g) Differentiate between “osmoregulators” and “osmoconformers”.
- (h) Where do you find endostyle? Mention its function.

**Group-B**

2. Answer *any two* questions from the following:  $5 \times 2 = 10$

- (a) What do you understand by “retrogressive metamorphosis”? In which organism is it seen?  
Justify why the process is “retrogressive”.  $1+1=3$
- (b) Specify two key features by which Prototheria differs from Theria. Write down the affinities of prototheria with birds.  $2+3$
- (c) Why parental care has evolved in some fish species? Describe briefly any two types of parental care behaviour among fishes with examples.  $1+4$
- (d) Why amphibians are known as anamniotes? Discuss the key morphological and physiological changes observed in anuran tadpole during metamorphosis.  $1+4$

**Please Turn Over**

3. Answer *any two* questions from the following:  $10 \times 2 = 20$

- (a) "*Chelone, Naja* and *Alligator* are included in same class but in different subclasses"—Justify with proper illustrations. What do you mean by Vomeronasal organ? 9+1
- (b) What is the difference between plantigrade and digitigrade locomotion? Enumerate various adaptations of locomotory structures in cursorial mammals. Describe the morphological modifications in microchiropteran bats in relation to echolocation. 1+3+6
- (c) Mention the names of six zoogeographical realms. Add notes on distribution of birds and mammals in Oriental and Australian realms. 2+(4+4)
- (d) Elaborate the role of Bernoulli's principle in flight mechanism of birds. Specify the external cues and internal physiological events that trigger migration in birds. 5+5
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