



WEST BENGAL STATE UNIVERSITY  
B.Sc. Major 2nd Semester Examination, 2025

ZOODSC202T-ZOOLOGY (MAJOR)  
NEW AND OLD SYLLABUS

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

NEW SYLLABUS

Animal Diversity-II

1. Answer any **nine** questions from the following: 2×9 = 18
  - (a) Write down two differences between microchiroptera and megachiroptera.
  - ~~(b)~~ What are the major differences between urochordates and cephalochordates?
  - (c) Define wheel organ and state its function.
  - ~~(d)~~ What is stomochord?
  - (e) Distinguish between Perissodactyla and Artiodactyla.
  - ~~(f)~~ What is endostyle? State its function. 1+1
  - ~~(g)~~ What is Jacobson's organ? State its function. 1+1
  - ~~(h)~~ What is madreporite? State its function. 1+1
  - ~~(i)~~ Define the Wallace line and the Weber line. 1+1
  - ~~(j)~~ What is Aristotle's Lantern? Mention its function. 1+1
  - ~~(k)~~ Define neoteny with an example.
  - ~~(l)~~ Write down the differences between the scales of fishes and the scales of reptiles.
  - (m) What do you mean by the lift and the thrust in birds' flight?
2. Answer any **four** questions from the following: 3×4 = 12
  - (a) Classify class Amphibia up to living orders with examples.
  - ~~(b)~~ What is Dipleurula larva? Discuss the Echinoderm theory of origin of chordates. 1+2
  - (c) Discuss the advanced features of Vertebrates over Protochordates.
  - ~~(d)~~ Write down the differences between the lampreys and the hagfishes.
  - ~~(e)~~ Describe the retrogressive changes that occur in the tadpole larva of *Ascidia* sp.
  - (f) Briefly describe the continental drift theory. State its significance in Zoogeography. 2+1
  - (g) Compare the Bipinnaria and the Brachiolaria larvae of echinoderms.
3. Answer any **four** questions from the following: 5×4 = 20
  - (a) Describe the six major Zoogeographical realms with their respective endemic species.
  - (b) Define adaptive radiation with an example. Briefly discuss the adaptive radiation in mammals with reference to locomotory appendages.
  - (c) Write short notes on any **two** of the following:
    - (i) Role of hormones in metamorphosis of amphibians
    - (ii) Plate tectonics
    - (iii) Mammals of the Ethiopian realm

- (d) Write down the class and order of the following animals:  $(\frac{1}{2} + \frac{1}{2}) \times 5$   
 (i) *Macropus* (ii) *Tachyglossus* (iii) *Tylototriton* (iv) *Bungarus* (v) *Corvus*  
 (e) Classify Phylum Echinodermata up to classes with salient features and examples of each class.  
 (f) Classify class reptilia up to living orders with examples.  
 (g) Describe the principles and aerodynamics of flight in birds.

### OLD SYLLABUS

1. Answer any **nine** questions from the following:  $2 \times 9 = 18$ 
  - (a) What is organ of Bojanus?
  - (b) Differentiate between connective and commissure.
  - (c) What is Detorsion? In which group of animals it is occurred?  $1+1$
  - (d) What is book lung? Where is it found?  $1+1$
  - (e) Mention two identifying characters of crustacea.
  - (f) Write down the scientific name and phylum of velvet worm.
  - (g) What is stone canal?
  - (h) Define metamerism. Give one example.  $1 \frac{1}{2} + \frac{1}{2}$
  - (i) How many pairs of ganglia are found in molluscs? Mention their names.  $1+1$
  - (j) Distinguish between schizocoelom and enterocoelom.
  - (k) Define exonephric and enteronephric nephridia.
  - (l) Write down the scientific names of one winged and one wingless insect.  $1+1$
2. Answer any **four** questions from the following:  $3 \times 4 = 12$ 
  - (a) Why king crab is called "living fossil"? State its evolutionary significance.  $1+2$
  - (b) Differentiate between true and pseudometamerism with example.  $3$
  - (c) Classify the following upto class and write down the scientific name:  $1 \times 3 = 3$   
 (i) Silver fish (ii) Brittle star (iii) Cuttle fish
  - (d) Define symmetry. What do you mean by radial and bilateral symmetry?  $1+2$
  - (e) To which phylum does the following structures belong and mention one function of each — (i) Tube feet (ii) Radula (iii) Book gill.  $1 \times 3 = 3$
  - (f) Draw a neat labelled diagram of septal nephridia of annelida. Mention its location and function.  $2+1$
  - (g) What is ink gland? State its function.  $1+2$
3. Answer any **four** questions from the following:  $5 \times 4 = 20$ 
  - (a) Classify phylum mollusca upto class with distinctive features and example.  $5$
  - (b) Describe the general characters of trochophore larva with diagram. Discuss briefly about its evolutionary significance.  $(2+1)+2$
  - (c) Write down the general features of Onychophora. Explain its evolutionary significance.  $2+3$
  - (d) Define coelom. What are acoelomates, coelomates and pseudocoelomates?  $2+3$
  - (e) What is filter feeding? Describe the process of filter feeding of hemichordates with diagram.  $1+(3+1)$
  - (f) Write short notes:  $2 \frac{1}{2} + 2 \frac{1}{2}$   
 (i) Metamerism (ii) Torsion
  - (g) Mention different types of respiratory organs found in phylum mollusca. Describe the process of gill respiration with diagram in mollusca briefly.  $2+(2+1)$