



WEST BENGAL STATE UNIVERSITY

B.Sc. Major 3rd Semester Examination, 2025-26

ZOODSC303T-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

1. Answer any **nine** questions from the following:

2×9 = 18

- (a) What are opisthoglyphous fangs?
- (b) What are filoplumes?
- (c) Define chiasstoneury.
- (d) What is madreporite? Where is it found?
- (e) State two important functions of swim bladder.
- (f) What is pneumatic duct?
- (g) State the function of osphradium.
- (h) Define atoll.
- (i) What is vagrant migration? Give an example.
- (j) Define labyrinthine organ. Mention its location.
- (k) Write about the pathogenecity of *Taenia solium*.
- (l) What is echolocation? Where is it found?

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2. Answer any **four** questions from the following:

3×4 = 12

- (a) How do liver flukes infect man? What is Loeffler's syndrome? 2+1
- (b) Define torsion and detorsion. Mention its evolutionary significance. 2+1
- (c) What are air sacs? Mention its significance. 2+1
- (d) Write a short note on parental care in amphibia. 3
- (e) Write about the biting mechanism of snake with diagram. 3
- (f) Describe with diagram the mechanism of filter feeding in *Balanoglossus* sp. 3
- (g) Describe the structure of a typical septal nephridium with diagram. 3

3. Answer any **four** questions from the following: 5×4 = 20
- (a) Draw and describe the water vascular system in Asteroidea. 5
 - (b) Briefly explain with diagram the nuclear reorganisation process of conjugation in *Paramecium*. 5
 - (c) What is ctenidium? What is microfilaria periodicity? State two parasitic adaptation of *Ascaris*. 2+2+1
 - (d) Discuss the different methods of navigation in migrating birds. Mention two advantages of migration. 3+2
 - (e) Describe the ciliary movement in *Paramecium*. Write the structure and function of Accessory respiratory organ in any one fish. $2\frac{1}{2}+2\frac{1}{2}$
 - (f) Write the chordate features of *Branchiostoma*. Describe the erythrocytic cycle of *Plasmodium vivax*. $2\frac{1}{2}+2\frac{1}{2}$
 - (g) Write short notes on any **two**: $2\frac{1}{2}+2\frac{1}{2}$
 - (i) Stone canal
 - (ii) Book gill and Book lung
 - (iii) Life cycle of *Leishmania donovani*
 - (iv) Chloragogen cells.

OLD SYLLABUS

1. Answer any **nine** questions from the following: 2×9 = 18
- (a) Justify the term urochordata and cephalochordata. 1+1
 - (b) What is rete mirabile?
 - (c) What is Solenoglypha fang?
 - (d) Write two advance features of vertebrates over protochordate.
 - (e) Distinguish between urostyle and pygostyle.
 - (f) Distinguish between bony fish and cartilaginous fish.
 - (g) What is Wallace's line?
 - (h) Name one bird and one mammal of Neotropical realm.
 - (i) Name two hormones responsible for amphibian metamorphosis.
 - (j) Distinguish between prototheria and theria.
 - (k) What is wheel organ?
 - (l) Who are osmoregulator and why?
2. Answer any **four** questions from the following: 3×4 = 12
- (a) Distinguish between physostomous and physoclistous swim bladder with suitable diagram.
 - (b) Write a short note on Ascidian tadpole.

- (c) Distinguish between Petromyzon and Myxine.
- (d) What is adaptive radiation? Give example. 1+2
- (e) State Dipleura concept of origin of chordate.
- (f) Write short notes on: $1\frac{1}{2} + 1\frac{1}{2}$
- (i) Foam nest
- (ii) Poison apparatus.
- (g) Describe different stages of metamorphosis in Amphibia.
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3. Answer any *four* questions from the following: 5×4 = 20
- (a) Name the class and order of the following animals: 1×5 = 5
- (i) Elephant (ii) Tree frog (iii) Shark (iv) Cow (v) Mabuia.
- (b) Define echolocation. Describe how microchiropteran bat captured their prey through echolocation. 1+4
- (c) Classify class Reptilia upto living orders with example.
- (d) Describe the aerodynamics of flight in birds with suitable diagram. 4+1
- (e) Describe the feeding mechanism of *Branchiostoma* with suitable diagram.
- (f) Briefly describe the biting mechanism of snake. Differentiate between poisonous and non-poisonous snakes. 3+2
- (g) What is TMAO? Describe the osmoregulatory mechanism of fresh water teleosts. 1+4

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