

Rayat Shikshan Sanstha's
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Department of Zoology

B. Sc. Part II, Semester III (NEP 2.0)

Major Zoology, Paper V Fundamentals of Chordates

Question Bank

Unit I – Amphioxus (*Branchiostoma lanceolatum*)

1. Amphioxus belongs to which phylum?
 - a) Echinodermata
 - b) Hemichordata
 - c) Chordata
 - d) Arthropoda

Ans: c) Chordata

2. Amphioxus is commonly found in:
 - a) Freshwater ponds
 - b) Marine shallow coastal waters
 - c) Deep ocean
 - d) Rivers

Ans: b) Marine shallow coastal waters

3. The notochord in Amphioxus extends:
 - a) Only in tail
 - b) From head to tail
 - c) Only in trunk
 - d) Absent in adults

Ans: b) From head to tail

4. Circulatory system of Amphioxus is:
 - a) Open and without heart
 - b) Closed without heart
 - c) Open with heart

d) Closed with heart

Ans: b) Closed without heart

Unit II – Rat (Rattus rattus)

5. Rattus rattus belongs to which class?

a) Amphibia

b) Reptilia

c) Mammalia

d) Aves

Ans: c) Mammalia

6. The type of teeth in rats are:

a) Homodont, Thecodont

b) Heterodont, Thecodont

c) Homodont, Acrodont

d) Heterodont, Acrodont

Ans: b) Heterodont, Thecodont

7. Respiratory organ of rat is:

a) Gills

b) Skin

c) Lungs

d) Book lungs

Ans: c) Lungs

8. Which chamber of rat's heart pumps blood into systemic circulation?

a) Left atrium

b) Left ventricle

c) Right atrium

d) Right ventricle

Ans: b) Left ventricle

9. Excretory organs in rat are:

a) Malpighian tubules

b) Nephridia

c) Kidneys

d) Green glands

Ans: c) Kidneys

10. The type of uterus in rat is:

- a) Duplex
- b) Bicornuate
- c) Simplex
- d) Bipartite

Ans: b) Bicornuate

11. The largest part of the rat brain is:

- a) Cerebellum
- b) Medulla oblongata
- c) Cerebrum
- d) Pons

Ans: c) Cerebrum

12. Retina of rat's eye contains:

- a) Only rods
- b) Only cones
- c) Both rods and cones
- d) No photoreceptor cells

Ans: c) Both rods and cones

Unit III – Snakes (Venomous & Non-venomous)

13. Venomous snakes in India include all **except**:

- a) Cobra
- b) Krait
- c) Python
- d) Viper

Ans: c) Python

14. The poison apparatus in snakes consists of:

- a) Poison glands and specialized fangs
- b) Tongue and scales
- c) Teeth and jaw bones
- d) Salivary glands only

Ans: a) Poison glands and specialized fangs

15. Biting mechanism of viper is called:

- a) Proteroglyphous
- b) Solenoglyphous

- c) Opisthoglyphous
- d) Aglyphous

Ans: b) Solenoglyphous

16. Cobra has which type of fang arrangement?

- a) Proteroglyphous
- b) Solenoglyphous
- c) Opisthoglyphous
- d) Aglyphous

Ans: a) Proteroglyphous

17. Neurotoxic venom mainly affects the:

- a) Heart muscles
- b) Nervous system
- c) Kidney
- d) Blood clotting

Ans: b) Nervous system

18. Haemotoxic venom mainly affects:

- a) Nervous system
- b) Circulatory system (blood vessels)
- c) Digestive system
- d) Respiratory system

Ans: b) Circulatory system (blood vessels)

19. Antivenom is prepared from:

- a) Human plasma
- b) Snake skin
- c) Horse serum immunized with snake venom
- d) Rat plasma

Ans: c) Horse serum immunized with snake venom

20. The first aid treatment for snakebite includes:

- a) Incising wound immediately
- b) Applying tourniquet and immobilization
- c) Washing with strong acids
- d) Allowing patient to walk fast

Ans: b) Applying tourniquet and immobilization

Long Questions:

Unit I – Amphioxus (*Branchiostoma lanceolatum*)

1. Describe the systematic position, habit, and habitat of Amphioxus.
2. Give an account of the morphological characters of Amphioxus.
3. Explain in detail the digestive system of Amphioxus with a neat labeled diagram.
4. Describe the circulatory system of Amphioxus with suitable illustrations.

Unit II – Rat (*Rattus rattus*)

1. Write an essay on the systematic position, habit, and habitat of Rat.
2. Describe the external and internal morphological characters of Rat.
3. Discuss the digestive system of Rat with neat diagrams.
4. Give an account of the respiratory system of Rat.
5. Describe the circulatory system of Rat with reference to composition of blood and structure of heart.
6. Explain the excretory system of Rat in detail.
7. Write notes on the reproductive system of Rat (male and female).
8. Give an account of the brain of Rat with suitable diagrams.
9. Describe the structure and function of sense organs of Rat (eye and ear).

Unit III – General Topics

(I) Venomous and Non-Venomous Snakes

1. Describe the identifying characters of venomous, mildly venomous, and non-venomous snakes.
2. Explain the poison apparatus in snakes with neat diagrams.
3. Discuss the biting mechanism of snakes in detail.
4. Write an essay on types of venom and their effects on human body.
5. Explain the role of antivenom/antiserum in snakebite treatment.
6. Discuss the first aid treatment in case of snakebite.

(II) Aerial Adaptations in Birds

7. Describe the aerial adaptations in birds with suitable examples.

(III) Dentition in Mammals

8. Write an essay on the dentition in mammals, giving types, formula, and exam

Short Notes

Unit I – Amphioxus (*Branchiostoma lanceolatum*)

1. Write the systematic position of Amphioxus.
2. Describe the habitat of Amphioxus.
3. Write short notes on morphological features of Amphioxus.
4. Why is Amphioxus called a “living fossil”?

Unit II – Rat (*Rattus rattus*)

1. Write the systematic position of Rat.
2. Mention the external features of Rat.
3. Write short notes on the digestive system of Rat.
4. Describe the respiratory organs of Rat.
5. Write a short note on the blood composition of Rat.
6. Structure of the Rat heart.
7. Write a note on the excretory system of Rat.
8. Draw a labelled diagram of the rat kidney.
9. Short note on male reproductive organs of Rat.
10. Short note on female reproductive organs of Rat.
11. Write short notes on the brain of Rat.
12. Structure of the Rat eye.
13. Structure of the Rat ear.

Unit III – Snakes

1. Difference between venomous and non-venomous snakes.
2. Identifying characters of mild venomous snakes.
3. Write a note on poison apparatus of snakes.
4. Describe the biting mechanism in snakes.
5. Different types of snake venom and their effects.
6. Write a note on neurotoxic venom.
7. Write a note on haemotoxic venom.
8. What is antivenom? How is it prepared?
9. Write a note on first aid treatment of snake bite.