

# KERALA PLUS ONE BOARD EXAMINATION 2026

## Answer Key – ZOOLOGY (FY-126)

### Section I (1 Mark)

1. Ascending order of taxonomic categories

Species → Genus → Family → Order → Class → Phylum → Kingdom

---

2. Enzyme inhibitor resembling substrate:

Competitive inhibitor

---

3. Volume of air remaining after forceful expiration:

Residual Volume (RV)

---

4. Joint between adjacent vertebrae permitting limited movement:

Cartilaginous joint

---

5. Disease associated with glucose loss in urine treated with insulin:

Diabetes mellitus

---

### Section II (2 Marks)

6. Identify A, B, C, D (diagram on page 1)

The figure shows *Amphioxus* (*Branchiostoma*) internal structure.

- A – nerve cord
  - B – Notochord
  - C – gill slits
  - D – Post anal part
- 

7. Biomolecules

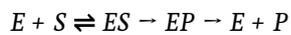
From the structural formulas:

- A – Amino acid (Serine)
- B – Glycerol

### 8. Difference between aestivation and hibernation

<i>Aestivation</i>	<i>Hibernation</i>
<i>Summer sleep</i>	<i>Winter sleep</i>
<i>Occurs during hot, dry conditions</i>	<i>Occurs during cold conditions</i>
<i>Example: snails, frogs</i>	<i>Example: bears, bats</i>

### 9. Enzyme action



(a)

- *ES – Enzyme-substrate complex*
- *EP – Enzyme-product complex*

(b) Any two factors affecting enzyme action:

- *Temperature*
- *pH*
- *Substrate concentration*
- *Enzyme concentration*

### 10. Identify organisms

From the figure (page showing A and B organisms):

- *A – Balanoglossus*
- *B – Pila (Apple snail)*

Phyla:

- *Balanoglossus- Hemichordata*
- *Pila – Mollusca*

### 11. Suitable terms

a) *Bones with air cavities*

*Pneumatic bones*

b) *Property of emitting light*

*Bioluminescence*

c) *Sexes not separate*  
*Hermaphrodite / Monoecious*

d) *Warm-blooded organisms*  
*Homeotherms*

---

## 12. ECG graph

a) *Indications:*

- *P wave – Atrial depolarization*
- *QRS complex – Ventricular depolarization*
- *T wave – Ventricular repolarization*

b) *Machine used:*

*Electrocardiograph*

---

## 13. Muscles

a) *Three types of muscles:*

- *Skeletal muscle*
- *Smooth muscle*
- *Cardiac muscle*

b) *Endoplasmic reticulum in muscle cells:*

*Sarcoplasmic reticulum*

---

## 14. Double circulation diagram

a) *Blood vessels:*

- *A – Pulmonary artery*
- *B – Aorta*

b) *Vessel carrying oxygenated blood from lungs to heart:*

*Pulmonary vein*

---

## 15. Match the following

A	B
<i>Renal calculi</i>	<i>Stone or insoluble mass of crystallised salts in kidney</i>
<i>Uremia</i>	<i>Accumulation of urea in blood</i>
<i>Renal failure</i>	<i>Kidney transplantation</i>

A

B

*Glomerulonephritis Inflammation of glomeruli of kidney*

---

*16. Identify endocrine glands*

*From the diagram (page showing kidney and neck region):*

- *A – Adrenal gland*
  - *B – Thyroid gland*
- 

*Section III (3 Marks)*

*17. Parts of brain controlling functions*

*a) Body temperature, hunger, thirst  
Hypothalamus*

*b) Sensory association, memory, communication  
Cerebrum*

*c) Respiration, cardiovascular reflexes, gastric secretion  
Medulla oblongata*

---

*18. Urea accumulation and urine formation*

*a) Process to remove urea from blood:*

*Haemodialysis*

*b) Two processes in urine formation:*

- *Glomerular filtration*
- *Tubular reabsorption*
- *Tubular secretion (any two)*

*c) Mechanism maintaining medullary gradient:*

*Counter-current mechanism*

---

*19. Inspiration and expiration table*

*From the table (page showing respiratory changes):*

*A – Diaphragm relaxes and becomes dome-shaped*

*B – Intrapulmonary pressure decreases*

*CO<sub>2</sub> transport methods (any two):*

- *As bicarbonate ions (HCO<sub>3</sub><sup>-</sup>)*
- *Bound to haemoglobin (carbaminohaemoglobin)*

- *Dissolved in plasma*
- 

20. *Organisms A and B (butterfly and prawn)*

a) *Phylum:*

*Arthropoda*

b) *Economically important insect example:*

*Honey bee (Apis)*

*(or Silkworm – Bombyx mori)*

c) *Four characters of Arthropoda:*

1. *Segmented body*
2. *Jointed appendages*
3. *Chitinous exoskeleton*
4. *Open circulatory system*

<http://www.educationobserver.com>