

### ANSWER KEY

FIRST YEAR HIGHER SECONDARY EXAMINATION <sup>Improvement</sup> Feb 2022

PART-I/II/III

SUBJECT: ZOOLOGY

CODE NO: \_\_\_\_\_

VERSION: \_\_\_\_\_

30 SCORES





\_\_\_\_\_ HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
1.		Cerebrum	1	6
2.		vital capacity/vc	1	
3.		GLUT-4/GLUT	1	
4.		Tricuspid valve	1	
5.		Ichthyophis	1	
6.		Tape worm	1	
		[Answer any 3 questions from 1 to 6. Each carries 1 score]		
II.	Answer any 9 questions from 7 to 24, Each carries 2 scores			
7.	a.	Parapodia (b) Malpighian tubules	1+1	2
8.	a.	Hemichordata	1	2
	b.	Bilaterally symmetrical, triploblastic, coelomate, Body is divided into proboscis, collar and trunk, open type of circulation, Gills are the respiratory organ, Proboscis gland are the excretory organ (any two relevant salient features)	1	
9.		SA Node → AV Node → Bundle of His → Purkinje Fibers → Ventricle.	1/2 x 4	2
10.		It is a taxonomic aid, useful in providing information for identification of names of species found in an area.	2	2
11	A.	'A' and 'C' Parietal cells secrete HCl/Peptic or chief cells secrete Pepsinogen.	1 1/2	2
	C.	Gastric juice contains Pepsin, rennin, lipase, HCl/pancreatic and intestinal juice contain nucleases.	1/2	

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12.	A.	Crop B. - Hepatic caeca/Gizzard.	1	2
	b.	A. crop used for storing food B. secrete digestive juice/helps in grinding of food	1	
13.		(A) Hinge joint (B) Pivot joint (C) Gliding joint (D) saddle joint.	$\frac{1}{2} \times 4$	2
14.	A.	Day light vision/with the help of cone cells Twilight vision/with the help of rod cells/dim light vision	1	2
	B.	sense of smell receptors Taste receptors.	1	
15.		Ca <sup>++</sup> ions/calcium calcium ions from the sarcoplasm with a subunit of troponin on actin filaments and there by remove the masking of active site for myosin and contraction of muscle fiber occurs.	1 1	2
16.	(a) A.	Hormone receptor complex	$\frac{1}{2} \times 4$	2
	B.	Genome/DNA/mRNA		
	(b)	Cortisol, Testosterone, Estradiol, Progesterone, Estrogen (any two correct response)		
17.		(a) Melatonin (b) Thymus gland (c) Provide immunity (d) Testis	$\frac{1}{2} \times 4$	2
18.		Radial symmetry when any plane passing through the central axis of the body divides the organism into two identical halves; is called radial symmetry	1 1	2
19.	(a)	Hippocampus/Sea horse	$\frac{1}{2} \times 4$	2
	(b)	Osteichthyes/Bony fishes.		
	(c)	bony endoskeleton, gills with operculum, Air bladder present, Two chambered heart etc (any two relevant correct responses)		

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20.	a.	Disaccharidases (Maltase, Lactase, sucrase) Dipeptidases, Lipases, Nucleosidases etc. (any three) Di and Monoglycerides $\xrightarrow{\text{Lipases}}$ Fatty acids + Glycerol.	$\frac{1}{2} \times 4$	2
21.		(A) Bone (B) Cartilage (B) Bone - hard, rich in calcium salts, osteocytes are present cartilage:- Flexible, chondrocytes present, soft in nature. (any relevant answer)	1 1	2
22.		(a) Tetany (b) Arthritis (c) Osteoporosis (d) Gout.	$\frac{1}{2} \times 4$	2
23.		(a) Adenine / purine (B) uracil / pyrimidine (b) Adenosine, uridine	$\frac{1}{2} \times 4$	2
24.		Renin Angiotensin mechanism leads to an increase in blood pressure and GFR. An increase in blood flow to the atria of the heart can cause the release of ANF. ANF can cause vasodilation and hence decrease the blood pressure. Thus it acts as a check on renin-angiotensin mechanism.	2	2
III		Answer any 3 questions from 25 to 30, Each carrying 3 scores.		
25.		Tight junction:- help to stop substances from leaking across tissues. Adhering junction:- Cementing to keep neighbouring cells together. Gap junction:- Facilitate the cells to communicate with each other by connecting the cytoplasm of adjoining cells.	1 1 1	3

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score						
26.		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; padding: 5px;">spicules</td> <td style="width: 33%; padding: 5px;">Mantle</td> <td style="width: 33%; padding: 5px;">compound eye</td> </tr> <tr> <td style="padding: 5px;">spongocoel</td> <td style="padding: 5px;">Foot</td> <td style="padding: 5px;">Antenna</td> </tr> </table>	spicules	Mantle	compound eye	spongocoel	Foot	Antenna	1/2 x 6	3
spicules	Mantle	compound eye								
spongocoel	Foot	Antenna								
27.		<p>Inspiration :- Diaphragm contracted, increase the volume of thoracic chamber. The contraction of external intercostal muscles lifts up the ribs and sternum causing an increase in the volume of the thoracic chamber.</p> <p>Expiration :- Relaxation of the diaphragm and the inter costal muscles returns the diaphragm and sternum to their normal position and reduce the thoracic volume and pulmonary volume.</p>	1 1/2  1 1/2	3						
28		<p>The formation of clot or coagulum on the wound prevent excessive loss of blood.</p> <ul style="list-style-type: none"> <li>• Clot is formed mainly of a network of threads called fibrins in which dead and damaged formed elements of blood are trapped</li> <li>• Fibrins are formed by the conversion of inactive fibrinogens in the plasma by the enzyme thrombin</li> <li>• Thrombin in turn are formed from another inactive substance present in the plasma called prothrombin</li> <li>• An enzyme complex, thrombokinase, is required for the above reaction.</li> </ul> <p style="text-align: center;">(OR)</p> <p>Prothrombin <math>\xrightarrow{\text{Thrombokinase}}</math> Thrombin  <small>Ca<sup>++</sup></small></p> <p>Fibrinogen <math>\xrightarrow{\text{Thrombin}}</math> Fibrin</p> <p>(Fibrin + Blood cells) <math>\longrightarrow</math> clot</p>	3	3						

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29.	c	Receptor → Afferent neuron → Inter neuron in spinal cord → Motor neuron → efferent pathway → Effector	$\frac{1}{2} \times 6$	3
30.		(a) Non-Protein part of an enzyme is called co-factor (b) Prosthetic group co-enzyme metallic ion (write any two types of co-factor)	1  2	3
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