

**FIRST YEAR HIGHER SECONDARY EXAMINATION, JUNE-2022**

**ZOOLOGY**

**UNOFFICIAL ANSWER KEY**

Qn No.	Scoring Key	Score
<b>I-Answer any 3 questions from 1 to 4. Each carries 1 score</b>		
1	Pepsinogen	1
2	Corpus luteum	1
3	Collagen	1
4	Oxygen dissociation curve	1
<b>II-Answer any 9 questions from 5 to 17. Each carries 2 score</b>		
5	a) Respiratory / Excretory functions (Any one) b) Osmoregulation / Excretion (Any one)	1 1
6	<b>Endocrine glands</b>	<b>Exocrine glands</b>
	Endocrine glands do not have ducts Their products called hormones are secreted directly into the fluid bathing the gland	Exocrine glands have ducts Their products are released through ducts or tubes
<p><b>(Any one difference )</b>  <b>Secretions of exocrine glands :</b> Mucus, Saliva, Earwax, Oil, Milk, Digestive enzymes and other cell products  <b>(Any two secretions)</b></p>		0.5+0.5  0.5+0.5
7	<b>Column A</b>	<b>Column B</b>
	a)Neutrophils	v)Phagocytic destruction of foreign organism
	b)Basophil	iii)Secrete Histamine
	c)Eosinophil	iv)Allergic reactions
	d)Lymphocytes	ii)Immune response of the body
		0.5 0.5 0.5 0.5
8	a)A-Villi B-Lacteal b)A-Villus helps in the absorption of food/ Villi increase the surface area enormously B-Lacteal helps in transport of fat globules/Chylomicrons	0.5+0.5 0.5 0.5
9	<ul style="list-style-type: none"> <li><b>Respiratory rhythm centre:</b> Maintain and moderate the respiratory rhythm to suit the demands of the body tissues</li> <li><b>Pneumotaxic centre:</b> It can moderate the functions of the respiratory rhythm centre. Neural signal from this centre can reduce the duration of inspiration and thereby alter the respiratory rate</li> <li><b>chemosensitive area:</b> It is highly sensitive to CO<sub>2</sub> and hydrogen ions.</li> </ul>	1

	Increase in these substances can activate this centre, which in turn can signal the rhythm centre to make necessary adjustments in the respiratory process by which these substances can be eliminated <u>(Any two centre with its function carry full score)</u>	1
10	a)Generic name :Musca Specific epithet :domestica b)Phylum :Arthropoda Class: Insecta	0.5 0.5 0.5 0.5
11	a)Compound epithelium <u>Function:</u> Provide protection against chemical and mechanical stresses. b)They cover the dry surface of the skin, the moist surface of buccal cavity, pharynx, inner lining of ducts of salivary glands and of pancreatic ducts <u>(Any two region)</u>	0.5 0.5 0.5+0.5
12	A-Tympanum B-Ear Ossicles C-Basilar membrane D-Tectorial membrane	0.5 0.5 0.5 0.5
13	In the head region, the brain is represented by supra-oesophageal ganglion which supplies nerves to antennae and compound eyes , le: The head holds a bit of a nervous system while the rest is situated along the ventral (belly-side) part of its body. That is why if the head of a cockroach is cut off, it will still live for as long as one week.	2
14	When a stimulus is applied at a site on the polarised membrane, the membrane at that site becomes freely permeable to Na <sup>+</sup> . This leads to a rapid influx of Na <sup>+</sup> followed by the reversal of the polarity at that site, i.e., the outer surface of the membrane becomes negatively charged and the inner side becomes positively charged. The polarity of the membrane at that is thus reversed . le:Action potential developed	2
15	A- Filaria worm B- Bombyx C- Earthworm D-Apis	0.5 0.5 0.5 0.5
16	<u>Diabetes insipidus :</u>	<u>Diabetes mellitus</u>
	Due to low secretion of ADH/Vasopressin	Insulin deficiency and/or insulin resistance result in a disease called diabetes mellitus
	Diabetes insipidus results Excess loss of water through urine	Presence of glucose (Glycosuria) and ketone bodies (Ketonuria) in urine are indicative of diabetes mellitus.
		1 1

17	<b>Symmetry</b>		0.5
	<ul style="list-style-type: none"> <li>• Phylum porifera : asymmetrical</li> <li>• Phylum Echinodermata : Larva: bilateral symmetry/Adult: radial symmetry</li> </ul>		
	<b>System of transport of food</b>		0.5
	<ul style="list-style-type: none"> <li>• Phylum porifera : water transport or canal system</li> <li>• Phylum Echinodermata : water vascular system</li> </ul>		
<b>III-Answer any 3 questions from 18 to 22. Each carries 3 score</b>			
18	<ul style="list-style-type: none"> <li>• <b>P Wave:</b> The electrical excitation /depolarisation of the atria/ which leads to the contraction of both the atria</li> </ul>		1
	<ul style="list-style-type: none"> <li>• <b>QRS Wave:</b> The QRS complex represents the depolarisation of the ventricles/ which initiates the ventricular contraction</li> </ul>		1
	<ul style="list-style-type: none"> <li>• <b>T Wave:</b> It represent return of the ventricles from excited to normal state /Repolarisation of ventricle</li> </ul>		1
19	<b>Red muscle fibre</b>	<b>White muscle fibre</b>	1 1 1 1 1
	• Red in colour	• Pale /whitish in colour	
	• Muscle contains a red coloured oxygen storing pigment called myoglobin	• Muscle contains very less quantity of myoglobin	
	• These muscles also contain plenty of mitochondria	• Number of mitochondria are also few in them	
	• Thes muscle fibre can also be called aerobic muscles	• They depend on anaerobic process for energy	
	• the amount of sarcoplasmic reticulum is low	• the amount of sarcoplasmic reticulum is high	
<b>(Any 3 difference )</b>			
20	a) A tertiary structure of proteins		1
	b) Primary structure / Secondary structure / Alpha – Helix / Beta-plated sheet		0.5+0.5
	c)Adult human haemoglobin		0.5
	It consists of 4 subunits. two subunits of $\alpha$ type and two subunits of $\beta$ type together constitute the human haemoglobin (Hb).So it consist of more than one polypeptide or subunits.		0.5
21	<b>Chordates</b>	<b>Non chordates</b>	1 1 1 1 1
	Notochord present.	Notochord absent.	
	Central nervous system is dorsal, hollow and single	Central nervous system is ventral, solid and double	
	Pharynx perforated by gill slits	Gill slits are absent	
	Heart is ventral	Heart is dorsal (if present	
	A post-anal part (tail) is present.	Post-anal tail is absent.	
<b>(Any 3 difference carry full score )</b>			

<b>22</b>	<b>A- Ammonotelic</b>	<b>0.5</b>
	<b>B-uricotelic</b>	<b>0.5</b>
	<b>C-Urea</b>	<b>0.5</b>
	<b>D-Uric acid</b>	<b>0.5</b>
	<b>E- Many bony fishes,/aquatic amphibians /aquatic insects (any 1)</b>	<b>0.5</b>
	<b>F- Mammals/ many terrestrial amphibians / marine fishes (any 1)</b>	<b>0.5</b>