

GOVERNMENT HIGHER SECONDARY PUBLIC EXAM – MARCH - 2023
TENTATIVE SCORING KEY

STD: XI

SUB: BIO – ZOOLOGY

(DISCLAIMER – This key is meant for students reference only and not for evaluation purpose)

SECTION – 1						8 x 1 = 8
Q. NO	A - TYPE	MARK	Q. NO	B - TYPE	MARK	
1	(d) Hermaphroditic but not self-fertilizing	1	1	(c) Extra fovea region	1	
2	(a) Chordae tendinae	1	2	(c) Ichthyophis	1	
3	(b) <i>Naja naja</i>	1	3	(c) Freely movable joints	1	
4	(d) Gigantism	1	4	(a) Chordae tendinae	1	
5	(c) Extra fovea region	1	5	(d) Hermaphroditic but not self-fertilizing	1	
6	(c) Ichthyophis	1	6	(d) Gigantism	1	
7	(c) Freely movable joints	1	7	(a) 500 mL	1	
8	(a) 500 mL	1	8	(b) <i>Naja naja</i>	1	

SECTION - 2

NOTE: Answer any four questions.

2 Marks

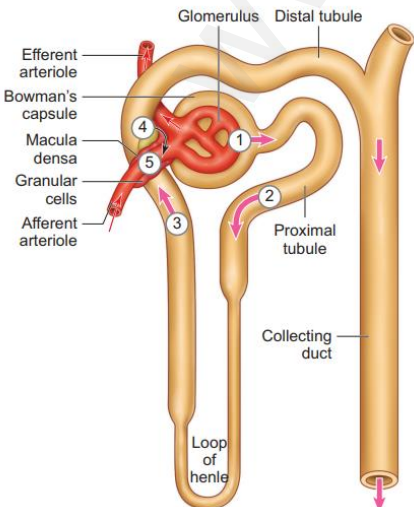
Q.NO	ANSWERS	MARKS
9	Define extremophiles. <ul style="list-style-type: none"> ➤ Domain Archaea includes single celled organisms, the prokaryotes. ➤ Domain Archaea ability to grow in extreme conditions like volcano vents, hot springs and polar ice caps, hence are also called extremophiles. 	$\frac{1}{2}$ $1 \frac{1}{2}$ (Total- 2)
10	What are earthworm casts? <ul style="list-style-type: none"> ➤ In earthworm the undigested particles along with earth are passed out through the anus, as worm castings or vermicasts. 	2 (Total- 2)
11	Name the respiratory organs of Flatworm, Cockroach, Fish and Cat. <ul style="list-style-type: none"> ➤ Flatworm - body wall or Moist skin ➤ Cockroach – Trachea ➤ Fish – Gills ➤ Cat – Lungs 	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ (Total- 2)
12	Compare closed and opened circulatory system. Open type: <ul style="list-style-type: none"> ➤ Blood remains filled in tissue spaces due to the absence of blood capillaries. ➤ Ex: arthropods, molluscs, echinoderms, and urochordates Closed type: <ul style="list-style-type: none"> ➤ Blood is circulated through blood vessels of varying diameters (arteries, veins, and capillaries) ➤ Ex: Annelids, cephalochordates and vertebrates. <p align="center">(OR)</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ (Total- 2)

S.NO	Open circulatory system	closed circulatory system	
1	Haemolymph as the circulating fluid.	Blood is the circulating fluid.	1/2
	The Haemolymph is pumped by the heart.	The blood is pumped by the heart.	1/2
2	The blood flows through blood vessels into the sinuses.	The blood flows through blood vessels	1/2
3	Ex: Arthropods and most Molluscs	Ex: Annelids, Cephalopods and Vertebrates.	1/2
			(Total- 2)
13	Tabulate the functions of brain lobes.		
	➤ Frontal - Behaviour, Intelligence, Memory, Movement		1/2
	➤ Parietal - Language, Reading, Sensation		1/2
	➤ Temporal - Speech, Hearing, Memory		1/2
	➤ Occipital - Visual processing		1/2
			(Total -2)
14	Write the different types of salivary glands.		
	➤ Parotids gland - largest in the cheeks,		1
	➤ Sub-maxillary/ sub-mandibular - lower jaw		1/2
	➤ Sublingual - beneath the tongue.		1/2
			(Total -2)

SECTION - 3

NOTE: Answer any three questions. Question No. 19 is Compulsory

3 MARKS

Q.NO	ANSWERS	MARKS
15	Name the disorder caused due to the hypo secretion of parathyroid hormone and Write its symptoms.	
	➤ Tetany is caused due to the hyposecretion of parathyroid hormone (PTH).	1
	SYMPTOMS:	(Any four symptoms)
	➤ Generalized convulsion,	1/2
	➤ Locking of jaws	1/2
➤ Increased heart beat rate,	1/2	
➤ Increased body temperature,	1/2	
➤ Muscular spasm.		
		(Total -3)
16	Draw and label the structure of a Nephron.	
	 <p>Diagram – 2 Marks Parts – 4 – 1 Mark</p>	
		(Total -3)

17	<p>Some epithelial cells are pseudostratified. What does this mean?</p> <ul style="list-style-type: none"> ➤ Pseudo-stratified epithelial cells are columnar, but unequal in size. ➤ This epithelium is single layered yet it appears to be multi-layered ➤ It because the nuclei lie at different levels in different cells 	<p>1 1 1 (Total-3)</p>
18	<p>Give the economic importance of lac insect.</p> <ul style="list-style-type: none"> ➤ Used as a sealing wax and adhesive for optical instruments. ➤ It is used in electric industry, as it is a good insulator. ➤ It is used in preparations of shoe and leather polishes and as a protective coating of wood. ➤ It is used in laminating paper board, photographs, engraved materials and plastic moulded articles. ➤ Used as a filling material for gold ornaments. (Any three = 3 x 1 = 3) 	<p>(Total-3)</p>
19	<p>Aqueous humour maintains the intra-ocular pressure - Justify.</p> <ul style="list-style-type: none"> ➤ The aqueous humor is produced and drained at the same rate. ➤ Maintaining a constant intra ocular pressure of about 16 mmHg. ➤ Any block in the canal of schlemm increases the infra ocular pressure of aqueous humor and leads to 'Glaucoma'. ➤ The optic nerve and the retina are compressed due to pressure. 	<p>1 ½ 1 ½ (Total-3)</p>

SECTION - 4

Note: Answer all the questions.

5 MARKS

Q.NO	ANSWERS	MARKS
20. (a)	<p>Explain the origin and conduction of Heart Beat.</p> <ul style="list-style-type: none"> ➤ The heart in human is myogenic. ➤ Sinuatrrial (SA) node / Pacemaker: located in the right atrium. ➤ Auriculo ventricular node (AV node): located left side of the right atrium. ➤ Bundle of His: Special cardiac muscle fibres originate from the auriculo ventricular node. ➤ Purkinje fibres: fibres from the bundle of his, spread into the ventricles. <p>Mechanism:</p> <ul style="list-style-type: none"> ➤ The pacemaker cells produce excitation. ➤ Early depolarization: takes place by sodium influx and reduction in potassium efflux. ➤ Rapid depolarization: by Activate voltage gated calcium (Ca⁺) channels. ➤ Repolarize: Slowly via K⁺ efflux. <div> <p>Diagram – 1 Mark</p> </div>	<p>½ ½ ½ ½ ½ ½ ½ ½ 1 (Total-5)</p>

20. (b)	<p>What are the various classical taxonomical tools? Explain.</p> <p>Taxonomical Keys:</p> <ul style="list-style-type: none"> ➤ Keys are based on comparative analysis of the similarities and dissimilarities of organisms. ➤ There are separate keys for different taxonomic categories. <p>Museum:</p> <ul style="list-style-type: none"> ➤ Collection of preserved plants and animals for study and ready reference. ➤ Specimens of both extinct and living organisms can be studied. <p>Zoological parks:</p> <ul style="list-style-type: none"> ➤ Wild animals are kept in protected environments under human care. ➤ It enables us to study their food habits and behaviour. <p>Marine parks:</p> <ul style="list-style-type: none"> ➤ Marine organisms are maintained in protected environments. <p>Printed taxonomical tools:</p> <ul style="list-style-type: none"> ➤ Identification cards, description, field guides and manuals. <p>(Only 5 Headings : May be given 2 Marks)</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1</p> <p>1</p> <p>(Total-5)</p>
21. (a)	<p>List out the various functions of skeletal system.</p> <ul style="list-style-type: none"> ➤ Support: It forms a rigid framework and supports the weight of the body against gravity. ➤ Shape: It provides and maintains the shape of the body. ➤ Protection: It protects the delicate internal organs of the body. ➤ Acts as reservoir: It stores minerals such as calcium and phosphate. Fat (Triglyceride) is stored in yellow bone marrow and represents a source of stored energy for the body. ➤ Locomotion: It acts as lever along with the muscles attached to it. ➤ Strength: It can withstand heavy weight and absorbs mechanical shock. <p>(Only 5 Headings : May be given 2 Marks)</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>(Any 5)</p> <p>(Total-5)</p>
21. (b)	<p>Fishes provide a good staple food to tide over the nutritional needs of man. Discuss the various fish by-products.</p> <p>Fish oil: 2 Mark</p> <ul style="list-style-type: none"> ➤ It is derived from fish liver and from the fish body. ➤ Fish liver oil - derived from the liver - Rich in vitamin A and D, ➤ Fish body oil - Has high content of iodine, not suitable for human consumption. ➤ Used in the manufacture of laundry soaps, paints and cosmetics. <p>Fish meal: 1 1/2 Mark</p> <ul style="list-style-type: none"> ➤ It is prepared from fish waste after extracting oil from the fish. ➤ The dried wastes are used to prepare food for pig, poultry and cattle. ➤ The wastes of fish meal used as manure. 	<p>2</p> <p>1 1/2</p>

Isinglass: <ul style="list-style-type: none">➤ It is produced from dried air bladder or swim bladder of certain fishes viz. catfish and carps.➤ The processed bladder is dissolved in hot water forms a gelatin having adhesive property.➤ It is primarily used for clarification of wine, beer and vinegar.	1½ Mark	1½ (Total-5)
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Prepared by:

BHARATHIRAJA A,
MSC., MPHIL., M.ED., DOA,
PG ASSISTANT IN ZOOLOGY,
PUDUKKOTTAI DIST,
CELL: 9944277623.

BHARATHIRAJA A
www.Padasalai.Net