

DIRECTORATE OF GOVERNMENT EXAMINATION CHENNAI – 600 006

HSC FIRST YEAR EXAMINATION MARCH/APRIL – 2023

PART- II BIO - ZOOLOGY ANSWER KEY

Note :

Total Marks : 35

1. Use **blue or black** ink to write and underline and pencil to draw the diagram.
2. Choose the most appropriate answer from the given four option and write the option code and the corresponding answer in section-1

SECTION – 1

Answer all the questions:

8×1=8

Q.No	Option	Type-A	Q.No	Option	Type-B	Marks
1	d	Hermaphroditic but not self fertilizing	1	c	Extra fovea region	1
2	a	Chordae tendinae	2	c	Ichthyophis	1
3	b	Naja naja	3	c	Freely movable Joints	1
4	d	Gigantism	4	a	Chordae tendinae	1
5	c	Extra fovea region	5	d	Hermaphroditic but not self – fertilizing	1
6	c	Ichthyophis	6	d	Gigantism	1
7	c	Freely movable joints	7	a	500 ml	1
8	a	500 ml	8	b	Naja naja	1

SECTION -2

Note : Answer any Four questions.

4×2=8

9	<p>Extremophiles Prokaryotes which have the ability to grow in extreme conditions like volcano vents, hot springs and polar ice caps.</p>	2
10	<p>Earthworm casts The faecal deposits of earth worms found on the soil surface. (OR) The undigested particles of earth worm are passed out through the anus as worm castings. (OR) The breakdown of organic matter by the activity of the earthworm and it's elimination from it's body is called vermicast .</p>	2

11	Respiratory organ ➤ Flatworm - Body surface ➤ Cockroach - trachea ➤ Fish - gills ➤ Cat - Lungs	4 x ½ = 2
12	Closed circulatory system	Open circulatory system
	Blood vessels are present. Blood carries through these vessels	Blood capillaries are absent. Blood remains filled in the tissue spaces.
	(OR)	
	Closed circulatory system	Open circulatory system
	Blood is pumped by the heart and flows through blood vessels	Haemolymph is pumped by the heart, which flows through blood vessels into the sinuses
13	Functions of brain lobes:	4x½=2
Structure	Functions	
Frontal	Behaviour, Intelligence, memory, movement	
Parietal	Language, Reading, sensation	
Temporal	Speech, Hearing, Memory	
	Occipital	Visual Processing
14	Different types of salivary glands i) Parotids gland ii) Sub-maxillary / sub – mandibular iii) Sublingual gland	2

SECTION-3

Answer any three questions .Question No.19 is compulsory.

3x3=9

15	i) Tetany ii) symptoms a) Generalized convulsions b) Locking of jaws c) Increased heart beat rate d) Increased body Temperature e) Muscular spasm	1
	(Any four symptoms)	4x½=2

16	Structure of Nephron: <ul style="list-style-type: none"> • Diagram • Parts <p style="text-align: right;">(Any Two parts)</p>	<p>2</p> <p>1</p>
17	Pseudostratified cells: <ul style="list-style-type: none"> • These cells are columnar ,but unequal in size. • Although the epithelium is single layered yet it appears to be multi –layered because the nuclei lie at different levels In different cells. 	3
18	Economic importance of Lac: <ol style="list-style-type: none"> a) Lac is largely used as a sealing wax and adhesive for optical instruments b) It is used in electric industry as it is a good insulator c) It is used in preparation of shoe and leather polishes and as a protective coating of wood . d) It is used in laminating paper board , photographs engraved materials and plastic moulded articles e) Used as a filling material for gold ornaments <p style="text-align: center;">(Any three points)</p>	3
19	Aqueous humour maintains the intra – ocular pressure - justify: <ul style="list-style-type: none"> • The Aqueous humour is produced and drained at the same rate.Aqueous humour seen in the anterior compartment of the human eye. i.e.between cornea and iris and between iris and lens. • Maintaining a constant intra ocular pressure of about 16 mm Hg. • Any block in the canal of schlemm increases the intra ocular pressure and leads to Glaucoma. 	3

SECTION – 4

Note : Answer all the questions

2×5=10

20 a)	Origin and conduction of Heart Beat <ul style="list-style-type: none"> • Pacemaker Cells - Explanation • Sinuatrial (SA) node - Explanation • Auriculo ventricular node – Explanation • Bundle of His - Explanation • Purkinje Fibres – Explanation <p style="text-align: center;">(OR)</p>	5
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20 b)	<p>The classical taxonomical tools</p> <p>Taxonomical Keys: Keys are based on comparative analysis of the similarities and dissimilarities of organisms. There are separate keys for different taxonomic categories.</p> <p>Museum: Biological Museums have collection of preserved plants and animals for study and ready reference. Specimens of both extinct and living organisms can be studied.</p> <p>Zoological parks: These are places where wild animals are kept in protected environments under human care. It enables us to study their food habits and behavior.</p> <p>Marine parks: Marine organisms are maintained in protected environments.</p> <p>Printed taxonomical tools: It consist of identification cards, description, field guides and manuals.</p>	1 1 1 1 1
21 a)	<p>Functions of skeletal Systems: (Any five points)</p> <ul style="list-style-type: none"> • Support – Explanation • Shape – Explanation • Protection – Explanation • Acts as reservoir – Explanation • Locomotion – Explanation • Strength – Explanation • As a haemopoietic tissue – Explanation <p style="text-align: center;">(OR)</p>	5
21 b)	<p>Some of the fish by - products are :</p> <p>Fish oil: It is derived from fish liver and from the fish body. It is rich in vitamin A and D, It is used in the manufacture of laundry soaps, paints and cosmetics.</p> <p>Fish meal : It is prepared from fish waste after extracting oil from the fish. The dried wastes are used to prepare food for cattle. It is used as manure.</p> <p>Isinglass : It is a high-grade collagen produced from dried air bladder or swim bladder of certain fishes viz. catfish and carps. The processed bladder which is dissolved in hot water forms a gelatin having adhesive property. It is primarily used for clarification of wine, beer and vinegar.</p>	1½ 1½ 2