



ISLAMIAH MAT HR SEC SCHOOL,
KILAKARAI, RAMANATHAPURAM DT.

XI COMMON PUBLIC EXAMINATION, MAY -2023 (24-03-2023)

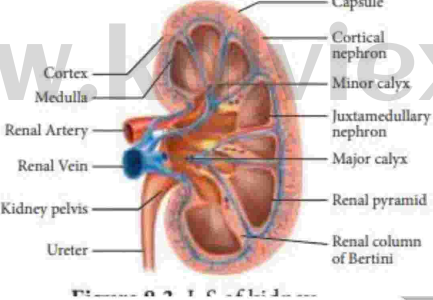
TENTATIVE ANSWER KEY
Question type B

SUB: BIO-ZOOLOGY

MARKS: 35

Q.NO	CONTENT	MARKS	MODE OF QUESTION
	PART - I		
I.	CHOOSE THE CORRECT ANSWER	8 X 1 = 8	BOOK BACK / BOOK INSIDE/ CREATIVE
1	C, Extra fovea region	1	BOOK INSIDE
2	C, Ichthyophis	1	BOOK BACK
3	C, Freely movable joints	1	BOOK INSIDE
4	A, Chordae tendinae	1	BOOK INSIDE
5	D, Hermaphroditic but not self fertilizing	1	BOOK BACK
6	D, Critinism	1	BOOK BACK
7	A, 500 ml	1	BOOK INSIDE
8	B, Naja naja	1	BOOK INSIDE

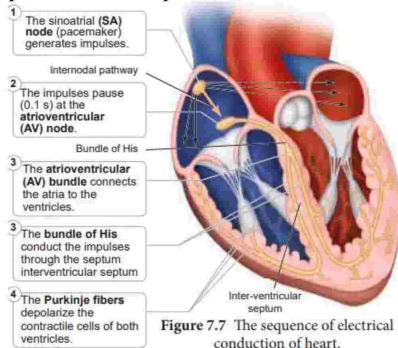
Q.NO	CONTENT	MARKS	MODE OF QUESTION
II.	PART -II ANSWER ANY FOUR OF THE FOLLOWING	4 X 2 = 8	BOOK BACK / BOOK INSIDE/ CREATIVE
9	This domain includes single celled organisms, the prokaryotes which have the ability to grow in extreme conditions like volcano vents, hot springs and polar ice caps, hence are also called extremophiles	2	BOOK INSIDE
10	The ingested organic rich soil passes through the digestive tract where digestive enzymes breakdown complex food into smaller absorbable units. The simpler molecules are absorbed through the intestinal membrane and are utilized. The undigested particles along with earth are passed out through the anus, as worm castings or vermicasts	2	BOOK BACK
11	Flarworms – Body surfsce Cockroach - trachea Fish - Gills Cat - lungs	2	BOOK BACK
12	There are two types of circulatory systems, open and closed circulatory systems. Open circulatory system has haemolymph as the circulating fluid and pumped by the heart, which flows through blood vessels into the sinuses. Sinuses are referred as haemocoel. Open circulatory system is seen in Arthropods and most Molluscs. In closed circulatory system blood is pumped by the heart and flows through blood vessels. Closed circulating system is seen in Annelids, Cephalopods and Vertebrates.	2	BOOK INSIDE
13	Frontal lobe- Behavior, Intelligence, Memory, Movement Parietal Lobe-Language, Reading, Sensation Temporal Lobe- Speech, Hearing, Memory Occipital Lobe- Visual processing	2	BOOK INSIDE
14	There are three pairs of salivary glands in the mouth 1,They are the largest parotids gland in the cheeks, 2,the sub-maxillary/ sub-mandibular in the lower jaw and 3,the sublingual beneath the tongue.	2	BOOK INSIDE

Q.NO	CONTENT	MARKS	MODE OF QUESTION
III.	PART -III ANSWER ANY THREE OF THE FOLLOWING	3 X 3 = 9	BOOK BACK / BOOK INSIDE/ CREATIVE BOOK INSIDE
15	<p>Tetany is caused due to the hyposecretion of parathyroid hormone (PTH). Due to hyposecretion of PTH serum calcium level decreases (Hypocalcemia), as a result serum phosphate level increases. Calcium and phosphate excretion level decreases. Generalized convulsion, locking of jaws increased heart beat rate, increased body temperature, muscular spasm are the major symptoms of tetany.</p>	3	
16		3	BOOK INSIDE
17	<p>Pseudo-stratified epithelial 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. Hence, it is also called pseudostratified epithelium and its functions are protection, secretion and absorption.</p>	3	BOOK INSIDE
18	<p>Economic importance of Lac a. Lac is largely used as a sealing wax and adhesive for optical instruments. It is used in electric industry, it is a good insulator. b. It is used in preparations of shoe and leather polishes and as a protective coating of wood.</p>	3	BOOK BACK

	c. It is used in laminating paper board, photographs, engraved materials and plastic moulded articles. d. Used as a filling material for gold ornaments (any Three points)		
19	Aqueous humour supplies nutrients and oxygen to lens, cornea and some retinal cells. 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 'Glaucoma' where the optic nerve and the retina compressed due to pressure.	3	BOOK INSIDE

Q.NO	CONTENT	MARKS	MODE OF QUESTION
	PART –IV		
IV.	ANSWER ALL THE QUESTION	2 X 5 = 10	BOOK BACK / BOOK INSIDE CREATIVE
20 (a)	Origin and conduction of heart beat The heart in human is myogenic (cardiomyocytes can produce spontaneous rhythmic depolarisation that initiates contractions). The sequence of electrical conduction of heart is shown in The cardiac cells with fastest rhythm are called the Pacemaker cells, since they determine the contraction rate of the entire heart. These cells are located in the right sinuatrial (SA) node/ Pacemaker On the left side of the right atrium is a node called auriculo ventricular node (AV node). Two special cardiac muscle fibres originate from the auriculo ventricular node and are called the bundle of His which runs down into the interventricular septum and the fibres spread into the ventricles. These fibres are called the Purkinje fibres. Pacemaker cells produce excitation through depolarisation of their cell membrane. Early depolarisation is slow and takes place by sodium influx and reduction in potassium efflux. Minimum potential is required to	5	BOOK BACK

activate voltage gated calcium (Ca⁺) channels that causes rapid depolarisation which results in action potential. The pace



maker cells repolarise slowly via K⁺ efflux.

20 (b)

- The classical taxonomical tools
 - Taxonomical Keys:
Keys are based on comparative analysis of the similarities and dissimilarities of organisms. There are separate keys for different taxonomic categories.
 - 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.
 - 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 behaviour.
 - Marine parks: Marine organisms are maintained in protected environments.
- Printed taxonomical tools consist of identification cards, description, field guides and manuals.

5

BOOK INSIDE

21 (a)	<p>Functions of skeletal system</p> <ul style="list-style-type: none">• Support –It forms a rigid framework and supports weight of the body against gravity.• Shape - It provides and maintains the shape of body.• Protection – It protects the delicate internal organs the body• Acts as reservoir – It stores minerals such as calcium and phosphate. Fat (Triglyceride) is stored 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.• As a haemopoietic tissue – Red and White blood cells are produced in the bone marrow of the ribs, spongy bones of vertebrae and extremities of long bones.	5	BOOK BACK
21 (b)	<p>Economic importance of fish</p> <p>Fishes form a rich source of protein food and provide a good staple food to tide over the nutritional needs of man. Fish species such as sardines, mackerel, tuna, herrings have high amino acids concentrations particularly histidine which is responsible for the meaty flavor of the flesh. It is rich in fat such as omega 3 fatty acids. Minerals</p>	5	BOOK BACK

such as calcium, magnesium, phosphorus, potassium, iron, manganese, iodine and copper.

Some of the fish by - products are;

Fish oil is the most important fish by product. It is derived from fish liver and from the fish body. Fish liver oil is derived from the liver which is rich in vitamin A and D, whereas fish body oil has high content of iodine, not suitable for human consumption, but is used in the manufacture of laundry soaps, paints and cosmetics.

Fish meal 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 obtained during the preparation of fish meal are widely used as manure.

Isinglass is a high-grade collagen produced from dried air bladder or swim bladder of certain fishes viz. catfish and carps. The processed bladder which dissolved in hot water forms a gelatin having adhesive property. It is primarily used for clarification of wine, beer and vinegar

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