



ISLAMIAH MAT HR SEC SCHOOL,  
KILAKARAI, RAMANATHAPURAM DT.

XI COMMON PUBLIC EXAMINATION, MAY -2024 (18-03-2024)

TENTATIVE ANSWER KEY  
Question type B

SUB: BIO-ZOOLOGY

MARKS: 35

Q.NO	CONTENT	MARKS	MODE OF QUESTION
I.	<b>PART - I</b> CHOOSE THE CORRECT ANSWER	8 X 1 = 8	BOOK BACK / BOOK INSIDE/ CREATIVE
1	a , Assertion and reason are correct and related	1	BOOK BACK
2	a , goitre	1	BOOK BACK
3	d , limbic system	1	BOOK INSIDE
4	c , Tidal volume { TV } + Inspiratory Reserve Volume { IRV } + Expiratory Reserve Volume {ERV}	1	BOOK BACK
5	d , Inner wall of the Bowman's capsule	1	BOOK BACK
6	d , Evolutionary and phylogenetic	1	BOOK BACK
7	a , Mosaic	1	BOOK BACK
8	b , Emulsification	1	BOOK BACK
Q.NO	CONTENT	MARKS	MODE OF QUESTION

II.	<b>PART -II</b> ANSWER ANY FOUR OF THE FOLLOWING	4 X 2 = 8	BOOK BACK / BOOK INSIDE/ CREATIVE
9	<ul style="list-style-type: none"> <li>• <b>Tetany</b> is caused due to the hyposecretion of parathyroid hormone (PTH).</li> <li>• Due to hyposecretion of PTH serum calcium level decreases (Hypocalcemia), as a result serum</li> <li>• phosphate level increases.</li> <li>• Calcium and phosphate excretion level decreases. Generalized convulsion, locking of jaws increased heart beat rate, increased body temperature,</li> <li>• muscular spasm are the major symptoms of tetany.</li> </ul>	2	BOOK BACK
10	<ul style="list-style-type: none"> <li>• Frog respire on land and in the water by two different methods. <b>In water</b>, skin acts as aquatic respiratory organ (cutaneous respiration).</li> <li>• Dissolved oxygen in the water gets, exchanged through the skin by diffusion.</li> <li>• <b>On land</b>, the buccal cavity, skin and lungs act as the respiratory organs.</li> <li>• <b>In buccal respiration on land</b>, the mouth remains permanently closed while the nostrils remain open. The floor of the buccal cavity is alternately raised and lowered, so air is drawn into and expelled out of the buccal cavity repeatedly through the open nostrils. <b>Respiration by lungs</b> is called pulmonary respiration</li> </ul>	2	BOOK BACK
11	<p>PROBITICS BACTRIA :</p> <p>There are beneficial probiotic bacteria.</p> <p>PATHOGENIC BACTER :</p> <p>These are harmful bacteria which are diversely populated</p>	2	BOOK BACK
12	<p>External nostrils – Nasal cavity – Trachea – Primary branchus – Secondary branchus –Tertiary brachi – smaller bronchioles -- Alveoli</p>	2	BOOK BACK

13	In human the dental formula is 2123 /2123 x 2	2	BOOK INSIDE
14	<b>In phylum platyhelminths</b> Specialized excretory cells called flame cells help in osmoregulation and excretion.	2	BOOK BACK
•	•	•	•

Q.NO	CONTENT	MARKS	MODE OF QUESTION
III.	<b>PART-III</b> ANSWER ANY THREE OF THE FOLLOWING	3 X 3 = 9	BOOK BACK / BOOK INSIDE/ CREATIVE
15	<ul style="list-style-type: none"> <li>• <b>Adipose tissue is called 'white fat' or white adipose tissue.</b></li> <li>• <b>White fat stores nutrients whereas brown fat is used to heat the blood stream to warm the body.</b></li> <li>• <i>The adipose tissue which contains abundant mitochondria is called 'Brown fat' or Brown adipose tissue.</i></li> <li>• <i>Brown fat produces heat by non-shivering thermogenesis in neonates.</i></li> </ul>	3	BOOK BACK
16	<ul style="list-style-type: none"> <li>• <b>A healthy animal</b> eat, drinks and sleeps well regularly.</li> <li>• Healthy cattle appear bright, alert and active in their movement with a shiny coat.</li> <li>• Cattle are affected by a large number of diseases. The main diseases of dairy cattle are rinderpest, foot and mouth disease, cow pox, hemorrhagic fever, anthrax.</li> </ul>	3	BOOK INSIDE
17	<b>The first heart sound (lub) is associated with the closure of the tricuspid and bicuspid valves whereas second heart sound (dub) is associated with the closure of the semilunar valves. These sounds are of clinical</b>	3	BOOK BACK

	diagnostic significance.		
18	<ul style="list-style-type: none"> <li>Adrenal cortex has three distinct zones, <b>zona glomerulosa, zona fasciculata and zona reticularis.</b></li> <li>Zona glomerulosa an outer thin layer constitutes about 15% of adrenal cortex, and secretes mineralocorticoids.</li> <li>Zona fasciculata, the middle widest layer constitutes about 75% of adrenal cortex and secretes glucocorticoids such as cortisol, corticosterone and trace amounts of adrenal androgen and oestrogen.</li> <li>Zona reticularis, an inner zone of adrenal cortex constitute about 10% of adrenal cortex and secretes the adrenal androgen, trace amount of oestrogen and glucocorticoids</li> </ul>	3	BOOK BACK
19	<ul style="list-style-type: none"> <li><b>Osmoconformers</b> are able to change their internal osmotic concentration with change in external environment as in marine molluscs and sharks.</li> <li><b>Osmoregulators</b> maintain their internal osmotic concentration irrespective of their external osmotic environment (example: Otters).</li> </ul>	3	BOOK INSIDE

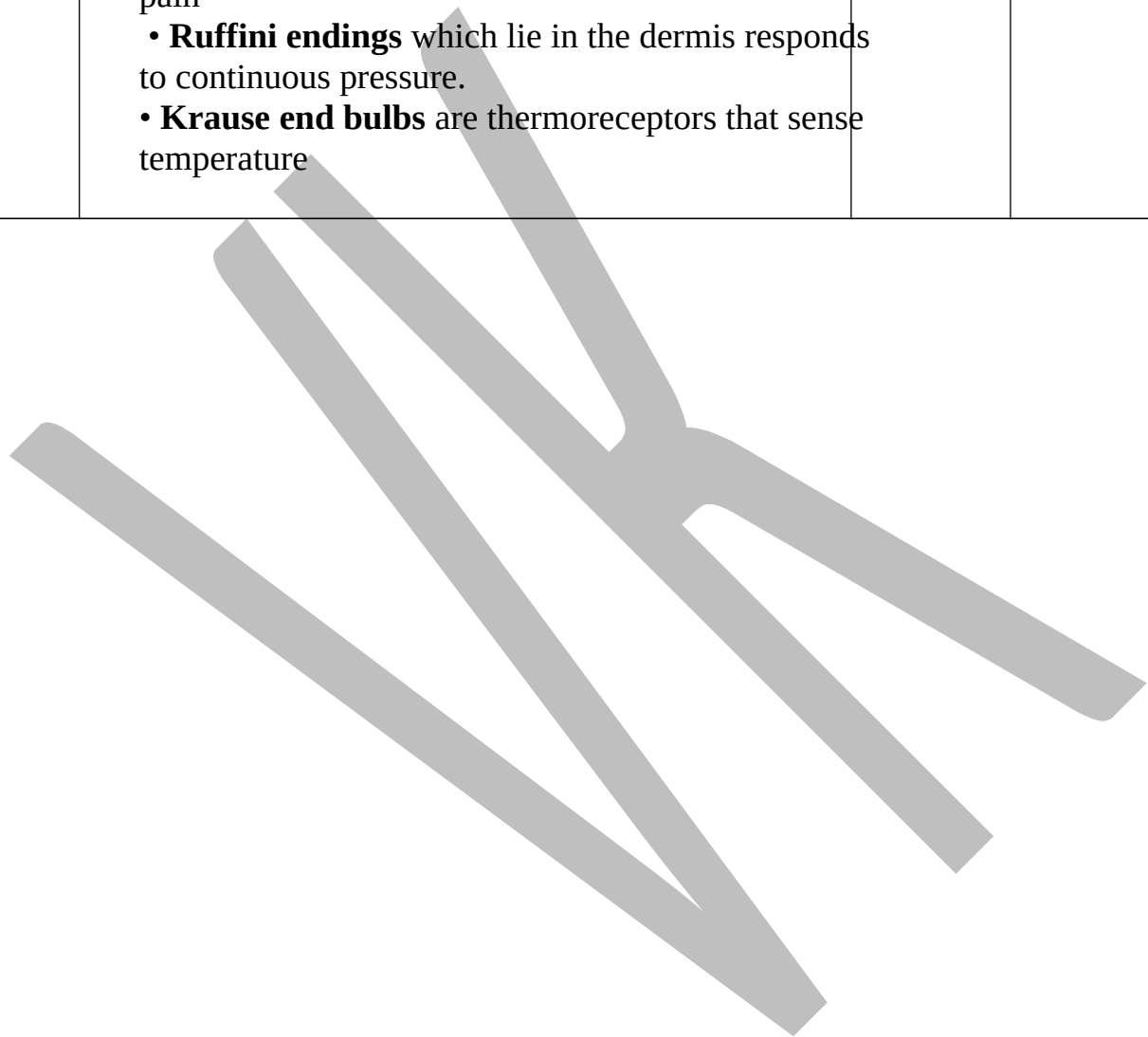
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IV.	<b>PART -IV</b> ANSWER ALL THE QUESTION	2 X 5 = 10	BOOK BACK / BOOK INSIDE CREATIVE														
20 (a)	<table border="1"> <thead> <tr> <th>Chordates</th> <th>Non-chordates</th> </tr> </thead> <tbody> <tr> <td>Notochord is present</td> <td>Notochord is absent</td> </tr> <tr> <td>Dorsal, hollow and single nerve cord</td> <td>Double ventral solid nerve cord</td> </tr> <tr> <td>Pharynx perforated by gill slits</td> <td>Gill slits absent</td> </tr> <tr> <td>Heart is ventrally placed</td> <td>Heart is dorsal or laterally placed or absent</td> </tr> <tr> <td>A post anal tail is present</td> <td>A post anal tail is absent</td> </tr> <tr> <td>Alimentary canal is placed ventral to the nerve cord</td> <td>Alimentary canal is placed dorsal to the nerve cord</td> </tr> </tbody> </table>	Chordates	Non-chordates	Notochord is present	Notochord is absent	Dorsal, hollow and single nerve cord	Double ventral solid nerve cord	Pharynx perforated by gill slits	Gill slits absent	Heart is ventrally placed	Heart is dorsal or laterally placed or absent	A post anal tail is present	A post anal tail is absent	Alimentary canal is placed ventral to the nerve cord	Alimentary canal is placed dorsal to the nerve cord	5	BOOK INSIDE
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20 (b)	<ul style="list-style-type: none"> <li><b>Tactile merkel disc</b> is light touch receptor lying in the deeper layer of epidermis.</li> <li><b>Hair follicle receptors</b> are light touch receptors lying around the hair follicles.</li> <li><b>Meissner's corpuscles</b> are small light pressure</li> </ul>	5	BOOK BACK														

	<p>receptors found just beneath the epidermis in the dermal papillae. They are numerous in hairless skin areas such as finger tips and soles of the feet.</p>		
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- **Pacinian corpuscles** are the large egg shaped receptors found scattered deep in the dermis and monitoring vibration due to pressure. It allows to detect different textures, temperature, hardness and pain

- **Ruffini endings** which lie in the dermis responds to continuous pressure.

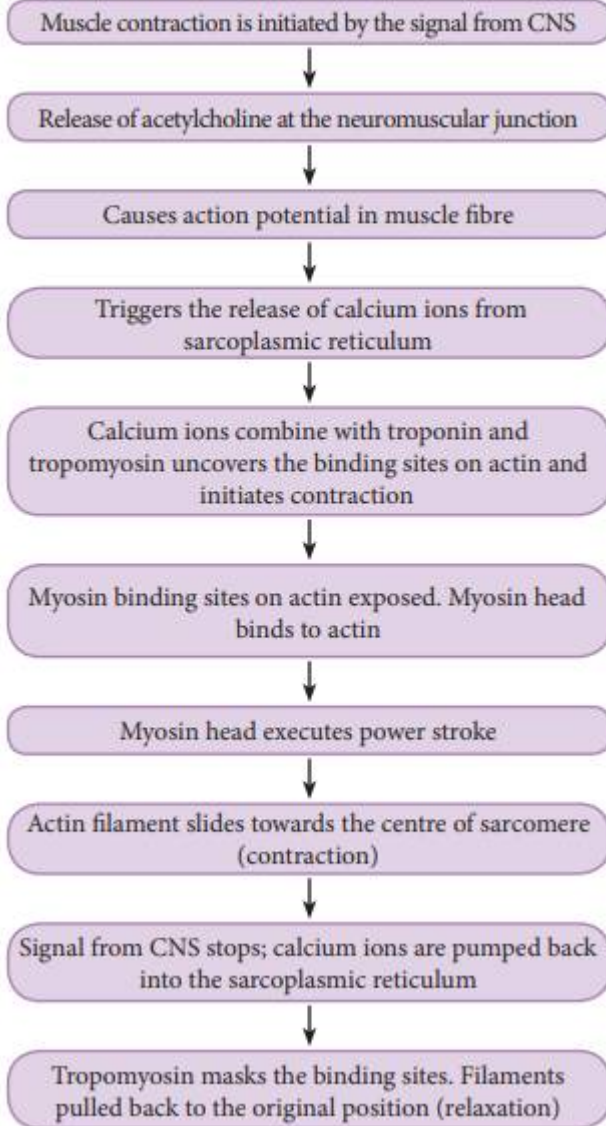
- **Krause end bulbs** are thermoreceptors that sense temperature



21 (a)	<p><b>Respiratory Functions</b> The five primary functions of the respiratory system are –</p> <ul style="list-style-type: none"><li>• To exchange O<sub>2</sub> and CO<sub>2</sub> between the atmosphere and the blood.</li><li>• To maintain homeostatic regulation of body pH.</li><li>• To protect us from inhaled pathogens and pollutants. i To maintain the vocal cords for normal communication (vocalization).</li><li>• To remove the heat produced during cellular respiration</li></ul>	5	BOOK INSIDE
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21 (b)

### Schematic Presentation of Muscle Contraction



5

BOOK INSIDE

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