GOVERNMENT HIGHER SECONDARY FIRST YEAR PUBLIC EXAM – MARCH - 2024

STD: XI **SUB: BIO – ZOOLOGY**

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(DISCLAIMER – This key is meant for students reference only)

SECTION – 1					8 x 1 = 8
Q. NO	**A - TYPE**	**MARK**	**Q. NO**	**B - TYPE**	**MARK**
1	(d) Evolutionary and Phylogenetic	**1**	**1**	(a) Assertion and reason are correct and related	**1**
2	(c) Tidal Volume (TV)+ Inspiratory Reserve Volume (IRV)+ Expiratory Reserve Volume (ERV)	**1**	**2**	(a) goitre	**1**
3	(b) Emulsification	**1**	**3**	(d) Limbic system	**1**
4	(d) Inner wall of Bowman's capsule	**1**	**4**	(c) Tidal Volume (TV)+ Inspiratory Reserve Volume (IRV)+ Expiratory Reserve Volume (ERV)	**1**
5	(a) goitre	**1**	**5**	(d) Inner wall of Bowman's capsule	**1**
6	(d) Limbic system	**1**	**6**	(d) Evolutionary and Phylogenetic	**1**
7	(a) Assertion and reason are correct and related	**1**	**7**	(a) Mosaic	**1**
8	(a) Mosaic	**1**	**8**	(b) Emulsification	**1**

SECTION - 2

NOTE: Answer any four questions. **2 Marks**

Q.NO	ANSWERS	MARKS
9	**How is tetany caused?** 1. Rapid muscle spasms occur in the muscles due to deficiency of parathyroid hormone. 2. Resulting in reduced calcium levels in the body.	**1** **1** **(Total- 2)**
10	**Write the types of respiration seen in frog.** 1. Cutaneous respiration. 2. Buccal respiration. 3. Pulmonary respiration. 4. During aestivation and hibernation gaseous exchange takes place through skin	**½** **½** **½** **½** **(Total- 2)**
11	**Probiotic pathogenic bacteria difference** 1. Probiotic bacteria - Beneficial bacteria 2. Pathogenic bacteria - Harmful bacteria	**1** **1** **(Total- 2)**
12	**Air, moving from the nose to the trachea, passes through a number of structures. List the order of the structures.** 1. External nostril → Nasal cavity → Pharynx → Trachea	**2** **(Total- 2)**

13	**write the dental formula of human.** 2123 x 2 2123 x 2	**2** **(Total -2)**
14	**What are flame cells?** **1.** Flame cells are specialized excretory cells found in Phylum Platyhelminthes. **2.** Flame cells help in osmoregulation and excretion.	**1** **1** **(Total -2)**

SECTION - 3

NOTE: Answer any three questions. Question No. 19 is Compulsory **3 MARKS**

Q.NO	ANSWERS	MARKS
15	**Differentiate white adipose tissue from brown adipose tissue.** **White adipose tissue:** 1. White fat stores nutrients. 2. It releases energy while fasting. **Brown Adipose Tissue:** 1. Adipose tissue which contains abundant mitochondria. 2. It is used to warm the blood stream to warm the body. 3. It produces heat by non-shivering thermogenesis in neonates.	 **½** **½** **1** **½** **½** **(Total -3)**
16	**How will you identify Healthy Cattle? Name any two cattle diseases.** **1.** Healthy cattle appear bright, **2.** Alert and active in their movement, With a shiny coat **3. cattle diseases:** Rinderpest, foot and mouth disease, cow pox, hemorrhagic fever, anthrax. **(Any two: 2 X ½ = 1)**	 **1** **1** **1** **(Total -3)**
17	**What is the heart sound? When and how are these sounds produced?** **1.** During each cardiac cycle due to the action of valves, two sounds like lub and dub are produced, these sounds are known as cardiac sounds. **2.** The first heart sound (lub): Due to the closure of the tricuspid and bicuspid valves. **3.** The second heart sound (dub): Due to the closure of the semilunar valves.	 **1** **1** **1** **(Total-3)**
18	**Name the Layers of adrenal cortex and mention their secretions.** **(Zone name ½ + Functions ½ = 1)** **1. Zona glomerulosa:** Outer thin layer (15%) secretes mineralocorticoids. **2. Zona fasciculata:** Middle widest layer (75%) secretes glucocorticoids such as cortisol, corticosterone and trace amounts of adrenal androgen and oestrogen. **3. Zona reticularis:** Inner zone of adrenal cortex (10%) secretes the adrenal androgen, trace amount of oestrogen and glucocorticoids.	 **1** **1** **1** **(Total-3)**

19	**Differentiate osmoconformers from osmoregulators.** 1. **Osmoconformers:** Organisms can able to change their internal osmotic concentration with change in external environment. 2. Ex: Marine molluscs and sharks. 3. **Osmoregulators:** Organisms can maintain their internal osmotic concentration irrespective of their external osmotic environment 4. Ex: Otters).	1 ½ 1 ½ **(Total-3)**

SECTION - 4

Note: Answer all the questions. **5 MARKS**

Q.NO	ANSWERS	MARKS
20. (a)	**Differentiate, the Chordate animals from non-chordate animals.** **ANY FIVE - 5 X 1 = 5**	1 1 1 1 1 1 **Total-5)**
20. (b)	**Explain the sensory receptors present in the skin.** 1. **Tactile merkel disc:** Light touch receptor lying in the deeper layer of epidermis. 2. **Hair follicle receptors:** Light touch receptors lying around the hair follicles. 3. **Meissner's corpuscles:** Small light pressure receptors found just beneath the epidermis in the dermal papillae. 4. **Pacinian corpuscles:** 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. 5. **Ruffini endings:** Lie in the dermis responds to continuous pressure. 6. **Krause end bulbs:** Thermoreceptors that sense temperature. **(Any Five 5 X 1 = 5)**	1 1 1 1 1 1 **(Total-5)**

Chordates	Non-chordates
Notochord is present	Absence of notochord
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	Post anal tail is absent
Alimentary canal placed ventral to the nerve cord	Alimentary canal is placed dorsal to the nerve cord

21. (a)

What are the functions of respiratory system?

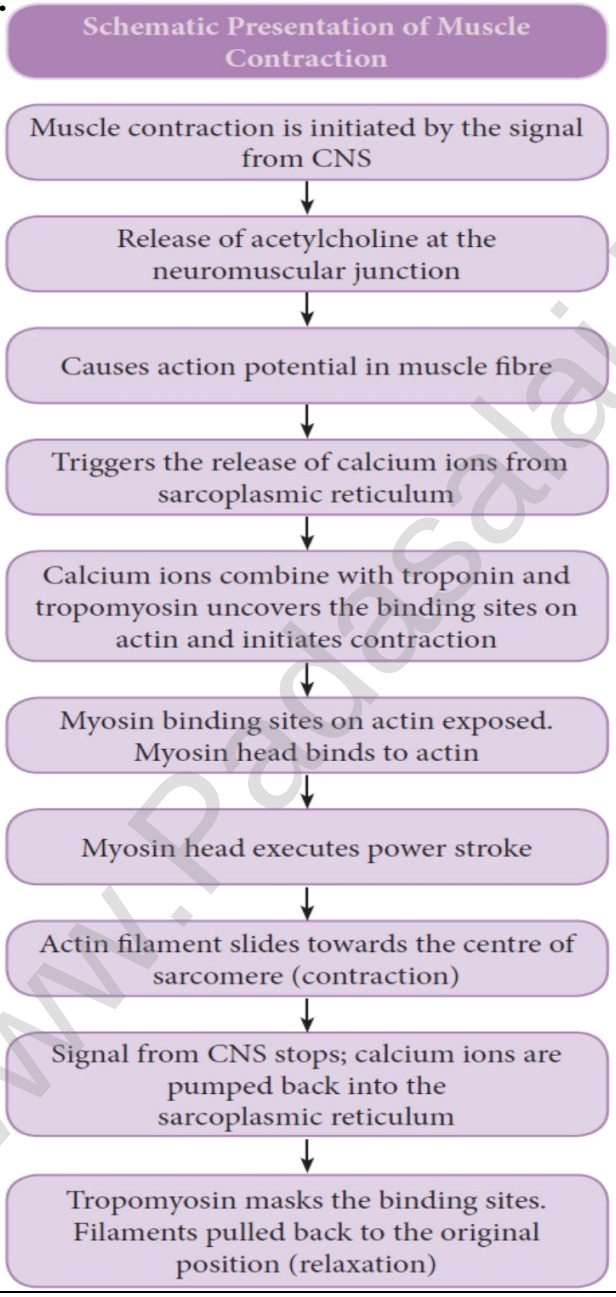
1. To exchange O_2 and CO_2 between the atmosphere and the blood.
2. To maintain homeostatic regulation of body pH.
3. To protect us from inhaled pathogens and pollutants.
4. To maintain the vocal cords for normal communication (vocalization).
5. To remove the heat produced during cellular respiration.

5 X 1 = 5

(Total-5)

21. (b)

Enumerate the schematic presentation of muscle contraction (sliding - filament theory).



½ ½ ½ ½ ½ ½ ½ ½ ½ ½

(Total-5)

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