QB365 Question Paper Software
11th Standard - Biology
Excretory Products and Their Elimination Assertion and reason

Exam Time: 00:20 Hrs | Date: 2025-10-10
Total Marks: 10

Questions:

Assertion and reason

1. **Assertion:** Ammonia should be removed from the body as rapidly as it is formed.
Reason: In water, ammonia is insoluble.
Codes:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

2. **Assertion :** During physiology of excretion, deamination does not take place in liver.
Reason : Deamination is a process to make use of excess of amino acids which cannot be incorporated into protoplasm.
Codes:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

3. **Assertion :** Renal threshold of glucose is said to be 180 mg per 100 ml.
Reason : Glucose starts appearing in the urine when its blood level exceed 180 mg per 100 ml of blood.
Codes:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

4. **Assertion:** Mammals, living in deserts contain more concentrated urine.
Reason: They consists very long loop of Henle in their nephrones.
Codes:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

5. **Assertion :** Aldosterone is a steroid hormone and is important in the control of sodium and potassium ion concentration in mammals.
Reason : It upgrades sodium ion concentration in the ECF by promoting reabsorption of sodium ions from renal tubules and excretion of potassium ions in urine.
Codes:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

6. **Assertion:** The amount of water in the urine is controlled by antidiuretic hormone (ADH).
Reason: ADH determines the permeability of the collecting duct to water.
Codes:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

7. **Assertion(A) :** Descending limb of loop of Henle is permeable to water while the ascending limb of loop of Henle is permeable to electrolytes
Reason(R) : U shaped loop of Henle is important for counter current multiplier system
Codes:
a)Both (A)and (R) are true and (R) is the correct explanation of (A)
b)Both (A)and (R) are true and (R) is not the correct explanation of (A)
c)(A) is true but (R) is false
d)Both (A) and (R) are false

8. **Assertion(A):** Loops of Henle of juxtamedullary nephrons and vasa recta are anatomically ideal for the operation ofcounter current mechanism.
Reason(R) : Loops of Henle act as "counter current multipliers" and vasa recta as "counter current exchange system" in counter current mechanism.
Codes:
a)Both (A)and (R) are true and (R) is the correct explanation of (A)
b)Both (A)and (R) are true and (R) is not the correct explanation of (A)
c)(A) is true but (R) is false
d)Both (A) and (R) are false

9. **Assertion(A):** An excessive loss of fluid from the body can activate the osmoreceptors in the body.
Reason(R): More the volume of blood causes more the stimulation of hypothalamus by the osmoreceptors
Codes:
a)Both (A)and (R) are true and (R) is the correct explanation of (A)
b)Both (A)and (R) are true and (R) is not the correct explanation of (A)
c)(A) is true but (R) is false
d)Both (A) and (R) are false

10. **Assertion(A) :**In a patient of kidney failure, nitrogenous waste of blood can be easily filtered from blood into dialyzer
Reason(R): Dialyzing fluid used in dialyzer is provided with the components of blood plasma but developed as a solution free from nitrogenous waste.
Codes:
a)Both (A)and (R) are true and (R) is the correct explanation of (A)
b)Both (A)and (R) are true and (R) is not the correct explanation of (A)
c)(A) is true but (R) is false
d)Both (A) and (R) are false

Answers Key:

Assertion and reason

1. (c) If Assertion is true but Reason is false.
Explanation:
Ammonia is a type of the basic nitrogenous catabolite of proteins, that is highly soluble in water and highly toxic to the animal. Therefore, its concentration must be kept very low in the blood. Due to this ammonia should be removed as rapidly from the body as it is formed. A large volume of water is required by the animals to dissolve ammonia and remove it from the body. So, its elimination in urine involves considerable loss of water from the body.
2. (d) If both Assertion and Reason are false.
Explanation:
Deamination is the process of converting amino acid to keto acid with the release of NH3. It occurs in the liver.
3. (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
Explanation:
Renal thereshold of a substance is at its highest concentration in the blood, up to which it is totally reabsorbed from the glomerular filtrate. Renal threshold of glucose is about 180 mg per 100 ml. It is
totally reabsored and does not appear in the urine so long as its blood level does not exceed 180 mg. But when its blood level exceeds 180 mg, some of the filtered glucose is left unabsorbed in the tubules and consequently appears in the urine. Some substances which are either totally reabsorbed actively or most of their amounts are reabsorbed actively are called high threshold substances. High threshold substances are excreted in the urine only when their blood concentration is considerably high, for example glucose and amino acids.
4. (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
Explanation:
The functional unit of kidney is called as nephron. Latter contains a tubular region is present between proximal and distal convoluted tubule, the loop of Henle. The length of loop of Henle is proportional to the concentration of urine. The mammals (chordates) living in desert consists longer loop of Henle in their nephrons. So, these animals contain more concentrated urine.
5. (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
Explanation:

Aldosterone is one of the important mineralocorticoids in humans secreted by adrenal cortex. Its main function is to regulate sodium content of the body . It increases sodium ion concentration in the blood by absorbing sodium ions from renal tubules. Excessive production of aldosterone causes a disease aldosteronism. Its symptoms include high blood pressure, high blood volume.

6. (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.

   Explanation:

   Osmoreceptors in the body are activated by changes in blood volume, body fluid volume and ionic concentration. An excessive loss of fluid from the body can activate these receptors that stimulate the
   hypothalamus to release antidiuretic hormone (ADH) or vasopressin from the neurohypophysis. It facilitates water reabsorption from latter parts of the tubule, thereby preventing diuresis. An increase
   in body fluid volume can switch off the osmoreceptors and suppress the ADH release to complete the feedback.
7. b)Both (A)and (R) are true and (R) is not the correct explanation of (A)
8. a)Both (A)and (R) are true and (R) is the correct explanation of (A)
9. c)(A) is true but (R) is false
10. a)Both (A)and (R) are true and (R) is the correct explanation of (A)