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**Subject: BIOLOGY Chapter: Excretory products and their elimination**

1. Select the incorrect statement from the following:

(a) Animals accumulate ammonia, urea, uric acid, CO2 and water by metabolic activities.

(b) Animal accumulate substances like ions (Na+, K+, Cl-) and urea, ammonia, uric acid,

CO2 and water are removed totally or partially.

(c) Ammonia produced by metabolism is converted into urea in the liver of mammals.

(d) Kidneys play significant role in the removal of ammonia directly.

1. Which of the following is uricotelic?

(A) Reptiles

(B) Birds

(C) Insects

(D) Land snails

(a) A, B and C only

(b) B and C only

(c) A and D only

(d) All of these

1. Uric acid is formed in human being from
2. Proteins
3. Glucose
4. Purines
5. Pyrimidines
6. Kidneys in human are situated between \_\_\_\_\_\_\_\_\_\_.
7. T12–L3
8. T11–L2
9. T12–L1
10. T12–L5
11. A part of Nephron is situated in cortex completely

A. Malpighian Corpuscle

B. PCT

C. DCT

D. Loop of Henle

E. Collecting duct

(a) A, B and C only

(b) B and C only

(c) A, B, C and D only

(d) D and E only

1. Cells named podocytes occur in the wall of

(a) Neck region of nephrons

(b) Glomerular capillaries

(c) Outer wall of Bowman’s capsules

(d) Inner wall of Bowman’s capsules

1. Blood vessel draining the glomerulus in a mammalian nephron is called

(a) Afferent arteriole and is narrower than the vessel entering it.

(b) Efferent venule and is narrower than the vessel entering it.

(c) Efferent arteriole and is narrower than the vessel entering it.

(d) Renal artery and is wider than the vessel entering it.

1. Following are the points of mechanism of JGA. Arrange them accordingly.

(A) Activation of JG cells

(B) Activated JG cells release renin

(C) Fall in GFR

(D) Increase of glomerular blood flow

(E) GFR back to normal

(a) E, A, D, C, B

(b) C, A, B, D, E

(c) A, B, C, D, E

(d) C, A, D, B, E

1. Choose the correct statement about absorption in renal tubules from the following:

(a) Glucose, amino acids and Na+ reabsorbed actively.

(b) Nitrogenous wastes are absorbed by passive transport.

(c) 70–80 per cent of electrolyte and water are absorbed in PCT.

(d) All the above

1. Which of the following is incorrect about PCT?

(a) Lined with simple cuboidal brush border epithelium.

(b) All essential nutrient and 70 to 80 per cent of the electrolyte and water are reabsorbed

here.

(c) It helps in the pH maintenance of body fluid by the selective secretion of H+ ion and

by the absorption of HCO3–.

(d) It does not help in the maintenance of ionic balance of body fluid.

1. Which of the following part has minimum reabsorption?

(a) PCT

(b) HL

(c) DCT

(d) Collecting duct

1. Select the total number of correct statements about the loop of Henle.

(1) Descending limb is permeable to water.

(2) Descending limb is almost impermeable to electrolyte.

(3) Ascending limb is impermeable to water.

(4) It allows the transport of electrolyte only actively.

(5) At the tip of loop of Henle, the concentration of filtrate is 1200 m osmol/l.

(6) It helps in the maintenance of high osmolarity in medullary interstitium.

(a) 6

(b) 3

(c) 4

(d) 5

1. Which segment helps in the pH maintenance of body fluid?

(a) PCT

(b) DCT

(c) Collecting duct

(d) All

1. DCT helps in

(A) Conditional reabsorption of Na+ and water

(B) HCO3– absorption

(C) pH maintenance

(D) Selective secretion of H+ and K+

(a) A, C and D only

(b) B, C and D only

(c) All of these

(d) C and D only

1. Which of the following is incorrect about counter-current mechanism?

(a) The flow of filtrate in two limbs of vasa recta is in opposite direction.

(b) The flow of blood in two limbs of vasa recta is also in opposite direction.

(c) NaCI is transported by the ascending limb of HL which is exchanged with the

descending limb of vasa recta.

(d) NaCI is returned to in interstitium by the ascending portion of vasa recta.

1. Which of the following is most likely to cause an increase in the glomerular filtration rates?

(a) Blockage of ureter

(b) Dilation of the afferent arterioles

(c) Release of renin from the juxtaglomerular apparatus

(d) Volume depletion

1. The part of the nephron that helps in active reabsorption of sodium is

(a) Bowman’s capsule

(b) Distal convoluted tubule

(c) Ascending limb of Henle’s loop

(d) Proximal convoluted tubules

1. Which of the following substance is actively secreted into glomerular filtrate of the kidney tubule?

(a) Amino acids

(b) Chloride ions

(c) Na+

(d) K+

1. Arrange the following steps in order

(1) Excessive loss of fluid

(2) Stimulation of osmoreceptor

(3) Stimulation of Hypothalamus

(4) Release of ADH or Vasopressin

(5) ADH facilitate water reabsorption from distal tubules

(6) Increase in body fluid switch off osmoreceptor and suppress the release of ADH.

(a) 1, 2, 3, 4, 5, 6

(b) 1, 3, 2, 4, 5, 6

(c) 6, 1, 2, 3, 4, 5

(d) 2, 3, 4, 1, 5, 6

1. Increase in blood pressure is caused by

(a) ↑es ADH secretion

(b) ↑es Aldosterone secretion

(c) ↑es Angiotensinogen II

(d) All of these

1. Which of the following is true about ANF?

(a) Full form is Autonomic Nervous Factor

(b) Antagonistic to Renin–Angiotensin mechanism

(c) It causes vasoconstriction

(d) All are true

1. Find the correct steps for micturition (arrange in order).

(A) Urine filled in urinary bladder

(B) Stretch–receptor activation

(C) Wall of bladder send signal to CNS

(D) Bladder contracts and sphincter dilates leads to micturition

(E) Motor message from CNS to urinary bladder and urethral sphincter

(a) A → B → C → D → E

(b) C → B → A → D → E

(c) B → A → C → D → E

(d) A → B → C → E → D

1. Glycosuria and ketonuria is indicative of

(a) Starvation

(b) Diabetes mellitus

(c) Diabetes insipidus

(d) All of these

1. Select the incorrect statement from the following.

(a) Liver is the second largest gland in our body.

(b) Sebum provides protective oily covering for skin.

(c) Bile contains substance like bilirubin, biliverdin, cholesterol, degraded steroid

hormones, vitamins and drugs are passed with digestive wastes.

1. Other than kidneys lungs, liver and skin also helps in the elimination of excretory

wastes.

1. Select the total number of excretory organ from the following found in various animals:

*Protonephridia, SA node, nephridia, Hepatic Cecae, atrium, Malpighian tubules, green*

*glands, kidney, pons, ommatidia, parapodia*

(a) 4

(b) 5

(c) 6

(d) 7

1. Stone and insoluble mass of crystallized salts, formed within the kidney is generally made up of

(a) Calcium carbonate

(b) Calcium oxalate

(c) Silica

(d) Any of these

1. Following are the steps of dialysis:

A. Blood is passed into a vein.

B. Blood is mixed with heparin.

C. Blood is mixed with anti-heparin.

D. Blood is drained from convenient artery.

E. Blood is passed through a coiled and porous cellophane tube bathing in dialysis fluid.

F. Removal of nitrogenous wastes from blood.

The correct sequence of steps is

(a) A → B → C → D → E → F

(b) D → B → E → F → C → A

(c) F → C → E → B → A → D

(d) D → C → E → F → B → A

1. Malfunctioning of kidney may lead to the accumulation of \_\_\_\_\_\_\_ in blood.

(a) Glucose

(b) Amino acid

(c) Urea

(d) All of these

1. Which of the following is true about renal transplantation?
2. Kidney transplantation is the ultimate method at the stage where drug or dialysis do

not help.

(b) Immunosuppressive agents are used in kidney transplant patient.

(c) Close relatives are often used as kidney donors to minimise the risk of rejection.

(d) All the above

1. Human urine is usually acidic because

(a) Excreted plasma proteins are acidic

(b) Potassium and sodium exchange generates acidity

(c) Hydrogen ions are actively secreted into the filtrate

(d) The sodium transporter exchange one hydrogen ion for each sodium ion, in

peritubular capillaries.

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| Question  nos | Answers | Question  nos | Answers |
| 1.  2.  3.  4.  5.  6.  7.  8.  9.  10.  11.  12.  13.  14.  15. | d  d  c  a  a  d  c  b  d  d  b  d  d  c  a | 16.  17.  18.  19.  20.  21.  22.  23.  24.  25.  26.  27.  28.  29.  30. | b  b  d  a  d  b  d  b  a  b  b  b  c  d  c |