BIOLOGY

BOOKS - MODERN PUBLISHERS BIOLOGY (HINGLISH)

EXCRETORY PRODUCTS AND THEIR ELIMINATION

Practice Problems Types Of Excretion Excretory System Osmoregulation And Urine Formation

1. What is the basic catabolic nitrogenous waste?

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2. Give the aim of excretion.

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3. Name two important functions of the kidneys.

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4. Name three types of excretion.

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5. Which type of excretion is found in teleosts?

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6. How ammonia is formed? Give tlhe site of its formation.

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7. By which process, urea is formed in the liver cells?

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8. What is the significance of ureotelism over ammonotelism?

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9. Which type of excretion is found in cockroach and other insects?

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10. Name the excretory organs of cockroach.

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11. List the excretory organs of flatworms, annelids and crustaceans.

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12. Name two accessory excretory organs of man.

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13. What are the structural and functional units of excretion inside the kidneys of man?

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14. Why is urinary bladder lined by transitional epithelium?

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15. What is trigone?

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16. Name the parts of a nephron of the kidney.

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17. What are podocytes?

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18. Name two components of malpighian body.

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19. Why is PCT lined by brush-bordered cuboidal epithelium?

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20. Which part of the human body removes calcium phosphate?

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21. Define ultrafiltration. Give the site of ultrafiltration.

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22. What is GFR? Give its value in man.

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23. Define selective reabsorption.

View Text Solution

24. Which hormones help in osmoregülation?

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25. What is the main site of selective reabsorption?

View Text Solution

26. Name the urine pigment.

View Text Solution

27. Give the term for the expelling of urine out of body.

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28. What is site of counter-current mechanism in the nephron?

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29. Which hormone regulates the permeability of DCT and collecting tubules to water?

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30. What is renin? Give its function.

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Practice Problems Disorders Of Excretory System

1. What is acute renal failure?

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2. How can the post-renal acute renal failure be diagnosed?

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3. Define haemodialysis.

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4. What is dialysate? Give its nature.

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5. Name the only vertebrate which behaves as osmoconformers.

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6. What is an artificial kidney?

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Ncert File Solved Ncert Exercise Questions

1. Define Glomerular Filtration Rate (GFR).

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2. Indicate whether the following statements are true or false:

(a) Micturition is carried by a reflex.

(b) ADH helps in water elimination, making the urine hypotonic.

(c) Protein-free fluid is filtered from blood into the Bowman's capsule.

(d) Henle's loop plays an important role in concentrating the urine.

(e) Glucose is actively reabsorbed in the proximal convoluted tubule.

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3. Give a brief account of the counter current mechanism.

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4. Describe the role of liver, lungs and skin in excretion.

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5. Explain micturition.

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6. Match the items of Column-I with those of Column-II:

Column I	Column II
(a) Ammonotelism	(i) Birds
(b) Bowman's capsule	(ii) Water reabsorption
(c) Micturition	(iii) Bony fish
(d) Uricotelism	(iv) Urinary bladder
(e) ADH	(v) Renal tubule

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7. What is meant by the term osmoregulation?

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8. Terrestrial animals are generally either ureotelic or uricotelic, not ammonotelic, why?

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9. What is the significance of juxtaglomerular apparatus (JGA) in kidney function?

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10. Find out the name of the following:

a. A chordate animal having flame cells as excretory structures

b. Cortical portions projecting between the medullary pyramids in the human kidney

c. A loop of capillary running parallel to the Henle's loop

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11. Ascending limb of Henle's loop is _____to water whereas the descending limb is_____to it.

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12. Reabsorption of water from distal parts of the tubules is facilitated by hormone_____.

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13. Dialysis fluid contains all the constituents as in plasma except

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14. A healthy adult human excretes (on an average) _____ gm of urea/day.

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Ncert File Ncert Exemplar Problems A Multiple Choice Questions

1. The following substances are the exretory products in animals. Choose the least toxic from among them

A. Urea

B. Uric acid

C. Ammonia

D. Carbon dioxide

Answer: B

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2. Filtration of the blood takes place at

A. PCT

B. DCT

C. Collecting ducts

D. Malpighian body

Answer: D

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3. Which of the following statements is incorrect:

A. ADH-prevents conversion of angiotensinogen in blood to angiotensin

B. Aldosterone- facilitates water reabosorption

C. ANF-enhances sodium reabsorption

D. Renin - causes vasodilation

Answer: A

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4. A large quantity of one of the following is removed from our body by lung

A. CO_2 only

B. H_2O

C. CO_2, and H_2O

D. Ammonia

Answer: C

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5. The pH of human urine is approximately

A. 6.5

B. 7

C. 6

D. 7.5

Answer: C

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6. Different types of excretory structure and animals are given below . Match them appropriately and mark the correct answer from among those given below .

Excretory structure/organ		Animals
A. Protonephridia	i.	Prawn
B. Nephridia	ii.	Cockroach
C. Malpighian tubules	iii.	Earthworm
D. Green gland or Antennal gland	iv.	Flatworms

A. (D) (i), (C) (ii), (B) (iii) and (A) (iv)

B. (B) (i), (C) (ii), (A) (iii) and (B) (iv)

C. (D) (i), (C) (ii), (A) (iii) and (B) (iv)

D. (B) (i), (C) (ii), (B) (iii) and (D) (iv)

Answer: A

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7. Which one of the following statements is incorrect?

A. Birds and land snails are uricotelic animals.

B. Mammals and frogs are ureotelic animals

C. Aquatic amphibians and aquatic insects are ammonotelic animals

D. Birds and reptiles are ureotelic

Answer: D

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8. Which of the following pairs is wrong?

A. Uricotelic ..... Birds

B. Ureotelic ..... Insect

C. Ammonotelic ..... Tadpole

D. Ureotelic ..... Elephant

Answer: B

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9. Which one of the following statements is incorrect?

A. The medullary zone of kidney is divided into a few conical masses called medullary pyramids projecting into the calyces.

B. Inside the kidney the cortical region extends in between the medullary pyramids as renal pelvis.

C. Glomerulus alongwith Bowman's capsule is called the renal corpuscle.

D. Renal corpuscle, proximal convoluted tubule (PCT) and distal convoluted tubule (DCT) of the nephron are situated in the cortical region of kidney.

Answer: B

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10. The condition of accumulation of urea in the blood is termed as

A. Renal calculi

B. Glomerulonephritis

C. Uremia

D. Ketonuria

Answer: C

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11. Which one of the following is also known as antidiuretic hormone?

A. Oxytocin

B. Vasopressin

C. Adrenaline

D. Calcitonin

Answer: B

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12. Match the terms given in column I with their physiological processes given in column II and choose the correct answer.

A. $A-(iv), B-(v), C-(iii), D-(ii), E-(i)$

B. $A-(iii), B-(iv), C-(i), D-(v), E-(ii)$

C. $S-(i), B-(iii), C-(v), E-(iv)$

D. $A-(iii), B-(i), C-(iv), D-(v), E-(ii)$

Answer: B

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13. Match the abnormal conditions given in Column A with their explanation given in Column B and choose the correct option.

	Column A		Column B
(A)	Glycosuria	(i)	Accumulation of uric acid in joints
(B)	Renal calculi	(ii)	Inflammation in glomeruli
(C)	Glomerular nephritis	(iii)	Mass of crystallised salts within the kidney
(D)	Gout	(iv)	Presence of glucose in urine

A. $A-(i), B-(iii), C-(ii), D-(iv)$

B. $A-(iii), B-(ii), C-(iv), D-(i)$

C. $A-(iv), B-(iii), C-(ii), D-(i)$

D. $A-(iv), B-(ii), C-(iii), D-(i)$

Answer: C

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14. We can produce concentrated? Dilute urine. This is facilitated by a special mechanism. Identify the mechanism.

A. Reabsorption from PCT

B. Reabsorption from Collecting Duct

C. Reabsorption/Secretion in DCT

D. Counter current mechanism in Henle's loop/Vasa recta

Answer: D

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15. Dialysing unit (artificial kidney) contains a fluid which is almost same as plasma except that it has

A. High glucose

B. High urea

C. No urea

D. High uric acid.

Answer: C

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Ncert File Ncert Exemplar Problems B Very Short Answer Type Questions

1. Where does the selective reabsorption of glomerular filtrate take place?

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2. What is the excretory product from kidneys of reptiles?

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3. What is the composition of sweat produced by sweat glands?

Watch Video Solution

4. Identify the glands that perform the excretory function in prawns.

Watch Video Solution

5. What is the excretory structure in Amoeba?

Watch Video Solution

6. The following abbreviations are used in the context of excretory functions, what do they stand for?

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7. Differentiate between Glycosuria and Ketonuria.

Watch Video Solution

8. What is the role of sebaceous glands?

Watch Video Solution

9. Name two actively transported substances in glomerular filtrate.

Watch Video Solution

10. Mention any two metabolic disorders, which can be diagnosed by analysis of urine.

Watch Video Solution

11. What are the main processes of urine formation ?

Watch Video Solution

12. Sort the following into actively or passively transported substances during reabsorption of GFR. e.g., glucose, amino acids, nitrogenous wastes, Na^+, water.

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13. Complete the following

(a) Urinary excretion = tubular reabsorption + tubular secretion-

(b) Dialysis fluid = plasma -

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14. Mention the substances that exit from the tubules in order to maintain a concentration gradient in the medullary interstitium.

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15. Fill in the blanks appropriately

	Organ	Excretory wastes
(a)	Kidneys	.....
(b)	Lungs	.....
(c)	Liver	.....
(d)	Skin	.....

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Ncert File Ncert Exemplar Problems C Short Answer Type Questions

1. Show the structure of a renal corpuscle with the help of a diagram.

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2. What is the role played by renin - angiotensin in the regulation of kidney function?

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3. Aquatic animals generally are ammonotelic in nature where as terrestrial forms are not. Comment.

Watch Video Solution

4. The composition of glomerular filtrate a d urine is not same. Comment.

Watch Video Solution

5. What is the procedure advised for the correction of extreme renal failure? Give a brief account of it.

Watch Video Solution

6. How have the terrestrial organisms adapted themselves for conservation of water?

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7. Label the following parts in the following diagram:

A. Afferent arteriole B. Efferent arteriole
C. Bowman's capsule D. Glomerulus.

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8. Explain, why a haemodialysing unit called artificial kidney?

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9. Comment upon the hormonal regulation of selective reabsorption.

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Ncert File Ncert Exemplar Problems B Long Answer Type Questions

1. Explain the mechanism of formation of concentrated urine in mammals.

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2. Draw a labelled diagram showing reabsorption and secretion of major substances at different parts of the nephron.

Watch Video Solution

3. Explain briefly, micturition and disorders of the excretory system.

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4. How does tubular secretion help in maintaining ionic and acid-base balance in body-fluids?

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5. The glomerular filtrate in the loop of Henle gets concentrated in the descending and then gets diluted in the ascending limbs. Explain.

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6. Describe the structure of a human kidney with the help of a labelled diagram.

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Higher Order Thinking Skills Brain Twisting Very Short Answer Questions

1. What is the nature of fluid which collects in the cavity of Bowmann's capsule?

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2. By which process and where, the urea is synthesized?

Watch Video Solution

3. Give the term for expelling of urine out of body.

Watch Video Solution

4. What is aim of expelling of uric acid through gut in insects?

Watch Video Solution

5. Give the location and function of podocytes.

Watch Video Solution

6. What is dlasylate? What is its nature?

Watch Video Solution

7. State one adaptation of PCT for high degree of selective reabsorption.

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8. Why is urinary bladder lined by transitional epithelium?

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9. Which two hormones help in osmoregulation?

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10. Name two osmolytes of interstitial fluid which help in making the urine hypertonic.

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Higher Order Thinking Skills Brain Twisting Short Answer Questions

1. How the mammals are adapted for expelling hypotonic as well as hypertonic urine according to the body needs?

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2. Whether micturition is a reflex action or voluntary mechanism?

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3. Which factors regulate the urine output?

Watch Video Solution

4. Why the alcoholics generally suffer from dehydration?

Watch Video Solution

5. Differentiate between acute renal failure and chronic renal failure.

Watch Video Solution

6. What is significance of efferent arteriole being narrow than afferent arteriole?

Watch Video Solution

7. Draw a diagram of Malpighian body? Why is the blood pressure higher in the glomerular capillaries?

Watch Video Solution

8. Differentiate between sebum and sweat.

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9. What are two intrinsic mechanisms that provide autoregulation of ultrafiltration? Explain one of these mechanisms.

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Higher Order Thinking Skills Brain Twisting Long Answer Questions

1. Explain the structure of a nephron with the help of a labelled diagram.

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2. Write short notes:

(i) Haemodialysis and its significance (ii) Micturition.

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Quick Memory Test A Say True Or False

1. Primary excretory organs are kidneys while accessory excretory organ is urinary bladder.

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2. Man is ureotelic while a bird is uricotelic.

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3. Glomerulus and Bowman's capsule collectively called Malpighian body.

Watch Video Solution

4. Deamination occurs in liver cells while detoxification occurs in kidney tubules.

Watch Video Solution

5. Bony fishes are ureotelic while cartilaginous fishes are ammonotelic in excretion.

Watch Video Solution

6. Protonephridia are excretory organs of annelids while nephridia are excretory organs of flat worms.

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7. Hormone which controls the permeability of collecting tubules is ADH secreted by adrenal gland.

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8. Colour of urine is due to urochrome, a pigment formed from Hb of dead RBCs in the blood.

Watch Video Solution

9. Na_+ level in body fluids is maintained by Aldosterone while water level in body fluids is main- tained by ADH.

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10. Desert mammals are uricotelic.

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11. Trimethylamine is nitrogenous waste product of marine teleosts.

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Quick Memory Test B Complete The Missing Links

1. Bowman's capsule, DCT and PCT lie in ..... while Henle's loop and collecting tubules lie in .....

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2. The liquid collected in the cavity of Bowman's capsule is called .....

Watch Video Solution

3. In excretion, the man is .....

Watch Video Solution

4. ..... excretion is found in reptiles and birds.

Watch Video Solution

5. Kidneys are concerned with the functions of ..... and .....

Watch Video Solution

6. Reabsorption of water in nephrons is regulated by .....

Watch Video Solution

7. Vital morphological and physiological units of mammalian kidney are

Watch Video Solution

8. The yellow color of urine is due to

Watch Video Solution

9. The pH of human urine is approximately

Watch Video Solution

10. Urea cycle operates in .....

Watch Video Solution

11. The glomerular filtration pressure in the nephrons of a normal adult person is .....

Watch Video Solution

12. Upper expanded portion of ureter is called.....

Watch Video Solution

13. ..... hormone controls the reabsorption of Na^+ from the nephric filtrate.

Watch Video Solution

14. Presence of sugar in urine is called ..... and is peculiar symptom of .....

Watch Video Solution

15. Acute renal failure leads to a disease called .....

Watch Video Solution

16. ..... operates on the principle of haemodialysis.

Watch Video Solution

17. Immunosuppressive therapy is employed during .....

Watch Video Solution

18. ..... is the area of maximum selective reabsorption.

Watch Video Solution

19. The normal glomerular filtration rate (GFR) is about .....

Watch Video Solution

20. Ormithine cycle was discovered by ..... and .....

Watch Video Solution

21. ..... and ..... collectively form Malpighian body.

Watch Video Solution

22. Green glands are excretory organs .....

Watch Video Solution

23. During micturition, the urinary bladder ..... and the urethral sphincters .....

Watch Video Solution

24. Flame cells and malpighian tubules are found in ..... and .....

Watch Video Solution

25. Two counter-current systems are formed in the kidney by ..... and the ..... and respectively.

Watch Video Solution

26. Sweat serves to eliminate mainly ..... and ..... .

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Quick Memory Test C Choose The Correct Alternative

1. Conversion of amino acids into keto acids and ammonia is called amination/deamination.

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2. Cartilage fish are always marine and are always ammonotelic/Ureotetic.

Watch Video Solution

3. Excretory organs of Prawn are antennary glands/Malpighian tubules.

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4. Renal pyramids lie in renal cortex/renal medulla.

Watch Video Solution

5. Descending limb/Ascending limb of loop of Henle is impermeable to water.

Watch Video Solution

6. Urea-forming ornithine cycle operates in liver/kidneys.

Watch Video Solution

7. Renin is secreted by JGA/Atrial wall.

Watch Video Solution

8. Urea is reabsorbed from lower part of ascending limb/collecting tubule.

Watch Video Solution

9. Countercurrent mechanism operates in loop of Henle/vasa rectae/Both of these.

Watch Video Solution

10. ADH is secreted by hypothalamus/posterior pituitary.

Watch Video Solution

11. ANF is secreted in response to decreased blood pressure/increased blood pressure.

Watch Video Solution

12. Renal stones are formed of calcium carbonates/calcium oxalates.

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Revision Exercises Very Short Answer Questions

1. Where does the ornithine cycle operate?

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2. What is the main aim of excretion?

Watch Video Solution

3. Give the term for the morphological and physiological units of kidneys.

Watch Video Solution

4. Name three types of excretion.

Watch Video Solution

5. What are the excretory organs of flat worms, annelids, crustaceans, insects and spiders?

Watch Video Solution

6. Name some accessory excretory organs of human body.

Watch Video Solution

7. Define ultrafiltration.

Watch Video Solution

8. Name the pigment which gives colour to urine.

Watch Video Solution

9. What is site of maximum reabsorption of water from the nephric filtrate?

Watch Video Solution

10. What is micturition?

Watch Video Solution

11. Where counter-current mechanism operates in nephron?

Watch Video Solution

12. Which hormone controls osmoregulation?

Watch Video Solution

13. Name two components of Malpighian body (renal corpuscle).

Watch Video Solution

14. Name some high threashold and non-threashold substances.

Watch Video Solution

15. Excretory organ of insect is

Watch Video Solution

16. Name the main nitrogenous waste excreted out in fish and in birds.

Watch Video Solution

17. Compare between ureotelism and uricotelism.

Watch Video Solution

18. How much is the filtering force required in the glomerulus? What is the nature of the filtrate in the PCT?

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19. Besides water, name any two main components of human sweat.

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20. What happens to the walls of distal convoluted tubule (DCT) of a nephron when vasopressin is released by pituitary into the blood stream ?

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21. What difference is observed in the ascending and the decending limbs of Henle's loop regarding permeability to H_2O ?

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22. What are ammoniotelic animals ? Give two examples.

Watch Video Solution

23. What are diuretic substances?

Watch Video Solution

24. Where is urea formed inside the body?

Watch Video Solution

25. What is significance of a frog's tadpole being ammonotelic and adult frog being ureotelic?

Watch Video Solution

26. How does a shark differ from a teleost fish in the chemical nature of nitrogenous excretory wastes?

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27. Both the thin and thick segments of the ascending limb of loop of Henle transport NaCl out to the interstitial fluid. What is difference in their respective mode of transport?

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28. If, for any reason, the release of ADH is inhibited, how will this affect the volume of urine produced ?

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29. Which acids are present in sweat and sebum?

Watch Video Solution

30. Name the nitrogenous waste excreted in larval and adult stages of frog respectively.

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Revision Exercises Short Answer Questions

1. Distinguish between excretion and osmoregulation.

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2. Differentiate between ascending limb and descending limb of loop of Henle.

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3. How do afferent arteriole and efferent arteriole differ from each other?

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4. When the volume of body fluids decreases below normal, how is it regulated?

Watch Video Solution

5. Why does the camel excrete hypertonic urine?

Watch Video Solution

6. Differentiate between ureter and urethra.

Watch Video Solution

7. Name the basic nitrogenous catabolite of proteins produced in the hody of a whale. In what form is it eliminated from the body? What is advantage of this kind of excretion?

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8. Differentiate between ammonotelism and ureotelism. Name one organism of each type.

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9. Mention any two characteristics of ammonia as a nitrogenous metabolic waste. Which of the following animals is/are ammoniotelic ? Camel, Whale, Shark, Frog.

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10. Mention two advantages of uricotelism in birds.

Watch Video Solution

11. What happens to the walls of distal convoluted tubule (DCT) of a nephron when vasopressin is released by pituitary into the blood stream ?

Watch Video Solution

12. What is ureotelism? List its advantages over ammonotelism.

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13. Name the 3 common nitrogenous waste materials in vertebrates. Which of these is most toxic and which least toxic ?

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14. In what form the terrestrial reptiles excrete their nitrogenous wastes? How is this kind of excretion advantageous to terrestrial vertebrates which lay shelled eggs?

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15. What do you mean by ammonotelic and ureotelic animals? Name one organism of each type.

Watch Video Solution

16. What is uricotelism? In what way is it advantageous to the land animals which layed shelled eggs?

Watch Video Solution

17. What is micturition? Give abnormal constituents of human urine.

Watch Video Solution

18. Define ammonotelism. Name the excretory organs of flatworms.

Watch Video Solution

19. Define uricotelism. Name the excretory organs of cockroach.

Watch Video Solution

20. Define ureotelism. Name the excretory organs of earthworm.

Watch Video Solution

21. Differentiate between ammonotelism, ureotelism and uricotelism.

Watch Video Solution

22. Differentiate between tubular reabsorption and tubular secretion.

Watch Video Solution

23. Describe the role of ADH and countercurrent system in forming hypertonic urine.

Watch Video Solution

24. Name the basic nitrogenous catabolite produced during protein catabolism in humans. In what form is it excreted out? Giving two reasons explain why it is advantageous to eliminate it in the later form rather than its initial form?

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25. Name a uricotelic animal. Why is it so called? How is this mode of excretion advantageous to the animal?

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26. Mammals can eliminate hypotonic urine and hypertonic urine according to body needs. Explain.

Watch Video Solution

27. What happens to the walls of distal convoluted tubule (DCT) of a nephron when vasopressin is released by pituitary into the blood stream ?

Watch Video Solution

28. Where and how is urea produced in ureotelic animals ? What happens to the kidney filtrate in descending loop of Henle and collecting ducts ?

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29. Describe the location of juxta-glomerular apparatus in human kidney. Explain its function.

Watch Video Solution

30. Briefly explain the principle and function of haemodialysis.

Watch Video Solution

31. Write down the role of skin and liver in excretion.

Watch Video Solution

32. Name the 3 common nitrogenous waste materials in vertebrates. Which of these is most toxic and which least toxic ?

Watch Video Solution

Revision Exercises Long Answer Questions

1. Describe the role of renin-angiotensinogen system in making the hypertonic urine.

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2. Write notes on : (i) Artificial kidney. (ii) Renal failure.

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3. Distinguish between the following :

(i) Ureotelism and Uricotelism.

(ii) Excretion and Egestion.

(iii) Tubular reabsorption and 'Tubular secretion

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4. Describe the process of urine formation in kidneys.

Watch Video Solution

5. Describe the role of ADH and liver in excretion.

Watch Video Solution

6. What is osmoregulation? Describe how the kidneys help in osmoregulation in mammals?

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7. What is Glomerular filtration? How it happens in the nephron of man? (Jammu Board 2005)

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Competition File Objective Type Questions A Multiple Choice Questions

1. The net pressure gradient that causes the fluid to filter out of the glomeruli into the capsule is -

A. 20 mm Hg

B. 75 mm Hg

C. 30 mm Hg

D. 50 mm Hg

Answer: A

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2. In ornithine cycle, which of the following wastes are removed from the blood:

A. Urea and urine

B. Ammonia and urea

C. CO_2 and ammonia

D. CO_2 and urea

Answer: C

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3. A person is undergoing prolonged fasting. His urine would contain absormal quantities of

A. Fats

B. Ketones

C. Amino acids

D. Glucose

Answer: B

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4. Glucose is mainly reabsorbed in :

A. PCT

B. DCT

C. Henle's loop

D. Nephron

Answer: C

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5. Sea gulls excrete excess of NaCl from

A. Liver

B. Lungs

C. Nasal chambers

D. Kidney

Answer: C

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6. Amino acids participating in ornithine cycle are

A. Arginine, lysine and citrulline

B. Ornithine, arginine and glycine

C. Arginine, citrulline and ornithine

D. None of these

Answer: C

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7. The function of flame cell is :

A. Respiration

B. Digestion

C. Reproduction

D. Excretion

Answer: D

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8. In which of the following regions of nephron does maximum reabsorption of useful substances takes place?

A. Loop of Henle

B. Glomerulus

C. DCT

D. FCT

Answer: D

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9. Which one of the following statements is correct with respect to salt water balance inside the body of living organisms

A. When water is not available, camels do not produce urine but store urea in tissues

B. Salmon fish excretes lot of stored salt through gill membrane when in fresh water

C. Paramecium discharges concentrated salt solution through contractile vacuole

D. The body fluids of fresh water animals are generally hypotonic to surrounding water

Answer: A

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10. Which one of the following groups of structures/organs have similar function?

A. Typhlosole in earthworm, intestine in rat and contractile vacuole in Amoeba

B. Nephridia in earthworm, Malpighian tubules in cockroach and urinary tubule in rat

C. Antennae of cockroach, tympanum of frog and clitellum of earthworm

D. Incisors of rat, gizzard of cockroach and tube feet of starfish

Answer: B

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11. Vasopressin stimulates reabsorption of water and reduction of urine secretion. Hence vasopressin is otherwise called

A. Synovial fluid

B. Neurotransmitte

C. Antidiuretic hormone

D. Growth regulating substance None of these

Answer: C

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12. Diabetes insipidus is cause due to the deficiency of

A. Insulin

B. Vasopressin

C. Glucagon

D. Oxytocin0

Answer: B

Watch Video Solution

13. Marine teleost fish excrete

A. Uric acid

B. Ammonia

C. Urea

D. None of these

Answer: B

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14. Part of nephron impermeable to salt is

A. Distal convoluted tubule

B. Descending limb of loop of Henle

C. Ascending limb of loop of Henle

D. Collecting duct

Answer: B

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15. Explain how osmoregulation ccurs in Amoeba.

A. Contractile vacuole

B. Ectoplasm

C. Pseudopodia

D. Hyaloplasm

Answer: A

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16. Podocytes are the cells , present in

A. Cortex of nephron

B. Inner wall of Bowman's capsule

C. Outer wall of Bowman's capsule

D. Wall of glomerular capillaries

Answer: B

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17. Malpighian tubules are

A. Excretory organs of insects

B. Excretory organs of frog

C. Respiratory organs of insects

D. Endocrine glands of insects

Answer: A

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18. Renal corpuscles can be divided into :

A. Bowman's capsule and glomerulus

B. Arteriole and glomerulus

C. Arteriole and Bowman's capsule

D. Afferent and efferent arteriole

Answer: A

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19. Which one is an important constituent of renin angiotensinogen-aldosterone system?

A. JGA cells

B. Macular cells

C. Erythropoietin

D. Plasma cells

Answer: A

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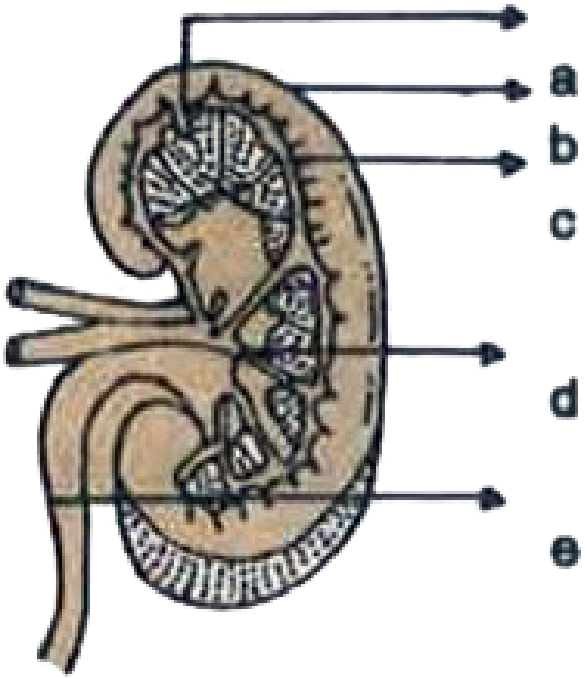
20. Refer the following diagram and identify the parts of a kidney indicated :



A. a = cortex, b = nephron,c = pelvis, d = medulla, e = ureter

B. a = cortex, b = medulla, c = nephron, d = pelvis, e = ureter

C. a = nephron, b = cortex, c = medulla, d = ureter, e = pelvis

D. a = nephron, b = cortex, c medulla, d = pelvis, e = ureter

Answer: D

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21. Removal of amino group from an amino acid is called :

A. Amination

B. Deamination

C. Excretion

D. Defaecation

Answer: B

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22. A person who is on a long hunger strike and is surviving only on water will have:

A. Less urea in his urine

B. More sodium in his urine

C. Less amino acids in his urine

D. More glucose in his blood

Answer: B

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23. Which one of the following is correctly matched regarding an institute and its location :

A. National Institute of Virology-Pune

B. National Institute of Communicable diseases-Lucknow

C. Central Drug Research Institute-Kasauli

D. National Institute of Nutrition-Mumbai

Answer: A

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24. Which one of the following is correctly matched pair of the given secrtion and its primary role in human physiology?

A. Sebum-Sexual attraction

B. Sweat-Thermoregulation

C. Saliva-Tasting food

D. Tears-Excretion of salts

Answer: B

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25. Uricotelism is found in

A. Mammals and birds

B. Fish and fresh-water protozoans

C. Birds, reptiles and insects

D. Frogs and toads

Answer: C

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26. Juxta glomerular cells of renal cortex synthesize a hormone called :

A. ADH

B. Oxytocin

C. Renin

D. Urochrome

Answer: C

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27. Uric acid is excretory product in

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28. Haematuria means :

A. RBCs in urine

B. WBCs in urine

C. Both (a) and (b)

D. None of the above

Answer: A

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29. Which of the following is both osmoregulator as well as nitrogenous product?

A. NH_3

B. Urea

C. Uric acid

D. All of these

Answer: B

Watch Video Solution

30. RAAS secrets which of the following hormone

A. Mineralocorticoids

B. Glucocorticoids

C. Both (a) and (b)

D. None of the above

Answer: A

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31. The net pressure gradient that causes the fluid to filter out of the glomeruli into the capsule is

A. 20 mm Hg

B. 75 mm Hg

C. 30 mm Hg

D. 50 mm Hg

Answer: A

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32. In Ornithine cycle which one pair of the following wastes as removed from the blood?

A. Urea and urine

B. Ammmonia and urea

C. CO_2 and ammonia

D. CO_2 and urea

Answer: C

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33. A person is undergoing prolonged fasting. His urine will be found to contain abnormal quantities of

A. Fats

B. Ketones

C. Amino acids

D. Glucose

Answer: B

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34. The excretory material of bony fish is:

A. Urea

B. Protein

C. Ammonia

D. Amino acids

Answer: C

Watch Video Solution

35. The yellow colour of urine is due to the presence of

A. Urea

B. Uric acid

C. Urochrome

D. Bilirubin

Answer: C

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36. A nephron does not have loop of Henle in:

A. Frog

B. Man

C. Rabbit

D. Dog

Answer: A

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37. Haemodialysis is associated with:

A. Liver

B. Spleen

C. Kidney

D. Stomach

Answer: C

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38. Average pH of human urine is:

A. 6

B. 9

C. 3

D. 7

Answer: A

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39. Nitrogenous waste products are eliminated mainly as

A. Urea in tadpole and uric acid in adult-frog

B. Urea in adult frog and ammonia in tadpole

C. Urea in tadpole as well as in adult frog

D. Urea in tadpole and ammonia in adult frog

Answer: B

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40. Which one of the following statements is false?

A. Presence of albumin in urine is called albuminurea

B. Presence of glucose in urine is called glycosuria

C. Presence of ketone bodies in urine is called ketonuria

D. Presence of haemoglobin in urine is called haemoglobinuria

Answer: D

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41. Region of nephron found in renal medulla is

A. Malpighian corpuscles

B. PCT

C. dct

D. Loop of Henle

Answer: D

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42. Excretory organs of Cockroach are

A. Malpighian corpuscles

B. Malpighian tubules

C. Hepatic caecae

D. Metanephridia

Answer: B

Watch Video Solution

43. Consider the following statements

A. Flame cells are excretory structures in flatworms

B. Green glands are excretory organs in annelids

C. Columns of Bertini are the conical projections of renal pelvis into medulla between the renal pyramids

A. A and B correct

B. B and C incorrect

C. A and C correct

D. A, B and C correct

Answer: B

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44. Deamination occurs in:

A. Kidney

B. Liver

C. Nephron

D. Both (a) and (b)

Answer: B

Watch Video Solution

45. The longest loop of Henle is found in

A. Kangaroo rat

B. Opposum

C. Rhesus monkey

D. All of these

Answer: A

Watch Video Solution

46. Bidder's canal is present in :

A. Testis of frog

B. Kidney of frog

C. Kidney of rabbit

D. Both (a) and (c)

Answer: B

Watch Video Solution

47. Excretory product of spider is

A. Uric acid

B. Ammonia

C. Guanine

D. None of these

Answer: C

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48. Earthworms are

A. Ureotelic when plenty of water available

B. Uricotelic when plenty of water available

C. Uricotelic under condition of water scarcity

D. Ammonotelic when plenty of water available

Answer: D

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49. During strenous exercise glucose is converted into

A. Glycogen

B. Pyruvic acid

C. Starch

D. Lactic acid

Answer: D

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50. Identify the correctly matched pair

1. Uraemia,-Excessive amount of urea in blood

2.Hyperglycemia -Excess glucose in blood

3.Absence of factor VIII -Haemophilia

4.X-linked disorder - Glycosuria.

A. 1, 2 and 3 are correct

B. 1 and 2 are correct

C. 2 and 4 are correct

D. 1 and 3 are correct

Answer: A

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51. Glomerular filtrate is

1. formed continuously by the process of ultrafiltration occurring at Malpighian corpuscles, in which the blood cells and the colloidal macromolecules are not allowed to pass across the filtering surface

2. the electrolyte free fluid collected within the lumen of Bawman's capsule

3. the protein free fluid collected within the lumen of Bowman's capsule

4. formed by the process of selective reabsorption

A. 1, 2 and 3 are correct

B. 1 and 2 are correct

C. 2 and 4 are correct

D. 1 and 3 are correct

Answer: D

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52. JG cells, under low glomerular blood flow release

A. Angiotensin-I

B. Angiotensin-II

C. Renin

D. Aldosterone

Answer: C

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53. Proximal convoluted tubule (PCT) is lined with

A. Cuboidal epithelium

B. Simple brush-border epithelium

C. Columnar epithelium

D. Simple ciliated brush border epithelium

Answer: D

Watch Video Solution

54. Nitrogenous waste in the Malpighian tubule flows into

A. Haemocoel

B. Vacuole

C. Intestine

D. Duodenum

Answer: C

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55. Which is not a basic renal function

A. Reabsorption

B. Secretion

C. Perfusion

D. Filtration

Answer: C

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56. In which part of nephron, reabsorption of glucose is maximum from filtrate?

A. Henle's loop

B. PCT

C. DCT

D. Collecting tubule

Answer: B

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57. Inflammation of joints due to accumulation of uric acid crystals is called : —

A. Gout

B. Myasthenia gravis

C. Osteoporosis

D. Osteomalacia

Answer: A

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58. Liquid which collects in the cavity of Bowman's capsule is

A. Water and sulphates

B. Water and glycogen

C. Plasma minus blood proteins

D. Concentrated urine

Answer: C

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59. Haemodialysis is done when the person is suffering from:

A. Diabetes insipidus

B. Diabetes mellitus

C. Uraemia

D. Goitre

Answer: C

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60. Uric acid is the chief nitrogenous component of the excretory products of :

A. Man

B. Earthworm

C. Cockroach

D. Frog

Answer: C

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61. What will happen if the stretch receptors of the urinary bladder wall are totally removed?

A. Urine will not collect in the bladder

B. Micturition will continue

C. Urine will continue to collect in the bladder

D. There will be no micturition

Answer: C

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62. Cockroach mainly excretes

A. Uric acid

B. Urea

C. Ammonia

D. Amino acid

Answer: A

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63. The conversion of dangerous nitrogenous wastes into less toxic excretory matter is carried out in man in the:

A. Blood

B. Liver

C. Kidney

D. Skin

Answer: B

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64. Urea synthesis occurs in:

A. Kidney

B. Liver

C. Brain

D. Muscles

Answer: B

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65. Which is common to kidney and skeleton in mammals

A. Cortex

B. Medulla

C. Pelvis

D. Radius

Answer: C

Watch Video Solution

66. Which is regarded as urinary bladder of embryo?

A. Amnion

B. Allantois

C. Chorion

D. Yolk sac

Answer: B

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67. In peritoneal dialysis

A. The blood is removed from the body and a natural filter is employed

B. The blood is not removed from the body and a natural filter is employed

C. The blood is not removed from the body and an artificial filter is employed

D. The blood is removed from the body and an artificial filter is employed

Answer: B

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68. Read the following statements and select the correct option

Statement 1 : When the urine moves through the descending limb, it becomes hypertonic to blood plasma and as it passes through the ascending limb of Henl's loop it becomes hypotonic to blood plasma

Statement : The decending limb is permeable to sodium ions, while the ascending limb is impermeable to sodium ions

A. Statement A is correct and B is wrong

B. Statement A is wrong and B is correct

C. Both statements A and B are wrong

D. Both statements A and B are correct

Answer: A

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69. Which one of the following options shows a correct matching pair?

A. Man - Ureotelic

B. Birds - Ammonotelic

C. Fish - Uricotelic

D. Frog - Uricotelic

Answer: A

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70. Haematuria refers to:

A. RBCs in urine

B. WBCs in urine

C. Platelets in urine

D. Platelets in urine

Answer: A

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71. Mark the wrong match from the following:

A. Bowman's capsule - glomerular filtration

B. DCT - Absorption of glucose

C. Henle's loop - concentration of urine

D. PCT - Absorption of Na_2 and K_2 ions

Answer: B

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72. Simultaneous movement of two molecules across a membrane in the same direction is know as

A. Antiport

B. Symport

C. Uniport

D. Biport

Answer: B

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73. The amino acid that acts as a carrier of ammonia from skeletal muscle to liver

A. Alanine

B. Methionine

C. Arginine

D. Glutamine

Answer: D

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74. Urea synthesis takes place primarily in liver because

A. NH_3 and CO_2 are present in liver only

B. Hormone ADH is found in liver only

C. Enzyme arginase is present in liver only

D. Kidney is smaller than liver

Answer: C

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75. Henle's loop is found in

A. Liver

B. Pancreas

C. Gall bladder

D. Kidney

Answer: D

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76. What is glycosuria

A. Low amount of sugar in urine

B. Low amount of fat in urine

C. Average amount of sugar in urine

D. High amount of sugar in urine

Answer: D

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77. Volume of urine is regulated by

A. Aldosterone

B. Aldosterone & Testosterone

C. ADH

D. Aldosterone & ADH

Answer: D

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78. Name the condition when the conc. Of ketone body increases in urine

A. Acromegaly

B. Diabetes mellitus

C. Turner's syndrome

D. Sickle cell anaemia

Answer: B

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79. Maintenance of body potassium level is primarily by tubular

A. Absorption in PCT

B. Secretion in DCT and/or cortical collecting duct

C. Absorption in DCT

D. Secretion in PCT

Answer: B

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80. This is not a nitrogenous waste

A. Creatinine

B. Purines

C. Allantoin

D. Citrullin

Answer: D

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81. Which one of the following is not a part of renal pyramid?

A. Peritubular capillaries

B. Convoluted tubules

C. Collecting ducts

D. Loops of Henle

Answer: B

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82. Which one of the following correctly explains the function of a specific part of a human nephron?

A. Podocytes : Create minute spaces (slit pores) for filtration of blood into Bowman's capsule

B. Henle's loop : Most reabsorption of major substances from the glomerular filtrate

C. Distal convoluted tubule : Reabsorption of K^+ ions into the surrounding blood capillaries

D. Afferent arteriole : Carries the blood away from the glomerulus towards renal vein

Answer: A

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83. Which one of the following statement is correct respect to kidney function regulation

A. When someone drinks lot of water, ADH release is suppressed

B. Exposure to cold temperature stimulates ADH release

C. An increase in glomerular blood flow stimulates function of Angiotensin-II

D. During summer when body loses lot of water by evaporation, the release of ADH is suppressed

Answer: D

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84. Uricotelic mode of passing out nitrogenous wastes is found in

A. Reptiles and birds

B. Birds and annelids

C. Amphibians and reptiles

D. Insect and amphibians

Answer: A

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85. Select the correct statement :

A. The juxta-medullary nephrons have reduced Henle's loop

B. Vasa recta is well developed in cortical nephrons

C. The PCT and DCT are situated in the medulla of the kidney

D. The ascending limb of the Henle's loop extends as the DCT

Answer: D

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86. The condition where urea accumulates in blood is

A. Glycosuria

B. Uremia

C. Ketonuria

D. Acidosis

Answer: B

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87. The maximum amount of electrolytes and water (70-80 per cent) from the glomerular filtrate is reabsorbed in which part of the nephron?

A. Ascending limb of loop of Henle

B. Distal convoluted tubule

C. Proximal convoluted tubule

D. Descending limb of loop of Henle

Answer: C

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88. Human kindey is:

A. Metanephric

B. Mesonephric

C. Protonephric

D. Archinephric

Answer: A

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89. Fresh water bony fishes maintain water balance by

A. Excreting a hypotonic urine

B. Drinking small amount of water

C. Excreting salts across their gills

D. Excreting wastes in the form of uric acid

Answer: A

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90. Loop of Henle is found in

A. Lung

B. Liver

C. Neuron

D. Nephron

Answer: D

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91. The part of a nephron which opens into the collecting duct is/are

A. DCT

B. DCT and PCT

C. Henle's loop

D. Glomerulus

Answer: A

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92. Choose the wrong statement :

A. In ureotelic organisms, ammonia is not a product of metabolism

B. In mammals, some amount of urea may be retained in the kidney matrix to maintain osmolarity

C. In fishes, kidneys do not play any significant role in the removal of ammonium ions

D. Ammonia is readily soluble and can diffuse easily

Answer: A

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93. Which one of the following is correct for a normal human?

A. pH of urine is around 8

B. On an average, 25-30 mg of urea is excreted via urine

C. Presence of ketone bodies in urine is an indicator of diabetes mellitus

D. Glycosuria can be treated by haemodialysis

Answer: C

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94. Functional kidney of mammals is:

A. Archinephros type

B. Opisthonephros type

C. Pronephros type

D. Metanephros type

Answer: D

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95. The peritubular capillaries of the nephron arise from the:

A. Afferent arteriole

B. Efferent arteriole

C. Renal artery

D. Arcuate artery

Answer: B

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96. In frog's kidney, the urea is eliminated by:

A. Glomerular filtration

B. Tubular secretion

C. Both (a) and (b)

D. Tubular absorption

Answer: A

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97. Which of the following causes an increase in sodium reabsorption in the distal convoluted tubule

A. Decrease in aldosterone levels

B. Decrease in antidiuretic hormone levels

C. Increase in aldosterone levels

D. Increase in antidiuretic hormone levels

Answer: C

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98. Choose the correctly matched pair:

A. Tubular part of nephron_____ Cuboidal epithelium

B. Inner surface of bronchioles_____ Squamous epithelium

C. Inner lining of salivary ducts_____ Ciliated epithelium

D. Most surface of buccal cavity_____ Glandular epithelium

Answer: A

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99. Removal of proximal convoluted tubule from the nephron will be result in

A. More diluted urine

B. More concentrated urine

C. No change in quality and quantity of urine

D. No urine formation

Answer: B

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100. Which of the following does not favour the formation of large quantities of dilute urine

A. Alcohol

B. caffeine

C. Renin

D. Atrial-natriuretic factor

Answer: C

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101. Which one of the following hormones through synthesized elsewhere is stored and released by the master gland

A. Antidiuretic hormone

B. Luteinizing hormone

C. Prolactin hormone

D. Melanocyte stimulating hormone

Answer: A

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102. Human urine is usually acidic because

A. Sodium transporter exchanges one hydrogen ion for each sodium ion in peritubular capillaries

B. Excreted plasma protein are acidic

C. Potassium and sodium exchange generates acidity

D. Hydrogen ions are actively secreted into the filtrate

Answer: A

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103. The principal nitrogenous exretory compound in humans is syntheised

A. Kidneys as well as eliminated by kidneys

B. Liver but mostly eliminated through kidneys

C. Kidneys but mostly eliminated through liver

D. Liver and also eliminated by the same through bile.

Answer: B

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104. All of the following animals are ureotelic except

A. Frog

B. Snake

C. Turtle

D. Toad

Answer: B

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105. Juxta Glomerular cells of kidneys secrete hormone :

A. Angiotensinogen

B. Angiotensin –II

C. Coherin

D. Renin

Answer: D

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106. Choose the wrong statement regarding urine formation:

A. Filtration is a non-selective process performed by glomerulus

B. Glomerular capillary blood pressure causes filtration of blood through three layers

C. GFR in a healthy individual is approximately $125 \ \ \mathrm{ml/minute}$

D. Ascending limb of loop of Henle is permeable to water but allows transport of electrolytes actively or passively

Answer: D

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107. Vasa recta refers to

A. Rectum region of insects

B. Blood capillaries in invertebrates

C. A fine capillary network of afferent arteriole

D. A fine capillary which runs parallel to Henle's loop

Answer: D

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108. The conditions in which kidneys fail to conserve water leading to water loss and dehydration due to impaired ADH synthesis or release is

A. Graves' disease

B. Addison's disease

C. Diabetes insipidus

D. Cretinism

Answer: C

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109. The part of nephron involved in active reabsorption of sodium is

A. Descending limb of Henle's loop

B. Distal convoluted tubule

C. Proximal convoluted tubule

D. Bowman's capsule

Answer: C

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110. In mammals, which blood vessel would normally carry largest amount of urea?

A. Hepatic portal vein

B. Renal vein

C. Dorsal aorta

D. Hepatic vein

Answer: D

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111. A decrease in blood pressure / volume will not cause the release of

A. Renin

B. Atrial Natriuretic

C. Aldosterone

D. ADH

Answer: B

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112. Which of the following statements in correct ?

A. The ascending limb of loop of Henle is impermeable to water

B. The descending limb of loop of Henle is impermeable to water

C. The ascending limb of loop of Henle is impemeable to water

D. The descending limb of loop of Henle is permeable to electrolytes.

Answer: A

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113. Match the items given in column - I with those in column - II and select the correct option given below:

Column-I	Column-II
(1) Glycosuria	(i) Accumulation of uric acid in joints
(2) Gout	(ii) Mass of crystallised salts within the kidney
(3) Renal calculi	(iii) Inflammation of glomeruli
(4) Glomerular nephritis	(iv) Presence of glucose in urine

A. (1) (2) (3) (4)
(ii) (iii) (i) (iv)

B. (1) (2) (3) (4)
(i) (ii) (iii) (iv)

C. (1) (2) (3) (4)
(iii) (ii) (iv) (i)

D. (1) (2) (3) (4)
(iv) (i) (ii) (iii)

Answer: D

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114. Match the items in column - I with those in column - II and select the correct option given below :

Column-I (Function)	Column-II (Part of Excretory system)
(1) Ultrafiltration	(i) Henle's loop
(2) Concentration of urine	(ii) Ureter
(3) Transport of urine	(iii) Urinary bladder
(4) Storage of urine	(iv) Malpighian corpuscle
	(v) Proximal convoluted tubule

A. $\begin{matrix}(1) & (2) & (3) & (4)\\ (v) & (iv) & (i) & (ii)\end{matrix}$

B. $\begin{matrix}(1) & (2) & (3) & (4)\\ (iii) & (ii) & (iv) & (i)\end{matrix}$

C. $\begin{matrix}(1) & (2) & (3) & (4)\\ (i) & (ii) & (iii) & (iv)\end{matrix}$

D. $\begin{matrix}(1) & (2) & (3) & (4)\\ (iv) & (i) & (ii) & (iii)\end{matrix}$

Answer: B

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Competition File Objective Type Questions B Cbse Pmt Main Examination Questions

1. Following paragraphs contain some mistakes. Point out those and correct the versions. Specify the paragraph number and number of line in each case.

P-I-In ultrafiltration, the glomerular filtrate contains Urea, Uric acid, NH_3, creatine, glucose, water, Na_+, Cl_- ions etc. The maximum amount of water reabsorption i.e. 80% occurs in PCT. Glucose, aminoacids, creatine are partly reabsorbed. Salts and fatty acids are more efficiently reabsorbed. More water absorption about 50% occurs in DCT due to action of ADH.

P-II-If the blood osmotic pressure is increased it activates the hypo-osmotic centre of hypothalamus. So it secretes pituitary hormone oxytocin in decreased amount. The decreased secretion of oxytocin decreases the water absorption in DCT and produces copious dilute urine.

P-III-If the blood pressure is reduced it activates the hypo-osmotic centre of hypothalamus so it secretes pituitary hormone oxytocin in increased

amount. Increased amount of oxytocin increases the water absorption in DCT and produces concentrated urine.

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2. Fill in the blanks :

Cuboidal ..... of collecting tubule is permeable to ..... impermeable to salts.

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3. Explain the dialysis briefly.

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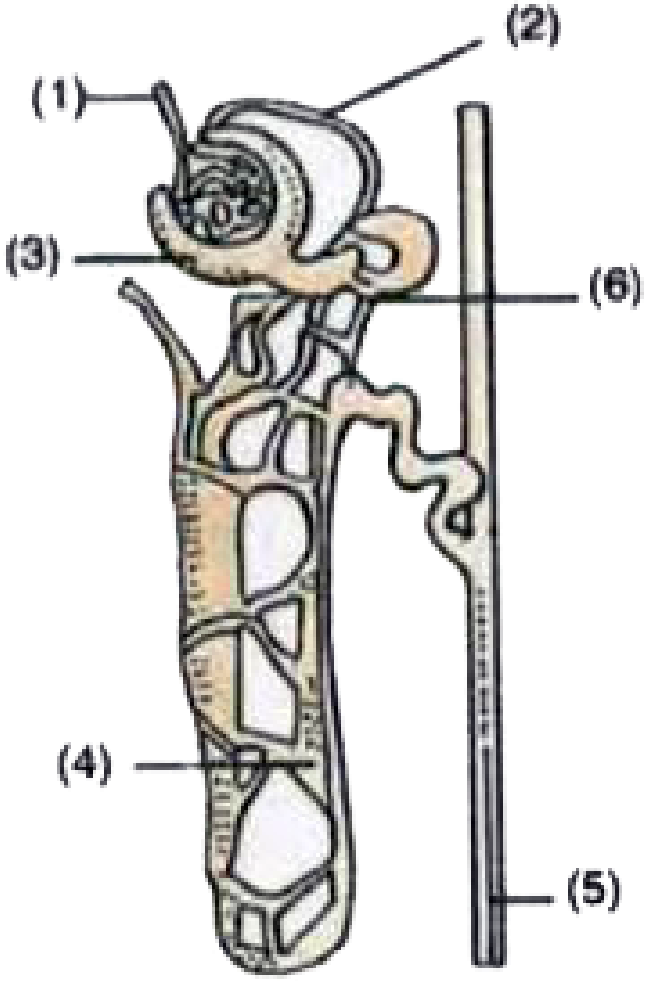
4. (a) Give the answers of the questions given below the following diagram :

(i) Identify 3, 4, 5 and 6 in the above figure.

(ii) What is function of 3?

(iii) If diameter of part "2" is made double to the part "1", then what will be the effect?

(b) If the prostate gland is enlarged in old age, then what will be the effect on urination?



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5. Which one of the following statements in regard to the excretion by the human kidneys is correct?

A. Descending limb of Loop of Henle is impermeable to water

(b)

B. Distal convoluted tubule is incapable of reabsorbing HCl_3^-

C. Nearly 99 per cent of the glomerular filtrate is reabsorbed by the renal tubules

D. Ascending limb of loop of Henle is impermeable to electrolytes

Answer: C

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6. The principal nitrogenous exretory compound in humans is syntheised

A. In kidneys, but eliminated mostly through liver

B. In kidneys as well as eliminated by kidneys

C. In liver and also eliminated by same through bile

D. In liver, but eliminated mostly through kidneys

Answer: D

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7. Ureters act as urinogenital ducts in

A. Frog's both males and females

B. Frog's males

C. Human males Human females

D. Human females

Answer: B

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8. Which one of the folloowing options gives the correcct categorisation of animals according to the type of nitrogenous waste they give out?

A.

Ammonotelic	Ureotelic	Uricotelic
Frog, lizards	Aquatic amphibia, humans	Cockroach, frog,

B.

Ammonotelic	Ureotelic	Uricotelic
Aquatic amphibia	Aquatic amphibia, humans	Cockroach, pigeon

C.

Ammonotelic	Ureotelic	Uricotelic
Aquatic amphibia	Frog, humans	Pigeon, lizards, cockroach

D.

Ammonotelic	Ureotelic	Uricotelic
Aquatic amphibia	Cockroach, humans	Frog, pigeon, lizards

Answer: C

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9. A fall in glomerular filtration rate (GFR) activates

A. Juxtaglomerular cells to release renin

B. Adrenal cortex to release aldosterone

C. Adrenal medulla to release adrenalne

D. Posterior pituitary to release vasopressin

Answer: A

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10. Which one of the following characteristics is common both in humans and adult frogs

A. Four chambered heart

B. Internal fertilization

C. Nucleated RBCs

D. Ureotelic mode of excretion

Answer: D

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Competition File Objective Type Questions C Matching Type Questions

1. Match the cxcretory functions of Column -I with the parts of excretory system in Column - II.

Column I (Function)	Column II (Parts of Excretory system)
(i) Ultrafiltration	(a) Henle's loop
(ii) Concentration of urine	(b) Ureter
(iii) Transport of urine	(c) Urinary bladder
(iv) Storage of urine	(d) Malpighian corpuscle
(e) PCT	

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2. Match the entries in column I with those in column II and choose the correct answer from the following

Column I	Column II
A. Uremia	1. Excess of protein level in urine
B. Hematuria	2. Presence of high ketone bodies in urine
C. Ketonuria	3. Presence of blood cells in urine
D. Glycosuria	4. Presence of glucose in urine
E. Proteinuria	5. Presence of urea in urine

A. $a-5, b-3, c-2, d-4, e-1$

B. $a-4, b-5, c-3, d-2, e-1$

C. $a-5, b-3, c-4, d-2, e-1$

D. $a-3, b-5, c-2, d-1, e-1$

Answer: A

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3. Find the wrongly matched pair :

Animals	Excretory organ/structure
(i) *Balanoglossus*	(a) Proboscis gland
(ii) Earthworm	(b) Nephridia
(iii) Grasshopper	(c) Malpighian tubules
(iv) Prawn	(d) Flame cells
(v) *Amphioxus*	(e) Protonephridia

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Competition File Objective Type Questions D Assertion Type Questions

1. Assertion : Tubular secretion is more important in marine fishes and desert amphibians.

Reason : In marine fishes and desert amphibians, nephrons are aglomerular.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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2. Assertion : Vasopressin of posterior pituitary is also called anti-diuretic hormone.

Reason : ADH increases the permeability of PCT and collecting tubules to increase reabsorption of water-and decrease the urine output.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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3. Assertion : — Proximal convoluted tubule is lined by brush-bordered cuboidal epithelium.

Reason : — PCT is main site of selective reabsorption of useful material from nephric filtrate.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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4. Assertion : Alcoholics generally suffer from dehydration.

Reason : Alcohol increases the secretion of ADH which increases the water loss in urine.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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5. Assertion : Secretion of ADH is controlled by osmotic pressure of blood.

Reason : Changes in osmotic pressure are noted by osmoreceptors present in the hypothalamus.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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6. Assertion : Diabetes insipidus is characterized by diuresis, polydopsia and glycosuria.

Reason : There is decreased reabsorption of water and glucose in nephrons.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: D

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7. Assertion : Normal urine of man is hypertonic than the blood plasma.

Reason : Counter-current mechanism of loop of Henle and Renin enzyme of juxta-glomerular cells increase the Na^+ concentration in the adrenal medulla.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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8. Assertion : Artificial kidney operates on the principle of haemodialysis.

Reason : Artificial kidneys involve both passive and active processes.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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9. Assertion : The hormone aldosterone increases the reabsorption of Na^+ by the nephron and the excretion of K^+.

Reason : To maintain the pH of blood and body fluids, the kidneys secrete H^+ and NH_4^+.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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10. Assertion. In descending loop of Henele, urine is hypertonic while in ascending loop urine is hypotonic.

Reason. Descending loop is impermeable to Na^+ while ascending loop is impermeable to water

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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Watch Video Solution

11. Assertion : RBC production is regulated by kidney.

Reason : Erythropoietin reaches red bone marrow.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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12. Assertion : A patient with kidney disorder needs to undergo dialysis at regular intervals.

Reason : During dialysis, blood separated by selectively permeable membrane moves in the opposite direction to dialysing fluid containing small solutes and mineral ions but no excretory products.

A. If both Assertion and Reason are true and Reason is correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.

C. If Assertion is true but Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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Competition File Objective Type Questions E Additional Multiple Choice Questions

1. Match the excretory organs listed under column I with the animals given under column II. Choose the answer which gives the correct combination of alphabets of two columns.

Column - I (Excretory organs)		Column - II (Animals)	
A	Nephridia	p	*Hydra*
B	Malpighian tubules	q	Leech
C	Protonephridia	r	Shark
D	Kidneys	s	Round worm
		t	Cockroach

A. $A = t, B = q, C = s, D = r$

B. $A = q, B = s, C = t, D = p$

C. $A = q, B = t, C = s, D = r$

D. $A = s, B = q, C = p, D = t$

Answer: C

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2. Uricotelism is found in

A. Birds, reptiles and insects

B. Frogs and toads

C. Mammals and birds

D. Fishes and fresh-water

Answer: A

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3. A terrestrial animal must be able to

A. Conserve water

B. Excrete large amount of salts in urine

C. Excrete large amount of water

D. Actively pump salts out through skin

Answer: A

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4. Animal which exrete urea produced during metabolism of amino acid is

A. Ureotelism

B. Uricotelism

C. Ammonotelism

D. Aminotelism

Answer: A

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5. Which of the following nephridia does not found in earthworm

A. Septal nephridia

B. Macronephric nephridia

C. Integumentary nephridia

D. Pharyngeal nephridia

Answer: B

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6. Excretory product of birds and reptiles is

A. Urea

B. Urea and uric acid

C. Uric acid

D. Ammonia and uric

Answer: D

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7. Liquid which collects in the cavity of Bowman's capsule is

A. Concentrated urine

B. Blood plasma minus proteins

C. Glycogen and water

D. Urea, giycogen and water will

Answer: B

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8. When a fresh-water protozoan possessing a contractile vacuole, is placed in a glass containing marine water, the vacuole will

A. Increase in size

B. Decrease in size

C. Increase in number

D. Disappear

Answer: D

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9. The yellow color of urine is due to

A. Uric acid

B. Urea

C. Urochrome

D. Bilirubin

Answer: C

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10. A condition in which body's internal enviroment remains relatively constant within limits is

A. Haematoma

B. Hemostasis

C. Haemopoeisis

D. Homeostasis

Answer: D

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11. Occurrence of arginase confirms that

A. Urea cycle is operating

B. Urea cycle may be operating

C. Arginine is being converted to ornithine

D. Arginine is being converted to citrulline

Answer: C

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12. Maximum absorption of Na_+ and K_+ occurs in:

A. Loop of Henle

B. Bowman's capsule

C. DCT

D. PCT

Answer: D

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13. Glomerular filtrate is

A. Blood plasma

B. Proteinised plasma

C. Deproteinised plasma

D. Urine stored in urinary bladder

Answer: C

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14. Which among the following is the onl vertebrate osmoconformer

A. Bird

B. Hag fish

C. Rabbit

D. None of these

Answer: B

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15. Removal of amino group of amino acid to transform it into keto acid is

A. Transamination

B. Ammonification

C. Deamination

D. None of these

Answer: C

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16. In micturition

A. Urethra relaxes

B. Ureters relax

C. Ureters contract

D. Urethra contracts

Answer: A

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17. The main function of Henle's loop is

A. Passage of urine

B. Filtration of blood

C. Formation of urine

D. Conservation of water

Answer: D

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18. Which of the following nitrogenous substance is highly toxic

or If liver from body is removed then which component of blood increases

A. Urea

B. Protein

C. Uric acid

D. Ammonia

Answer: D

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19. Which of the following amino acids is present in ornithine cycle?

A. Valine and cystine

B. Arginine and citrulline

C. Glycine and methionine

D. None of these

Answer: B

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20. Osmoregulation is the function of:

A. Prolactin

B. Oxytocin

C. Vasopressin

D. None of these

Answer: C

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21. ADH:

A. Synthesizes salts

B. Increases water absorption

C. Decreases water absorption

D. Controls sugar level in blood

Answer: B

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22. Marine teleost fish excrete

A. Uric acid

B. Urea

C. Ammonia

D. TMO

Answer: D

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23. Antennary glands of crustaceans are meant for

A. Respiration

B. Neurosecretion

C. Excretion

D. Olfaction

Answer: C

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24. Part of nephron impermeable to salt is

A. Descending limb of loop of Henle

B. Ascending limb of loop of Henie

C. Collecting ducts

D. DCT

Answer: A

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25. Urea is directly produced in mammals from

A. Ammonia released by oxidative deamination

B. Oxidative deamination of proteins

C. Breakdown of ormithine

D. Breakdown of arginine

Answer: A

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26. Glomerular hydrostatic hydrostatic pressure is present in

A. Tubule of kidney

B. Bowman's capsule

C. Malpighian tubule

D. Glomerulus

Answer: D

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27. Glomerular filtrate contains : —

A. Blood without blood cells and proteins

B. Blood with proteins but without cells

C. Plasma without sugars

D. Blood without urea

Answer: A

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28. Which blood vessel contains the least amount of urea ?

A. Pulmonary vein

B. Renal artery

C. Renal vein

D. Hepatic portal vein

Answer: C

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29. Most insects are:

A. Ureotelic

B. Aminotelic

C. Ammonotelic

D. Uricotelie

Answer: D

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30. Nitrogenous excretory product of frog tadpole is:

A. Ammonia

B. Urea

C. Guanine

D. Uric acid

Answer: A

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Chapter Practice Test

1. What is the basic catabolic product of proteins ?

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2. Name the excretory organs of flat worms and Amphioxus ?

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3. What are columns of Bertini?

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4. Name two sites where counter current - mechanisms operate .

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5. Define uraemia .

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6. Differentiate between tubular reabsorption and tubular secretion.

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7. Give the significane of ureotelism over ammonotelism.

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8. How the skin acts as an accessory excretory organ of man ?

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9. Enlist the physical and chemical properties of normal urine.

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10. Give the cause and symptoms of renal calculi.

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11. What is counter - current mechanism ? Discuss its role in loop of Henle.

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12. How JGA and ANF help in osmoregulation ?

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