



BIOLOGY

BOOKS - DINESH PUBLICATION ENGLISH

EXCRETORY PRODUCTS AND THEIR ELIMINATION

Mcq Multiple Choice Question

1. The number of uriniferous tubles in each kidney of mass is

A. About 10,000

B. About 5,000

C. Numberous

D. About $1.0 imes 10^6$

Answer: D

2. The waste matters (urea) are transported by

A. Blood

B. Lymph

C. RBC

D. None of the above

Answer: A

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3. The conversion of NH_3 into urea occurs in

or Transamination process takes place in

A. Lungs

B. Large intestine

C. Liver

D. Cloaca

Answer: C

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4. Columns of Bertin are found in

A. Testes

B. Ovaries

C. Kidney

D. Liver

Answer: C

5. Man is

A. Ammonotelic

B. Ureotelic

C. Uricotelic

D. None of the above

Answer: B

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

A. Uric acid

B. Urea

C. Urochrome

D. Melanin

Answer: C

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7. Malpighian body is present in
A. skin
B. kidney
C. Testes
D. Ovaries
Answer: B
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8. Certain carbonates and phosphates are removed by

B. Liver

C. Kidney

D. None of the above

Answer: A

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9. The retroperitoneal kidney is

A. Kidney of fish

B. Kidney covered by peritoneum on ventral side

C. Kidney covered by peritoneum on dorsal side

D. Kidney uncovered by peritoneum on either side

Answer: B

10. In man kidney is

A. Pronephros

B. Mesonephros

C. Metanephors

D. None of the above

Answer: C

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11. Micturition is

A. Removal of urea from blood

B. Removal of uric acid

C. Passing out urine

D. Removal of faeces

Answer: C Watch Video Solution 12. The excretory organs of Palaeomon are A. Malpighian tubules B. Nephridia C. Green glands D. Kidney

Answer: C



13. Excretion is a continuous process but urine is not passed out continuously because of

A. Urinary bladder

B. Cloaca

C. Rectum

D. Ureter

Answer: A

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14. The main excretory organs in man are

A. Kidneys

B. Nephridia

C. Trachea

D. Lungs

Answer: A



15. The smallest functional unit of kidney is

A. Nephron

B. collecting tubule

C. Glomerulus

D. Bowman's capsule

Answer: A

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16. Kidneys are not the only organs of excretion their work is supplemented by

A. Liver

B. Skin

C. Heart

D. Large intestine

Answer: B

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17. The kidneys are located

A. With the coelom

B. Near the buccal cavity

C. Near the heart

D. Outside the coelom

Answer: D

18. The position of kidneys is

A. Inter-peritoneal

B. Retroperitioneal

C. Intraperitoneal

D. None of these

Answer: B

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19. The bunch of capillaries present in the Bowman's capsule is called

A. Paccinian corpuscle

B. Bowman's capsule

C. Glomerulus

D. Malpighian capsule

Answer: C



20. The cells which line the neck and the body of the nephron are

A. Smooth squamous epithelial

B. Tesselated epithelial

C. Stratified epithelial

D. Cuboidal and ciliated epithelial

Answer: D



21. Diameter of the renal afferent vessel is

A. Same as that of efferent

- B. Smaller than that of efferent
- C. Larger than that of efferent
- D. There is no efferent vessel

Answer: C

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22. The excretory organ of earthworm are

A. Nephridia

- B. Malpighian tubules
- C. Green glands
- D. kidneys

Answer: A

23. The afferent and efferent vessels are

A. Arterial in nature

B. Venous in nature

C. One is arterial and the other is venous

D. None of the above

Answer: A

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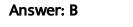
24. A Malpighian body is constitued by

A. Glomerules only

B. Glomerulus and Bowman's capsule

C. Glomerulus and efferent vessel

D. Glomerulus, Bowman's capsule and efferent vessel





25. Deamination is the first step in urea formation. It means the

A. Reduction of ammonia

B. Oxidation of ammonia

C. Addition of amino group to a non-amino organic molecule

D. Removal of amino group from an amino acid

Answer: D



26. The kidneys not only remove the waste products from the blood

but also play a very important role in maintaining

- A. Equilibrium of the body
- B. Temperature of the body
- C. Constant composition of the blood irrespective of the nature of

the food or fluid intake

D. Blood pressure constant

Answer: C

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27. The glomerular afferent arteriole has a pressure of

 $\mathsf{A.}+120mmHg$

B. - 120mmHg

 $\mathsf{C.}+95mmHg$

D. + 75mmHg

Answer: D Watch Video Solution 28. The pH of human urine is approximately A. 7.1 B. 6.0 C. 8.4 D. 9.9 Answer: B Watch Video Solution

29. Glycosuria is the term used for

A. Loss of glucose in urine

- B. Loss of blood in the urine
- C. Loss of salts in the urine
- D. None of these

Answer: A

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30. Haematuria is the disorder involving

A. The loss of blood through the urine

B. Loss of haemoglobin in R.B.C.

- C. Loss of glucose in urine
- D. The increase in concentration blood urea

Answer: A

31. Uraemia is an excretory disorder in which

A. The tubules of kidney reabsorb urea in large amount

B. Concentration of urea goes high in the blood because the

tubules are not able to remove if from the blood

C. Urea is produced in excess in the body

D. None of these

Answer: B

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32. The reabsorption of glucose from the glomerular filtrate is due to

A. High osmotic pressure of filtrate

B. passive diffusion

C. Active transport across the walls of proximal convoluted part

D. Filtration pressure exerted on the fluids in the loop of Henle

Answer: C

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33. The elimination of insoluble calcium phosphate takes place by

A. Liver

B. Kidney

C. Larger intestine

D. Skin

Answer: C

34. Excretion of nitrogenous waste product mainly as uric acid by birds

is helpful in

A. Conserving body heat

B. Conserving water

C. Elimination of water

D. Conserving urea

Answer: B

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35. Physiologically urea is produced by the action of an enzyme

A. Uricase

B. Urease

C. Arginase

D. None

Answer: C



36. Excretion of bile pigments in the urine indicates

A. Anaemia

B. Diabetes

C. Rickets

D. Jaundice

Answer: D



37. Malpighian tubules are the excretory organs in

A. Cockroach

B. Platyhelminthes

C. Ascaris

D. Pila

Answer: A

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38. Which of the following enzyme is produced in the kidneys ?

A. Rennin

B. Renin

C. Uricase

D. Arginase

Answer: B



39. A notch present on the mesial side of kidney is known as

A. Ureter

B. Pelvis

C. Hilus

D. Pyramide

Answer: C

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40. The collecting ducts in the kidney converge to form

A. pyramid

B. Calyx

C. Pelvis

D. Columns of Bertin

Answer: A

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41. The narrow apex of pyramid is called

A. Column of Bertin

B. Calyx

C. Papillary duct of Bellini

D. Pelvis

Answer: C

42. The kidney of an adult frog is

A. Pronephros

- B. Opisthonephros
- C. Mesonephros
- D. Metanephros

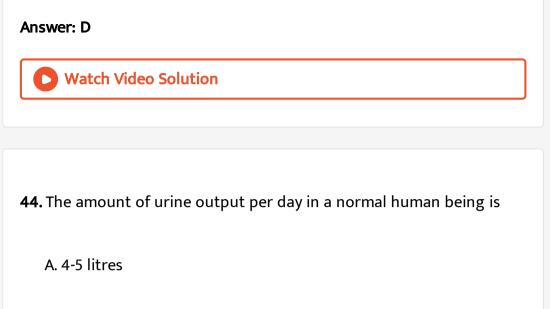
Answer: C

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43. In human beings, gout is caused by

A. Deficiency of iodine

- B. Excessive secretion of thyroid
- C. Excessive liberation of uric acid
- D. Deposition of uric acid



- B. 3-4 litres
- C. 1-1.8 litres
- ${\rm D.}\,0.5-0.75\,{\rm litres}$

Answer: C



45. Rate of glomerular filration per minute in an adult human being is

B. 25 ml

C. 225 ml

D. 425 ml

Answer: A

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46. Tubular secretion adds to the glomerular filtrate

A. Urea

B. Uric acid

C. Ammonia

D. All the above

Answer: D

47. The process that pushes out water and other dissolved materials

from blood in the glomerulus is

A. Dialysis

B. Secretion

C. Filtration

D. Ultrafiltration

Answer: D

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48. In kidneys, urine is produced by three processes

A. Dialysis, ultrfiltration and tubular secretion

B. Ultrafiltration, dialysis and tubular secretion

C. Ultrafiltration, tubular reabsorption and tubular secretion

D. Tubular reabsorbtion and tubular secretion

Answer: C



49. Collecting tubes are lined by

A. Squamous epithelium

- B. Columnar epithelium
- C. Cuboidal epithelium
- D. Cuboidal and columnar epithelium

Answer: C



50. Bowman's capsule is lined by

- A. Ciliated cuboidal epithelium
- B. Squamous epithelium
- C. Non-ciliated cuboidal epithelium
- D. Non-ciliated columnar epithelium

Answer: B

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51. Excretion is required for maintaning homeostasis of body fluids through regulation of their

A. Volume, composition, pH and osmotic potential

B. Volume

- C. Composition and pH
- D. Osmotic potential

Answer: A

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Revision Question From Competitive Exams

1. (a) The conversion of a protein waste, the ammonia into urea/ornithine cycle occurs in

(b) Urea is synthesised in

A. Kidneys

B. Lungs

C. Intestine

D. Liver

Answer: D

2. Uder normal conditions which one is completely reabsorbed in the renal tubule?

A. Urea

B. Uric acid

C. Salts

D. Glucose

Answer: D



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

A. Concentrated urine

B. Plasma minus blood protenis

C. Glycogen and water

D. Sulphates and water

Answer: B



- 4. The filtrate from glomerulus contains
 - A. Blood without cells and proteins
 - B. Plasma without sugar
 - C. Blood with proteins but without cells
 - D. Blood without urea

Answer: A



5. Uric acid is excreted in

A. Frog

B. Rabbit

C. Man

D. Pigeon/Crow

Answer: D

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6. A Malpighian body is constitued by

A. Glomerules only

B. Glomerulus and Bowman's capsule

C. Glomerulus and efferent vessel

D. Glomerulus, Bowman's capsule and efferent vessel

Answer: B



7. The reabsorption of water in the kidneys is under the control of a

hormone

(a) STH

(b) ACTH

(c) LH

(d) ADH

A. STH

B. ACTH

C. LH

D. ADH

Answer: D

8. Diuresis is the condition in which

A. The excretion of volume of urine increases

B. The excretion of volume of urine decreases

C. they kidneys fail to excrete urine

D. the water balance of the body is disturbed

Answer: A

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9. Effective filtration pressure in glomerulus is caused due to

A. +75mHg

B.+80mmHg

C.+20 to 25mmHg

 $\mathsf{D.}+50mmHg$

Answer: C



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

A. Amination

B. Lysis

C. Digestion

D. Deamination

Answer: D



11. Nitrogenous waste products are eliminated mainly as

A. Urea in tadpole and ammonia in adult frog

B. Ammonia in tadpole and urea in adult frog

C. Urea in both tadpole and adult frog

D. Urea in tadpole and uric acid in adult frog

Answer: B

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12. Which blood vessel carries least percentage of urea?

A. Hepatic vein

B. Renal vein

C. Hepatic portal vein

D. Renal artery

Answer: B



13. Excretion in prawn is performed by

A. Nephrons

- B. Malpighian tubules
- C. Flame cells
- D. Green glands

Answer: D

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14. Presence of RBCs in urine is called

A. Anuria

B. Haematuria

C. Glycosuria

D. Ketonuria

Answer: B

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15. The blood vessel taking blood/forming glomerulus into Bowman's

capsule is

A. Afferent arteriole

B. Efferent arteriole

C. Renal vein

D. Renal portal vein

Answer: A

16. A man takes large amount of protein. He is likely to excrete more

amount of

(a) Urea

(b) Uric acid

(c) Sugar

(d) Salts and water

A. Urea

B. Uric acid

C. Sugar

D. Salts and water

Answer: A



17. Ornithine cycle is related to

A. Respiration

B. Excretion

C. Digestion

D. Nutrition

Answer: B

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18. Trimethylamine is the excrtory product in

A. Marine teleosts

B. Freshwater fishes

C. Molluscs

D. Amphibians

Answer: A



19. Loop of Henle is concerned with

A. Excretory system

B. Nervous system

C. Reproductuve system

D. Muscular system

Answer: A

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20. Kidney of adult rabbit is

A. Metanephric

B. Mesonephric

C. Pronephric

D. Holonephric

Answer: A

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21. Ammonia is the chief nitrogenous excretory material in.....

A. Cartilaginous fishes

B. Fresh water/bony fishes

C. Whale

D. Camel

Answer: B

22. A kidney stone is

- A. Deposition of sand particles
- B. Precipitation of proteins
- C. Crystallisation of oxalates
- D. Blockage of fat

Answer: C

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23. Ureotelic animals are those in which the main nitrogenous waster

product is

A. Amino acid

B. Urea

C. Uric acid

D. Ammonia

Answer: B
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24. Concentration of urine is controlled by
A. Vasopressin
B. Aldosterone
C. Insulin
D. Adrenaline
Answer: A
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25. Which one is not present in nephric filtrate ?

A. Pencillin

B. Amino acid

C. Vitamins

D. None of the above

Answer: A

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26. Volume of urine is regulated by

A. Aldosterone

B. Aldosterone and ADH

C. Aldosterone, ADH and testosterone

D. ADH

Answer: D

27. Malphigian/Bowman's/renal corpuscles occur in

A. Medulla

B. Cortex

C. Pelvis

D. Pyramids

Answer: B

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28. Glomeruli are manily confined to

A. Cortex

B. Medulla

C. Pelvis

D. Pyramids

Answer: A Watch Video Solution 29. Filtration fraction is the ratio of A. Glomerular filtration rate (GFR) and renal plasma flow (RPF) B. Transport maximum (T_m) and clearance factor (C_f) C. Hb and HbO_2

D. O_2 and CO_2

Answer: A



30. Proximal and distal convoluated tubules are parts of

A. Seminiferous tubules

B. Nephron

C. Oviduct

D. Vas deferens

Answer: B

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31. Reabsorption of useful substances back into blood from the filtrate

in a nephron occurs in:

A. Collecting tube

B. Loop of Henle

C. Proximal convoluted tubule

D. Distal convoluted tubule

Answer: C

32. Blood fraction remaining unchanged after circulation through kidney is

A. Urea and uric acid

B. Urea and proteins

C. Urea and glucose

D. Glucose and proteins

Answer: D

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33. Which one is uricotelic ?

A. Frog and toads

B. Lizards and birds/Cockroach

- C. Cattle, monkey and man
- D. Molluscs and teleost fishes

Answer: B

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34. Which one is the most soluble in water ?

A. Uric acid

B. Urea

C. Fatty acids

D. Casein

Answer: B

35. Uriniferous tubules are mainly concerned with

- A. Concentration of urine
- B. Passage of urine
- C. Reabsorption of useful substances from glomerular filtrate
- D. Removal of urea from blood

Answer: D

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36. Brush border is characteristic of

A. Neck of nephron

B. collecting tubule

C. Proximal convoluted tubule

D. All the above

Answer: C



37. Assertion: Antidiuretic hormone (ADH) controls the amount of water in the urine.

Reason: ADH determines the permeability of the collecting duct to water.

A. Collecting tube/duct

B. Proximal convoluted tube

C. Distal convoluted tubule

D. All the above

Answer: A

38. What will happen if one kidney is removed from the body of a human

- A. Death due to poisoning
- B. Ureamia and death
- C. Stoppage of urination
- D. Nothing, the person will surive and remain normal

Answer: D

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39. Occurrence of excess urea in blood due to kidney failure is

A. Urochrome

B. Uraemia

C. Uricotelism

D. Ureotelism

Answer: B



40. Which is true abut excretion ?

A. 90% water and Na^+ of glomerular filtrate are absorbed

B. Glucose is reabsorbed in distal convoluted tubule

C. Glucose is reabsorbed in proximal convoluted tubule

D.99% of water and glucose in the glomerular filtrate are

reabsorbed.

Answer: D



41. In distal convoluted tubule of the nephrons

A. Na^+ reabsorption requires energy

B. K^+ reabsorption does not requires energy

C. Ammonia is excreted

D. Water reabsorption requires energy

Answer: A

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42. Total filtrate formed in 24 hours in human kidney is

A. 1.8 litres

B. 8.0 litres

C. 18 litres

D. 180 litres

Answer: D



43. Function of glomerulus in rabbit's kidney is

A. Reabsorption of salts

B. Urine collection

C. Urine formation by blood filtration

D. All the above

Answer: C

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44. The mechanism of urine formation in nephron involves

A. Ultrafiltration

B. Secretion

C. Diffusion

D. Osmosis

Answer: A

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45. In comparison to blood plasma, percentage of glucose in glomerular filtrate is

A. More

B. Same

C. Less

D. Nil

Answer: C

46. In diabetes mellitus the patient drink more water as there is urinary

loss of

A. Salt

B. Insulin

C. Protein

D. Glucose

Answer: D



47. The hormone that promotes reabsorption of water from glomerular filtrate is

A. Oxytocin

B. Vasopressin

C. Relaxin

D. Calcitonin

Answer: B

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48. Hydrostatic pressure inside glomerular afferent arteriole is

A.+65mm

B.+70mm

 $\mathsf{C.}+75mm$

D.+80mm

Answer: C

49. Glucose is taken back from glomerular filtrate through

A. Active transport

B. Passive transport

C. Osmosis

D. Diffusion

Answer: A

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50. Nephrons are connected with

A. Respiratory system

B. Nervous system

C. Circulatory system

D. Excretory system

Answer: D

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51. Which of the following is totally reabsorbed from glomerular filtrate

by active absorption?

(a) glucose

(b) urea

(c) Na+

(d) water

A. Na

 $\mathsf{B}.\,K$

 $\mathsf{C}.\,H_2O$

 $\mathsf{D.}\, C_6 H_{12} O_6$

Answer: D



52. Excretory product of birds and reptiles is

A. Urea

B. Uric acid

C. Ammonia

D. TMO

Answer: B

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53. Which is present in the kidney?

A. Glomerulus

B. Ciliated nephrons

C. Middle kidneys duct

D. Nephridia

Answer: A



54. Part not belonging to uriniferus tubule is

A. Glomerulus

B. Henle's loop

C. Distal convoluted tubule

D. Connecting tubule

Answer: A



55. If kidneys fail to reabsorb water the effect on tissue would

A. Remain unaffected

- B. Shrink and shrivel
- C. Absorb water from blood plasma
- D. Take more O_2 from blood

Answer: B

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56. Reabsorption of chloride ions from glomerular filtrate in kidney

tubule occurs by

A. Active transport

B. Diffusion

C. Osmosis

D. Brownian movement

Answer: B

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57. Main functions of kidney is

A. Passive absorption

B. Ultrafiltration

C. Selective reabsorption

D. Both B and C

Answer: D



58. Uric acid is nitrogenous waste in

A. Mammals and molluscs

- B. Birds and lizards
- C. Frog and cartilaginous fishes
- D. Insects and bony fishes

Answer: B

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59. Ornithine cycle performs

A. ATP synthesis

- B. Urea formation in spleen
- C. Urea formation in liver
- D. Urine formation in liver

Answer: C



60. Henle's loop is found in

- (a) Lungs
- (b) Heart
- (c) Kidneys
- (d) Liver

A. Lungs

- B. Heart
- C. Kidneys
- D. Liver

Answer: C



61. Uriniferous/nephrons tubules occurs in

(a) Stomach

(b) Testes

(c) Ovary

(d) Kidney

A. Stomach

B. Testes

C. Ovary

D. Kidney

Answer: D



62. Urea is formed in liver cells from

- (a) Ammonia and nitrogen
- (b) Ammonia and carbon dioxide
- (c) Ammonia, carbon dioxide and aspartic acid
- (d) Ammonia and carbon monoxide

- A. Ammonia and nitrogen
- B. Ammonia and carbon dioxide
- C. Ammonia, carbon dioxide and aspartic acid
- D. Ammonia and carbon monoxide

Answer: B

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63. The two kidneys of man lie

A. At the level of ovaries

B. At the same level

C. Left kidney at a higher level than the right one

D. Right kidney at a higher level than the left one

Answer: C



64. Creatinine is not produced by

A. Children

B. Pregnant women

C. Fasting persons

D. Healthy males

Answer: C

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65. Reabsorption of water in PCT part of nephron is

A. Passive, 80%

B. Active, 40%

C. Active, 80%

D. Passive, 40%

Answer: A

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66. Distal convoluted tubule is lined with

A. Cuboidal epithelium

B. Ciliated squamous epithelium

C. Pseudostratified epithelium

D. Columnar epithelium

Answer: D

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67. In ornithine cycle which of the following wastes are removed from the body ?

A. Urea and carbon dioxide

B. Carbon dioxide and ammonia

C. Ammonia and uric acid

D. Ammonia and urea

Answer: B

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68. Length of female urethra is

A. 15 cm

B. 10 cm

C. 4 cm

D. 2 cm

Answer: C

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69. Which blood vessel takes blood away from kidney ?

A. Renal portal vein

B. Renal vein

C. Afferent arteriole

D. Efferent arteriole

Answer: B



70. Excretion is removal of

A. Carbon dioxide

- B. Harmful and useless ingredients
- C. Extra water
- D. Metabolic waste products

Answer: D

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71. Which ones influence the activity of kidneys

A. Vasopressin

B. Thyroxine

C. Vasopressin and aldosterone

D. Gonadotrophin

Answer: C

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72. Substrate which is not readsorbed in urine is

A. Carbohydrates

B. Fats

C. Vitamins

D. Proteins

Answer: C

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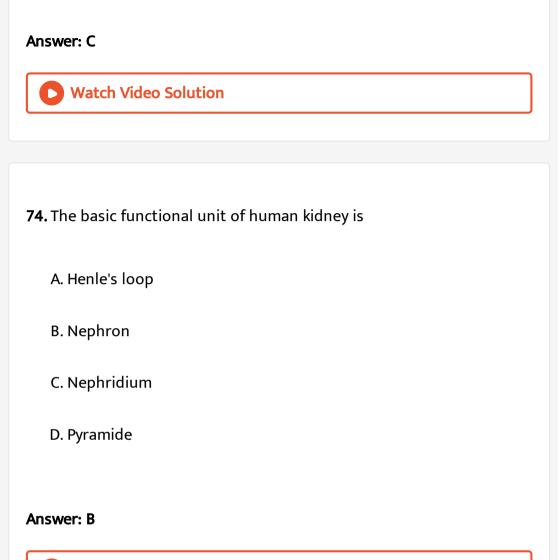
73. In ureotelic animals, urea is formed by

A. Cori's cycle

B. Krebs cycle

C. Ornithine cycle

D. EMP pathway





75. Ornithine cycle was discovered by

A. Krebs

B. Henseleit

- C. Krebs and Henseleit
- D. Ornithine

Answer: C

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76. Which one is component of ornithine cycle

A. Arginine and ornithine

B. Glycine and methionine

C. Aspartic and glutamic acids

D. Valine and cystine

Answer: A



77. With respect to the mode of excretion, which type of organism bony fishes are?

A. Ureotelic

B. Uricotelic

C. Aminotelic

D. Ammonotelic

Answer: D

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78. flame cells are excretory organs of

A. Prawn

B. Planaria

C. Silver Fish

D. Hydra

Answer: B



79. In micturition

A. Ureters contract

B. Urethra contracts

C. Urethra relaxes

D. Ureters relax

Answer: C



80. Glomerulus along with Bowman's capsule is called the renal corpuscle.

A. Blood vessel

B. Malpighian body

C. Green glands

D. Malpighian tubule

Answer: B

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81. Na^+ and Cl' are absorbed in kideny in the region of

A. Ascending limb of Henle's loop

B. Descending limb of Henle's loop

C. DCT

D. PCT

Answer: C



82. Duct of Bellini is connected with

A. Collecting duct

B. DCT

C. Ureter

D. Papilla

Answer: A

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83. What is permeable for ascending loop of Henle ?

A. Ammonia

B. Glucose

C. Na^+

D. Water

Answer: C

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84. Why do we pass more urine during winter and wet seasons ?

A. Increased ADH secretion

B. Increased activity of kidneys

C. Decreased water absorption by nephrons

D. Reduced sweating

Answer: D



85. Sea gulls excrete excess of NaCl from

A. Liver

B. Lungs

C. Urine

D. Nasal gland

Answer: D

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86. Match th two and pick correct combination

	Column I (Cells)		Column II (Parts)
a	Kupffer's cells	р	Small intestine
b	β-cells	q	PCT
С	Brush border cells	r	Liver sinusoids
d	Paneth cells	s	Pituitary
		t	Islets of Langerhans

A.
$$a=r, b=s, c=q, d=p$$

$$\mathsf{B}.\, a=r, b=t, c=q, d=p$$

C.
$$a=r, b=p, c=t, d=q$$

$$\mathsf{D}.\, a=r, b=t, c=p, d=q$$

Answer: B

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87. Bowman's capsule is constituent of

A. Renal artery

B. Ureter

C. Uriniferous tubule

D. Renal portal vein

Answer: C

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88. Filtration occurs in

A. Glomerulus

B. Bowman's capsule

C. Malpighian body

D. Ureter

Answer: A



89. Function of loop of Henle is

A. Conservating of water

B. Formation of urine

C. Filtration of blood

D. Passage of urine

Answer: A

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90. In Amoeba, NH_3 is excreted through

A. Food vacuole

B. Plasma membrane

C. Contractile vacuole

D. All the above

Answer: B

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91. Which one is not supplied exclusively with involuntary muscles ?

A. Iris

B. Gland ducts

C. Urethra

D. Coats of blood vessel

Answer: C

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- 92. Henle's loop occur in
 - A. Seminiferous tubles of Frog
 - B. Seminiferous tubules of Rabbit
 - C. Nephrons of mammals
 - D. Nephrons of Frog

Answer: C

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93. Malpighian tubules remove excretory products from

A. kidney

B. Haemolymph

- C. Alimentary canal
- D. None of the above

Answer: B



- 94. Podocytes are the cells present in
- (a) cortex of nephron
- (b) inner walll of Bowman's capsule
- (c) outer wall of Bowman's capsule
- (d) wall of glomerular capillaries
 - A. Inner wall of Bowman's capsule
 - B. Outer wall of Bowman's capsule
 - C. Large intestine
 - D. Neck region of nephrons

Answer: A



95. Aquatic reptiles are

A. Ammonotelic

B. Uricotelic

C. Ammonotelic in water and uricotelic on land

D. Ureotelic

Answer: C

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96. The major excretory product of arthropods is

A. NH_3

B. Urea

C. Uric acid

D. Hippuric acid

Answer: C Watch Video Solution 97. In kidney, nephrostomes are functional in A. Tadpole **B. Adult Frog** C. Cockroach D. Rabbit

Answer: A



98. Vital morphological and physiological units of mammalian kidney

A. Ureters

- B. Seminiferous tubules
- C. Uriniferous tubule
- D. Nephridia

Answer: C

Watch Video Solution

99. The end product of ornithine cycle is

A. Uric acid

 $\mathsf{B.}\,CO_2$

C. Ammonia

D. Urea

Answer: D



100. Blood which leaves liver and passes towards heart has higher concentration of

A. Bile

B. Oxygen

C. RBCs

D. Urea

Answer: D

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101. Characteristic of metanephric kidney is

- (a) Hypotonic urine
- (b) Uric acid formation

(c) Loop of Henle

(d) Hormone production

A. Hypotonic urine

B. Uric acid formation

C. Loop of Henle

D. Hormone production

Answer: C

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102. Concentration of urine depends upon which organ:

A. Length of loop of Henle

B. PCT

C. DCT

D. Intake of water

Answer: A

C	Watch	Video	Solution

103. Urine is always fluid except in

A. Reptiles and amphibians

B. Birds and reptiles

C. Birds and mammals

D. Reptiles and mammals

Answer: B



104. In Housefly the excretory organs are

A. Nephridia

B. Flame cells

C. Malpighian tubules

D. Kidneys

Answer: C

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105. Funnel-like ciliated pits on the ventral side of the kidney in frog are

known as

A. Ostia

B. Nephrostomers

C. Bidder's organs

D. Corpora adiposa

Answer: B

106. Assertion: In the descending limb of loop of Henle the urine is hypotonic, while in ascending limb of loop of Henle, the urine is hypertonic.

Reason: Descending limb is impermeable to water while ascending limb is impermeable to $Na^{\,+}$

A. both are true and reason is correct explanation

B. both are true but reason is not correct explanation

C. assertion is true but reason is wrong

D. both are wrong

Answer: A

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107. Normal range of urea in 100 ml of human blood is

A. (a) 56-70mg

B. (b) 40 - 80mg

C. (c) 17 - 30mg

D. (d) 4 - 16mg

Answer: C

Watch Video Solution

108. Xenopus excretes

- (a) Uric acid
- (b) Urea
- (c) Ammonia
- (d) Creatinine

A. Uric acid

B. Urea

C. Ammonia

D. Creatinine

Answer: C

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109. Number of nephrons in each kidney of man is

A. 0.7 million

B. 0.9 million

C. 1.2 million

D. 1.6 million

Answer: C

Watch Video Solution

110. Which one is both hormone and enzyme

A. ADH

B. Angiotensinogen

C. Acetylchoinesterase

D. Renin

Answer: D

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111. The process used in separating large particles from smaller ones in

a solution is called

A. Chromatorgraphy

B. Dialysis

C. Osmosis

D. Tyndallisation

Answer: B

C	Watch	Video	Solution

112. Ureotelic animals

A. Lack urease

B. Do not excrete urea

C. cannot form uric acid

D. Live in water

Answer: A



113. Ducts of Bellini are found in

B. Intestine

C. Medulla oblogata oblongata

D. Kidneys

Answer: D

Watch Video Solution

114. Concentration of inorganic salts in normal urine of a human

beings is

A. 0.0015

B. 0.0025

C. 1.5 %

D. 2.5~%

Answer: C

115. Ammonia is changed to uric acid in the liver of

A. Ammonotelic animals

B. Uricotelic animals

C. Ureotelic animals

D. Ornithotelic animals

Answer: B

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116. The functional kidney of frog tadpole is

A. Pronephros

B. Mesonephros

C. Metanephors

D. Archinephros

Answer: A



117. Kidney of Frog is

A. Pronephros

B. Mesonephros

C. Opisthonephros

D. Metanephros

Answer: C



118. Which one is not an excretory organ

A. Skin

B. Kidneys

C. Intestine

D. Liver

Answer: C

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119. Which of the following statements are correct?

(i). Glucose has high threshold value.

(ii). Urine is concentrated in Henle's loop

(iii). Haemodialyser removes urea, uric acid, glucose and plasma proteins

(iv). In glomerulus, urea, uric acid, water, glucose and plasma proteins are filtered out.

A. 1, 3, 4

B. 2, 3, 4

C. 1, 2

D. 1, 3

Answer: C

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120. Which ones are ammonotelic animals?

- (a) Amphibian and reptiles
- (b) Bony fishes and amphibian tadpoles
- (c) Cartilaginous and bony fishes
- (d) Amphibians and mammals

A. Amphibian and reptiles

- B. Bony fishes and amphibian tadpoles
- C. Cartilaginous and bony fishes

D. Amphibians and mammals

Answer: B



- 121. ADH takes part in
- (a) Water retention in urine
- (b) N a + reabsorption
- (c) Reducing urea formation
- (d) Absorption of water from urine
 - A. Water retention in urine
 - B. Na^+ reabsorption
 - C. Reducing urea formation
 - D. Absorption of water from urine

Answer: D



122. In uraemia, artifical kidney is used for removing accumulated waste

products like urea by the process called

A. Micturition

B. Ureotelism

C. Reverse dialysis

D. Haemodialysis

Answer: D

Watch Video Solution

123. In Hydra, waste material of food digestion and nitrogenous waste

material are removed from

A. Mouth and mouth

- B. Mouth and tentacles
- C. body wall and body wall
- D. Mouth and body wall

Answer: D

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124. Deposition of uric acid at the joints is:

A. Rheumatoid arthritis

B. Gout

C. Osteoarthritis

D. Bursitis

Answer: B

Watch Video Solution

125. In urinary system, aldosterone takes part in retention (reabsorption) of

A. $Ca^{2\,+}$

 $\mathsf{B.}\,K^{\,+}$

C. Na^+

D. Water

Answer: C



126. Haemodialysis is carried out in case of severe defect in

A. Kidney

B. Liver

C. Lung

D. Stomach

Answer: A



127. . * Which is finally reabsorbed in distal convoluted tubule

A. Calcium

B. Potassium

C. Bicarbonate

D. Water

Answer: C



128. As compared to efferent arteriole, the afferent arteriole of kidney

is

A. Shorter and wider

B. Shorter and narrower

C. Longer and wider

D. Longer and narrower

Answer: A

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129. Ketosis is due to

A. High insulin level

B. Low insulin level

C. Low thyroxine level

D. Low level of glucagon

Answer: B



130. Excessive thirst leading to increased consumption of water is

A. Polyuria

B. Glycemia

C. Polyphagia

D. Polydipsia

Answer: D



131. Metanephros kidney occurs in

(a) Amniotes

(b) Fishes

(c) Amphibians

(d) Invertebrates

A. Amniotes

B. Fishes

C. Amphibians

D. Invertebrates

Answer: A



132. Urea is disposed off by

A. Spleen

B. Liver

C. Kidneys

D. Both A and B

Answer: C

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133. In nephron, water absorption is maximum in

A. Proximal convoluted tubule

B. Loop of Henle

C. Glomerulus

D. Distal convoluted tubule

Answer: B

Watch Video Solution

134. Pigeon excretes

(a) Urea

(b) Ammonia

(c) Uric acid

(d) None of the above

A. Urea

B. Ammonia

C. Uric acid

D. None of the above

Answer: C

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135. Contractile vacuole of Euglena is

A. Sweat gland

B. Kidneys

- C. Seminiferous tubule
- D. Nerve fibre

Answer: B

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136. Loop of Henle is part of

- (a) Uriniferous tubule
- (b) Seminiferous tubule
- (c) Neuron
- (d) Muscle fibres

A. Uriniferous tubule

- B. Seminiferous tubule
- C. Neuron

D. Muscle fibres

Answer: A



137. The major function of contractile vacuole is

A. Excretory

B. Circulation

C. Osmoregulation

D. All the above

Answer: C



138. The number of nephrons in a kidney is equal to

A. Sum of Bowman's capsules and glomeruli

B. Sum of Bowman's capsules and malpighian corpuscles

C. Double the number of Bowman's capsule

D. Equal to number of Bowman's capsule

Answer: D

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139. Hippuric acid, creatinines and ketonews are added to urine through

A. Reabsorption

B. Glomerular filtration

C. Tubular secretion

D. Both B and C

Answer: D

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140. Haemodialysis is also called artificial

- (a) Liver
- (b) Lungs
- (c) Heart
- (d) Kidneys
 - A. Liver
 - B. Lungs
 - C. Heart
 - D. Kidneys

Answer: D



141. Which one is an accessory excretory organ

A. Liver

B. Stomach

C. Intestine

D. Heart

Answer: A

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142. Which one is false

A. Nephrons perform excretion through filtration, reabsorption and

secretion

B. Nephridia are accessory excretory organs in Prawn

C. Tapeworm have excretory flame cells

D. Nephrons begin with Bowman's capsule having glomerulus

Answer: B



143. For formation of urea which one of the following is required along with ammonia

A. (a) Arginase, CO_2 and O_2

B. (b) Arginase, CO_2 and water

C. (c) Aspartate, CO_2 and water

D. (d) Aspartate, CO_2 and O_2

Answer: B

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144. Renin is released by

- (a) Cortical nephron
- (b) Collecting duct
- (c) Juxtaglomerular apparatus
- (d) Pelvis

A. Cortical nephron

- B. Collecting duct
- C. Juxtaglomerular apparatus
- D. Pelvis

Answer: C



145. Henle's loop is meant for absorption of:

A. Potassium

B. Glucose

C. Water

D. Urea

Answer: D

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146. Which one of the following is metabolic waste of protein metabolism

A. Urea, ammonia and CO_2

B. Urea, ammonia and creatinine

C. Urea, ammonia and alanine

D. Urea, nitrogen and O_2

Answer: B



147. Urinary bladder is absent in

A. Aves

B. Reptiles

C. Amphibians

D. Mammal

Answer: A

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148. Mesonephric kidney is found in

A. Aves

B. Reptila

C. Amphibia

D. Mammalia

Answer: C

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149. Absorption of water in DCT is controlled by

A. ACTH

B. ADH

C. LH

D. Oxytocin

Answer: B

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150. Uric acid is formed in human being from

A. Protein

B. Pyrimidines

C. Purines

D. Glucose

Answer: C

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151. Function of loop of Henle is

A. Absorption of water

B. Absorption of sugar

C. Absorption of sodium

D. Secretion of ions

Answer: A



152. What is true of urea biosynthesis

A. Uric acid is starting point

B. Urea is synthesised in lysosomes

C. Urea cycle enzymes are located inside mitochondira

D. Urea is synthesised in kidney

Answer: C

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153. What is wrong about kidney

A. Peripheral cortex and central medulla

B. Blood enters glomerulus through efferent arterioles

C. Malpighian capsules occur in cortex

D. Concave part of kidney is called hilus

Answer: B

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154. The excretory structures of flat worms/Taenia are

A. Flame cells

B. Nephridia

C. Malpighian tubules

D. Renette glands

Answer: A

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

A. Descending limb of Henle's loop

B. Ascending limb of Henle's loop

C. Bowman's capsule

D. DCT

Answer: D

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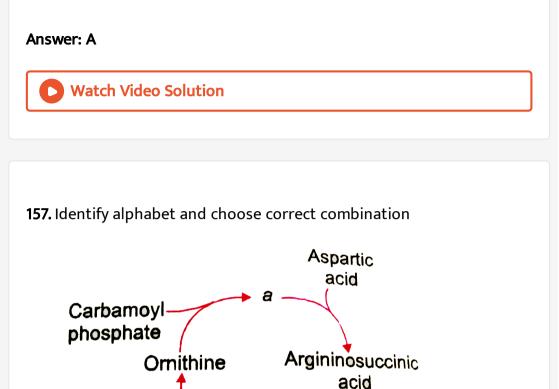
156. Diabetes insipidus is due to

A. Hyposecretion of vasopressin (ADH)

B. Hypersecretion of insulin

C. Hyposecretion of insulin

D. Hypersecretion of vasopressin (ADH)



С

A. (1) a- arginine, b-succinic acid, c-fumaric acid

B. (2) a-citrulline, b-arginine, c-succinic acid

Urea

C. (3) a-citrulline, b-fumaric acid, c-arginine

D. (4) a-citrulline, b-arginine, c-fumaric acid

158. Assertion. RBC production is regulated by kidney.

Reason. Erythropoietin reaches red bone marrow, induces stem cell

mitosis and speeds up development of RBC

A. both are ture and reason being correct correct explanation

B. both are ture and reason being correct not correct explanation

C. assertion is true but reason is wrong

D. both are wrong

Answer: A



159. If Henle's loop were absent from mammalian nephron, which of the

following is to be expected?

- A. There will be no urine formation
- B. There will be hardly any change in the quality and quantity of

urine formed

- C. the urine will be more concentrated
- D. the urine will be more dilute

Answer: D

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160. An X-ray of the lower abdomen shows a shadow in the region of the ureter suspected to be a ureteric calculus. A possible clinical symptom would be

- A. Active renal failure
- B. Anuria and haematuria
- C. Motor aphasia

D. Chronic renal failure (CRF)

Answer: B



161. Uraemia is the occurrence of

A. Blood in urine

- B. Excess of urea in blood
- C. Excess of sugar in blood
- D. Deficiency of sugar

Answer: B



162. Which blood vessel carries least amount of urea?

A. Hepatic vein

B. Pulmonary vein

C. Renal artery

D. Renal vein

Answer: D

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163. Urine formation occurs in

(a) Liver

(b) Kidneys

(c) Spleen

(d) Heart

A. Liver

B. Kidneys

C. Spleen

D. Heart

Answer: B

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164. Excretion of nitrogenous waste product in semisolid form occurs

in

A. Ammonotelic animals

B. Uricotelic animals

C. Ureotelic animals

D. Aminotelic animals

Answer: B

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165. Accessory excretory human organ is

A. skin

B. Skin and liver

C. Skin and lungs

D. Skin, lungs, liver and intestine

Answer: D

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166. Which one does not enter nephron

A. Water

B. Glucose

C. Plasma proteins

D. Urea

Answer: C

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167. Urine is concentrated in loop of Henle in

A. Descending limb

- B. Thick ascending limb
- C. Hairpin bend between descending and ascending limbs
- D. Area between ascending limb and distal convoluted tubule

Answer: C



168. A terrestrial animal must be able to

A. Excrete large amount of urine

B. Conserve water

C. Actively pump out salts through skin

D. Excrete large amount of salts in urine

Answer: B

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169. Match the columns and find out the correct combination

a	Nephridia	p	Hydra
\boldsymbol{b}	Malpighian	q	Leech
	tubules		
C	Protonephridia	r	Shark
d	Kidneys	S	Roundworm
		t	Cockroach

A. a-t, b-q, c-s, d-r

 $\mathsf{B}.\,a-q,b-s,c-t,d-p$

 $\mathsf{C}.\,a-q,b-t,c-s,d-r$

 $\mathsf{D}.\,a-s,b-q,c-p,d-t$

Answer: C

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170. Kidney and ureter develop from

A. Endodern

B. Mesoderm

C. Ectoderm and mesoderm

D. Mesoderm and endoderm

Answer: B



171. Most abundant, harmful and universal waste product of metabolism is

A. Uric acid

 $\mathsf{B.}\,H_2O$

 $\mathsf{C}.\,CO_2$

D. None of the above

Answer: C

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172. Occurrence of arginase confirms that

A. Urea cycle is operating

B. Urea cycle may be operating

C. Arginine is being converted into citrulline

D. Arginine is being converted into ornithine

Answer: D



173. Which of these is not a ketone body

A. Succinic acid

B. Acetone

C. Acetoacetic acid

D. β – hydroxybutyric acid

Answer: A

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174. Absorption of major part of Na^+ and K^+ ions occurs in

A. Proximal convoluted tubule

B. Bowman's capsule

C. Distal convoluted tubule

D. Loop of Henle

Answer: A

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175. What is the function of Bowman's capsule and Glomerulus

A. Reabsorption of water

B. Filtration of Blood

C. Reabsorption of Na^+

D. concentration of urine.

Answer: B

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176. As compared to blood, human urine is

A. Isotonic

B. Hypotonic

C. Hypertonic

D. None of the above

Answer: C

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177. Chemical composition of renal calculi, besides uric acid is

A. Bile salts

B. Barium chloride

C. Zinc sulphate

D. Calcium oxalate

Answer: D				
Watch Video Solution				
178. Excretory product of mammals is generally				
A. Uric acid				
B. Urea				
C. Ammonia				
D. All the above				
Answer: B				
Watch Video Solution				

179. Haemodialysis helps in the patient having

A. Goitre

B. Anaemia

C. Uremia

D. Diabetes

Answer: C

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180. Glomerular hydrostatic pressure is present in

A. Tubule of kidney

B. Glomerulus of urinary tubule

C. Malpighian tubule

D. Bowman's capsule

Answer: B

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181. Urea is directly produced in mammals from

A. Ammonia released by oxidative deamination

B. Oxidative deamination of purines

C. Breakdown of ornithine

D. Breakdown of arginine

Answer: D

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182. Humans are

A. Ammonotelic

B. Ureotelic

C. Uricotelic

D. Both B and C

Answer: B

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183. Kidneys are excretory organs in

A. All chordates

B. Mammals only

C. Mammals and amphibians only

D. Mammals reptiles and amphibians only

Answer: A

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184. Loop of Henle is connected with

A. Dilution of urine

- B. Removal of water
- C. Counter current multiplier system
- D. Remove salt

Answer: C

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185. Marcello Malpighi after whom malpighian corpuscles are named

was born in

A. Germany

B. Australia

C. Austria

D. Italy

Answer: D



186. Ureotelism occurs in

A. Mammals

B. Aquatic insects

C. Tadpoles

D. Birds

Answer: A

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187. The accumulation of uric acid crystals in the region of joints resulting in painful movements causes

A. Rheumatoid arthritis

B. Osteoarthritis

C. Osteoporosis

D. Gout

Answer: D

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188. Voluntary response to distension of urinary bladder is

A. Polyuria

B. Micturition

C. Diabetes mellitus

D. Menstruation

Answer: B

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189. Part of nephron impermeable to salt is

- A. Proximal convoluted tubule
- B. Distal convoluted tuble
- C. Descending limb of loop of Henle
- D. Ascending limb of loop of Henle

Answer: C

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190. Antennary glands of crustaceans are meant for

A. Gustatoreception

B. Olfactoreception

- C. Tangoreception
- D. Excretion

Answer: D

Watch Video Solution	
191. Marine teleost fish excrete	
A. Ammonia	
B. Urea	
C. Uric acid	
D. Amino acids	

Answer: B



192. Vasopressin stimulates constriction of the blood vessels. but vasopressin is also called

A. Synovial fluid

- B. Neurotransmitter
- C. Antidiuretic hormone
- D. Growth regulating substance

Answer: C

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193. Match the colums and choose the correct combination

Column I

- Column II
- (i) Ultrafiltration
- (ii) Concentration of urine
- (a) Henle's loop(b) Ureter
- (iii) Transport of urine (
- (iv) Storage of urine
- (c) Urinary bladder
- (d) Malpighian corpuscle
- (e) Proximal convoluted tubule

A.
$$I-d, ii-a, iii-b, iv-c$$

B. i-d, ii-c, iii-b, iv-a

 $\mathsf{C}.\,i-e,ii-d,iii-a,iv-c$

D. i-e, ii-d, iii-a, iv-b

Answer: A

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194. Juxtagomeruclar cells of renal cortex synthesize a hormone called

(a) ADH

(b) oxytocin

(c) renin

(d) urochrome

A. ADH

B. Oxytocin

C. Renin

D. Urochrome

Answer: C

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195. Ornithine cycle removes two waste products from blood in liver

A. CO_2 and Urea

B. Ammonia and urea

C. Urea and urine

D. CO_2 and ammonia

Answer: D



196. A person is undergoing prolonged fasting. His urine will be found

to contain abnormal quantities of

A. Ketones

B. Glucose

C. Amino acids

D. Fats

Answer: A

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197. Which one of the following groups of structures or organs have similar function

A. Typhlosole in Earthworm, intestinal villi in Rat and contractile

vacuole in Amoeba

B. Nephridia in Earthworm, malpighian tubules in Cockroach and

urinary tubules in Rat

C. Antennae in Cockroach, tympanum of Frog and clitellum of

Earthworm

D. Incisors of Rat, gizzard (proventriculus) of Cockroach and tube

feet of Starfish

Answer: B

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198. 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 excreters lot of stored salt through gill membrane

when in fresh water

C. Oparamoecium discharges concentrated salt by contractile

vacuole

D. Body fluids of fressh water animals are generally hypotonic to

surrounding water.

Answer: A

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199. Glucose is mainly absorbed in

A. Henle's loop

B. DCT

C. PCT

D. Nephron

Answer: C





200. Which one is component of ornithine cycle

A. Ornithine, citrulline and alanine

B. Ornithine, citrulline and arginine

C. Amino acids are not used

D. Ornithine, citrulline and fumaric acid

Answer: B

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201. If liver is removed, which component of blood will increase ?

A. Ammonia

B. Protein

C. Uric acid

D. Urea

Answer: A

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202. A portion of uric acid is changed into urea and ammonia by intestinal

A. Urogenolysis

B. Ureolysis

C. Uricolysis

D. Ureotolysis

Answer: C

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203. Wolffian body is also known as

A. Pronephros

B. Mesonephros

C. Abnormal heart

D. Metanephros

Answer: B

Watch Video Solution

204. A health person will not excrete urine having

A. Creatinine

B. Uric acid

C. Alanine

D. Vitamin B-complex



205. Which one acts are artifical kidney in haemodialysis ?

A. Dialysing liquid

B. Bubble trap

C. Blood pump

D. Dialyser

Answer: D



206. The first formed nitrogenous waste of vertebrates is

B. Urea

 $\mathsf{C}.\, NH_3$

D. NH_4

Answer: C

Watch Video Solution

207. Which of the following is located on the base of urinary bladder?

A. Seminal vesicle

B. Prostate glands

C. Bulbourethral gland

D. Ovary

Answer: A

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208. Almost all aquatic animals excrete ammonia as nitrogenous waste. Which is wrong

A. Ammonia is highly toxic and requires elimination when formed

B. Ammonia is easily soluble in water

C. Ammonia is converted into less toxic form called urea

D. Ammonia is released from body in gaseous state

Answer: C

Watch Video Solution

209. Which is the best adapted for conservation of water ?

A. Ammonotelism

B. Ureotelism

C. Uricotelism

D. Hydrophobism

Answer: C



210. Read the given statements and select the correct option.

Statement 1: Inflammation of a skeletal joint may immobilise the movements of the joint.

Statement 2: This may be caused due to uric acid crystals in the joint

cavity and ossification of articular cartilage.

A. both are true being reason is correct explanation

B. both true but reason is not correct explanation

C. assertion is true but reason is wrong

D. both are wrong

Answer: A

211. Match the colums

	Ι		II
G	Uraemia	1.	Excess of protein
Ь	Haematuria	2.	level in urine Presence of high ketone bodies in urine
С	Ketonuria	3.	Presence of blood cells in urine
d	Glycosuria	4.	Presence of glucose in urine
e	Proteinuria	5.	Presence of excess urea in blood.

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

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

Answer: D

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212. Green glands present in some arthropods help in

A. Respiration

B. Excretion

C. Digestion

D. Reproduction

Answer: B

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213. Urine is excreted out of the body through

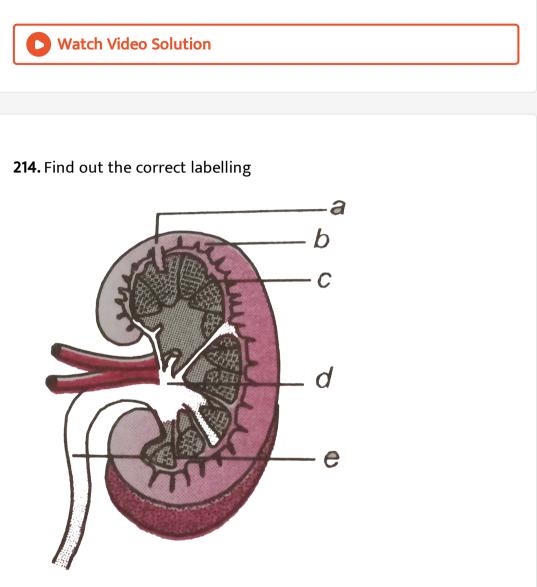
A. Pelvis

B. Ureter

C. Urinary bladder

D. Urethra

Answer: D



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

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

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

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

Answer: A

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215. Arcuate artery is found in

A. Kidney

B. Lungs

C. Skin

D. All the above

Answer: A

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216. Which is correctly matched

A. Glomerulare filtrate - serum with protein

B. Glomerular filtration rate - 125 ml/min

C. Reabsorption - collecting tubule

D. Reabsorption of $Cl^{\,\prime}$ - Active absorption

Answer: B

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217. Formation of hypertonic urine is mediated through

A. Having small loop of Henle

B. Eating salt free diet

C. Counter-current system

D. Increased water intake

Answer: C



218. Which is wrong

A. Presence of albumin in urine is albuminaria

B. Presence of glucose in urine is glycosuria

C. Presence of ketose sugar in urine is ketonuria

D. Presence of excess urea in blood is uremia

Answer: C



219. Region of nephron found ikn renal medulla is

A. Malpighian corpuscle

- B. Promixmal convoluted tubule
- C. Distal convoluted tubule
- D. Henle's loop

Answer: D

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220. 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

renal medulla between the renal pyramids

A. II and III incorrect

- B. I and II correct
- C. I and III correct

D. I, II and III correct

Answer: A



221. Excretion of dilute urine is due to

A. More secretion of aldosterone

B. Less secretion of vasopressin

C. Less secretion of glucagon

D. More secretion of insulin

Answer: B



222. First step in urine formation is

- A. Tubular secretion
- B. Tubular reabsorption
- C. Ultrafiltration
- D. Selective secretion

Answer: C

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223. Which is not part of nephron?

A. PCT

B. DCT

C. Loop of Henle

D. Collecting duct

Answer: D



224. Nitrogenous waste products are eliminated mainly as

A. Urea in tadpole and adult

B. Urea in tadpole and ammonia in adult

C. Urea in tadpole and uric acid in adult

D. Urea in adult and ammonia in tadpole

Answer: D

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225. Urine flows into ureters from

A. Kidney pelvis

B. Urinary bladder

C. Urethra

D. Collecting ducts

Answer: A

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226. The longest loop of Henle is found in

A. Kangaroo Rat

B. Rhesus Monkey

C. Opposum

D. Rabbit

Answer: A

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227. Bidder's canal is found in

A. Testis of Frog

B. Kidney of Frog

C. Kidney of Rabbit

D. Both B and C

Answer: B

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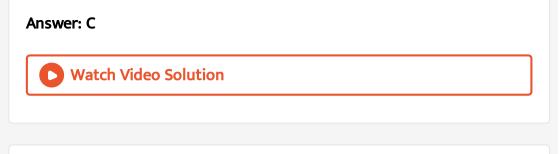
228. Excretory product of spider is

A. Ammonia

B. Uric acid

C. Guanine

D. All the above



229. which one is both osmoregulator as well as nitrogenous products

A. NH_3

B. Urea

C. Uric acid

D. All the above

Answer: B



230. Haematuria is the disorder involving

A. RBCs in urine

B. WBCs in urine

C. Both A and B

D. None of the above

Answer: C

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231. A person who is on a long hunger strike and is surviving only on

water, will have

A. Less amino acids in urine

B. More glucose in blood

C. Less urea in urine

D. More sodium in urine

Answer: C

232. In the absence of loop of Henle

A. Urine will be hypotonic

B. Urine will be hypertonic

C. Urine will be isotonic

D. No change in urine concentration

Answer: A

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233. Urge for urination starts as bladder comes to have urine

A. 200-300 ml

 $\mathrm{B.}\,300-400ml$

 $\mathsf{C.}\,400-450ml$

 $\mathsf{D.}\,450-550ml$

Answer: C



234. Haemodialysis is also called artifical

A. Liver

B. Spleen

C. Stomach

D. Kidney

Answer: D



235. In which of these animals antennal gland functions as excretory

organ?

A. Planaria

B. Prawn

C. Earthworm

D. Cockroach

Answer: B

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236. JG cells, under low glomerular blood flow release

A. Angiotensin I

B. Angiotensin II

C. Aldosterone

D. Renin

Answer: D



237. Proximal convoluted tubule (PCT) is lined with

A. Cubodial epithelium with brush border

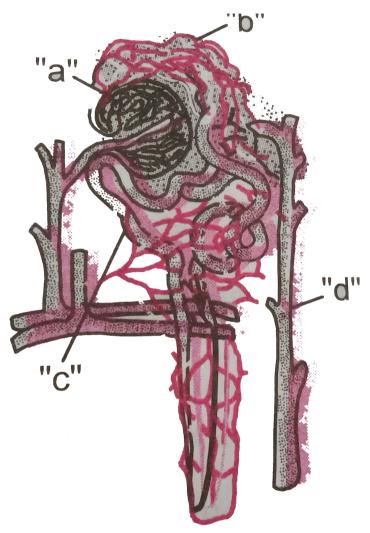
- B. Cuboidal epithelium
- C. Columnar epithelium
- D. Ciliated epithelium

Answer: A



238. In the accompanying diagram of urine formation, identify a, b, c

and d



A. a- pressure filtration, b-reabsorption, c-secretion, d-collection of

urine

B. a-pressure filtration, b-secretion, c- reabsorption, d-collection of

urine

C. a-collection of urine, b-secretion, c-reabsorption, d-pressure

filtration

D. a-reabsorption, b-secretion, c-pressure filtration, d-collection of

urine

Answer: A

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239. During urine formation, which of the following process helps in maintaining osmotic pressure in the uriniferous tubule?

A. Active secretion of Na^+ into efferent arteriole followed by Cl'

secretion

- B. Active Na^+ absorption followed by Cl' absorption
- C. Active secretion of Cl^- and absorption of Na^+ into efferent

arteriole

D. Active Cl' absorption follwed by absorption of Na^+

Answer: B

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240. It is produced due to irregularity in metabolism of nitrogenous waste

A. Osteoarthritis

B. Rheumatoid arthritis

C. Osteoporosis

D. Gouty arthritis

Answer: D



241. Vasporessin in mainly responsible for

A. Obligatory reabsorption of water through Bowman's capsule

- B. Facultative reabsorption of water from DCT
- C. Faculative reabsorption of water from Henle's loop
- D. Obligatory reabsorption of water from PCT

Answer: B



242. Curved portion of the Henle's loop of the

nephrons are lined by

A. Columnar epithelium

B. Cuboidal epithelium

C. Squamous epithelium

D. Ciliated epithelium

Answer: C

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243. The correct sequence of urine movements is

A. Bladder ightarrow Kidney ightarrow Ureter ightarrow Urethra

B. Bladder \rightarrow Urethra \rightarrow Kidney \rightarrow Ureter

C. Kidney \rightarrow Bladder \rightarrow Ureter \rightarrow Urethra

D. Kidney \rightarrow Ureter \rightarrow Bladder \rightarrow Urethra

Answer: D



244. Which is not a basic renal function?

- (a) reabsorption
- (b) secretion
- (c) perfusion
- (d) filtration
 - A. Reabsorption
 - **B.** Perfusion
 - C. Secretion
 - D. Filtration

Answer: B



245. The renal fluid isotonic to the blood is found in the

A. Distal convulated tubule and ascending limb

B. Collecting duct and asceding limb

C. Proximal convuluted tubule and distal convoluted tubule

D. Ascending limb and descending limb

Answer: C

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246. Number of mitochondria is maximum in part of uriniferous tubule

A. PCT

B. Loop of Henle

C. DCT

D. Bowman's capsule

Answer: A

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247. Ureter develops from funnel like structure called

A. Hilum

B. Renal pelvis

C. Major calyx

D. Minor calyx

Answer: B

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248. Maximum energy is released during conversion of

A. Ammonia

B. Urea

C. Uric acid

D. Guanine

Answer: C

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249. Find the correct answer about glomerular filtrate

1. Formed continuously through ultrafilration of blood

- 2. Liquid free fluid collects in the lumen of Bowman's capsule
- 3. Protein free fluid collects in the lumen of Bowman's capsule
- 4. formed by process of selective reabsorption

A. 1, 2, 3 correct

B. 1, 2 correct

C. 2, 4 correct

D. 1, 3 correct

Answer: D

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250. Which one of the following pair of items correctly belongs to the category of organs mentioned against it?

A. Nephridia of Earthrown and Malpighian tubules of Cockroach -

excretory organ

B. Wings of Honey Bee and Crow - Homeologus organs

C. Nictitating membrane and blind spot in human eye-vestigial

organs

D. Thorns of Bougainvillea and tendrila of Cucurbita -Analogous

organs

Answer: A

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251. Consider the following four statements about certain desert animals such as Kangaroo rat,

I. They have dark colour and high rate of reproduction and excrete solid urine

II. They do not drink water, breathe at a slow rate to conserve water and have their body covered with thick hairs

III. They feed on dry seeds and do not require drinking water

IV. They excrete very concentrated urine and do not use water to regulate body temperature

Which two do the above statements for such animals are true?

A. c and a

B. a and b

C. c and d

D. b and c

Answer: C

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252. If one litre of water is introduced in human blood, then

A. BMR decreases

B. RBCs collapse and urine production increases

C. BMR increases

D. RBCs collapse and urine production decreases

Answer: B



253. Which substance is in higher concentration in blood than in glomerular filtrate ?

A. Plasma proteins

B. Urea

C. Water

D. Glucose

Answer: A

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254. A large quantity of fluid is filtered every day by the nephrons in the kidney. Only about 1% of it is excreted as urine. The remaining 99% of the filtrate

A. Gets collected in renal pelvis

B. Is lost as sweat

C. Is absorbed into blood

D. Is stored in urinary bladder

Answer: C

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255. The characteristic that is shared by urea, uric acid and ammonia

is/are

- A. they are nitrogenous wastes
- B. they all need very large amount of water for excretion
- C. they all are equally toxic
- D. they are produced in the kidneys

A. a, c

B. a, d

C. a, c, d

D. a only

Answer: D

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256. Which of the following is the correct pathway for passage of urine in humans?

A. Renal cortex ightarrow Medulla ightarrow Urinary bladder ightarrow Urethra

B. Renal vein \rightarrow Urethra \rightarrow Bladder \rightarrow Ureter

C. Collecting duct \rightarrow Ureter \rightarrow Bladder \rightarrow Urethra

D. Pelvis \rightarrow Medulla \rightarrow Urinary bladder \rightarrow Urethra

Answer: C

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257. In nephron, water absorption is maximum in

A. Distal convoluted tubule

B. Proximal convoluted tubule

C. Glomerulus

D. Henle's loop

Answer: B

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258. Which is correct ?

A. Water reabsorption in descending limb and sodium reabsorption

in ascending limb of Henle loop occur under similar conditions

B. Sodium reabsorption in ascending limb of loop and collecting

duct occur under similar conditions

C. Water reabsorption in descending limb of loop and collecting

duct occur under similar conditions

D. Water reabsorption in descending limb of loop and collecting

duct occur under different conditions

Answer: D

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259. The genetic deficiency of ADH - receptor leads to

A. Diabetes mellitus

B. Diabetes insipidus

C. Glycosuria

D. Nephrogenic diabetes

Answer: B



260. The size of filtration slits of glomerulus

A. 25 nm

B. 20 nm

C. 15 nm

D. 10 nm

Answer: A

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261. Find the incorrect statement regarding mechanism of urine formation in man

A. Counter-current systems contribute in diluting urine

B. Tubular secretion takes place in PCT

- C. Golmerular filtration rate is 125 ml/min
- D. Ultra -filtration is opposed by colloidal osmotic pressure of

plasma

Answer: A

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262. Match the columns :

Organism Excreting Structure

 α

c

e

- 1. Cockroach
- 2. Clarias b
- 3. Earthworm
- 4. Balanoglossus d
- 5. Flat worm

- Nephridia
- Malpighian tubules
- Kidneys
- Flame cells
- Proboscis gland

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

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

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

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

Answer: B



263. What will happen if the stretch receptors of the urine bladder wall are totally removed?

A. There will be no micturition

B. Urine will not collect in bladder

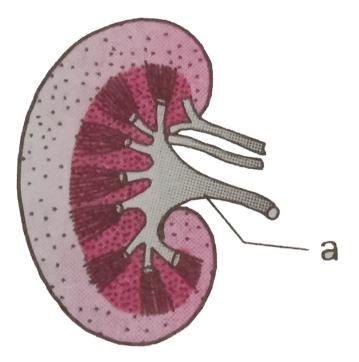
C. Micturition will continue

D. Urine will continue to collect normally in bladder

Answer: C

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264. In the given diagram, what does 'a' represent



A. Renal pyramid

B. Renal pelvin

C. Renal medulla

D. Renal cortex

Answer: B



265. Which of the following amino acids play important role in ornithine cycle ?

A. Citrubline, glycine

B. Ornithine, citrulline

C. Glycine, methionine

D. Arginine, methionine

Answer: B

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266. 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 2 : 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 statement a and b are wrong

D. Both statement a and b are correct

Answer: A

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267. In peritoneal dialysis

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

B. Blood is not removed from the body and a natural filter is

empolyed

C. Blood is not removed from the body and an artifical filter is used

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

Answer: B

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268. Increase in frequency of urination is

A. Uremia

B. Proteinuria

C. Polyuria

D. Glycosuria

Answer: C

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269. Renal calculi are formed due to

A. Calcium oxalate crystals accumulation

B. Bacterial infection

C. Clotting of blood

D. Presence of hard particles in food

Answer: A

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270. Which is not uricotellic

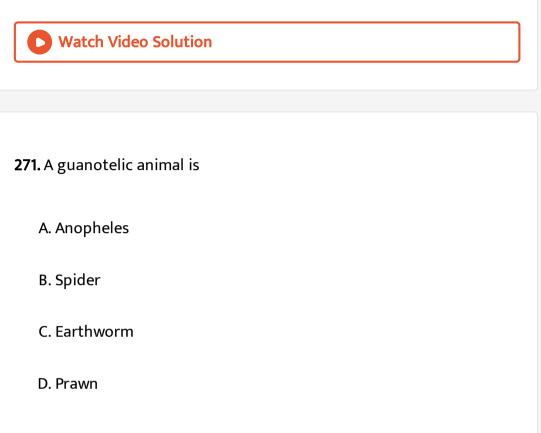
A. Frog

B. Cockroach

C. Birds

D. Lizard

Answer: A



Answer: B



272. Transitional epithelium occurs in

B. Urinary bladder

C. Urethra

D. Both A and B

Answer: D

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273. Urine is hypotonic in

A. PCT

B. Loop of Henle

C. DCT

D. Cllecting duct

Answer: C

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274. Which is correctly matched

A. Man - Ureotelic

B. Birds - Ammonetellic

C. Fish - Uricotelic

D. Frog - Uricotelic

Answer: A

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275. Which is wrongly matched ?

A. DCT - Absorption of glucose

B. Bowman's capsule - Glomerular filtration

C. Henle's loop - Concentration of urine

D. PCT - Absorption of Na^+ and K^+ ions



276. Exertion of potassium is governed primarily by

A. Absorption in PCT

B. Secretion in DCT

C. Absorption of DCT

D. Secretion in PCT

Answer: B

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277. This is not a nitrogenous waste

A. Creatinine

B. Citrulline

C. Purines

D. Allantoin

Answer: B

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278. Which is not an excretory organ of vertebrates ?

A. Liver

B. Lungs

C. Hepatopancreas

D. Skin

Answer: C

279. Glycosuria is the condition, where a man

A. Low amount of sugar in urine

B. Low amount of fat in urine

C. Average amount of carbonhydrate in urine

D. High amount of sugar in urine

Answer: D

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280. Name the condition when the concentration of ketone body increases in urine

A. Turner's syndrome

B. Sickle cell anaemia

C. Acromegaly

D. Diabetes mellitus

Answer: D



281. Many fresh water animals cannot live for long in sea water and vice

versa mainly because of

A. change in nitrogen level

B. change in thermal tolerance

C. Variation in light intensity

D. Osmotic problems

Answer: D

282. The average quantity of urea excreted in urine by man per day is

A. 10 - 15g

B.25 - 30g

C.40 - 50g

 $D.\,100 - 500 mg$

Answer: B

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283. ADH takes part in

- (a) Water retention in urine
- (b) N a + reabsorption
- (c) Reducing urea formation
- (d) Absorption of water from urine

A. Reabsorption of Na^+

- B. Reabsorption of water
- C. Tubular secretion of creatinine
- D. Tubular secretion of urea

Answer: B

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284. In which one of the following options excretory organs are correctly stated against the given organism ?

A. Cockroach - Malpighian tubules and enteric caeca

B. Earthworm -Pharyngeal, integumentary epithelium

- C. Frog Kidneys, skin and buccal epithelium
- D. Humans Kidneys, sebaceous glands and tear glands

Answer: B

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

A. Distal convoluted tubule is incapable of reabsorbing HCO_3^-

B. Nearly 99% of glomerular filtrate is reabsorbed by renal tubules

C. Ascending limb of loop of Henle is impermeable to electrolystes

D. Descending limb of loop of Henle is impermeable of water

Answer: B

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286. Consider the following four statements regarding kidney transplant and select the two correct ones out of these.

(i) Even if a kidney transplant is proper the recipient may need to take immunosuppresants for a long time. (ii) The cell-mediated immune respones is responsible for the graft rejection

(iii) The B-lymphocytes are responsible for rejection of the graft.

(iv) The acceptance or rejection of a kidney transplant depands on specific interferons

The two correct statements are

A. c and d

B. a and c

C. a and b

D. b and c

Answer: C



287. The principal nitrogenous excretory compound in humans is

aynthesized

A. In kidneys as well as eliminated by kidneys

B. In liver and also eliminated by the same through bile

C. In the but eliminated mostly through kidneys

D. In kidneys but eliminated mostly through liver

Answer: C

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288. How many molecules of ammonia are required to form 8 molecules of urea

A. 24

B. 8

C. 16

D. 4

Answer: C



289. The nitrogenous excrtory products are formed from the catabolism of amino acids by

A. Calvin cycle

B. Nitrogen cycle

C. Ornithine cycle

D. Krebs cycle

Answer: C

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

A. Urochrome

B. Anthoxanthine

C. Urine

D. Uric acid

Answer: A

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291. Duct of Bellini opens into

A. Minor calyx

B. Major calyx

C. Renal pyramid

D. Renal sinus

Answer: C



292. Inosinic pathway occurs in

A. Ammonotelism

B. Ureotelism

C. Uricotelism

D. Guanotelism

Answer: C

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293. Angiotensinogen in converted into angiotensin by

A. Renin

B. ADH

C. ANF

D. Aldosterone

Answer: A

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294. Columns of bertini in the kidneys of mammals are formed as extensions of

A. cortex into medulla

B. Medulla into cortex

C. Renal pelvis into renal sinus

D. Renal capsule into cortex

Answer: A

295. Ketonuria is due to

A. Intake of excess sugar

B. Diabetes insipidus

C. Diabetes mellitus

D. High blood pressure

Answer: C

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296. Connecting tubule acts as part of which organ

A. Heart

B. Kidney

C. Liver

D. Pancreas

Answer: B

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297. Glucose is absorbed

A. Passively by DCT

B. Actively by DCT

C. Actively by PCT

D. Passively by PCT

Answer: C



298. Assertion 'A'. Nitrogenous waste from arterial blood is removed

when blood passes through dialyser unit

Reason 'R'. Arterial blood of patient and dialysing liquid are made to flow on two sides of permeable membrane

A. Both correct by 'R' is not reason for 'A'

B. Both correct and 'R' is correct reason for 'A'

C. A' is correct by 'R' is wrong

D. A' is wrong by 'R' is correct

Answer: C

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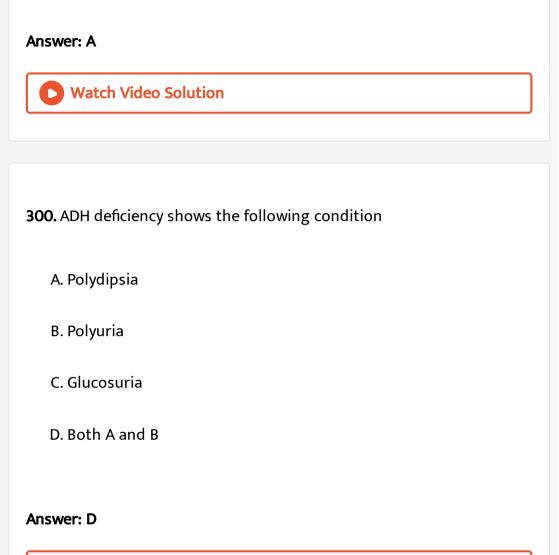
299. Glucose and amino acids are rebsorbed in :

A. Proximal tubule

B. Distal tubule

C. Collecting duct

D. Loop of Henle





301. The Juxta glomerular cells of kidney produce a peptide hormone

called

A. Gastrin

B. Secretin

C. Estradiol

D. Erythropoiethin

Answer: D

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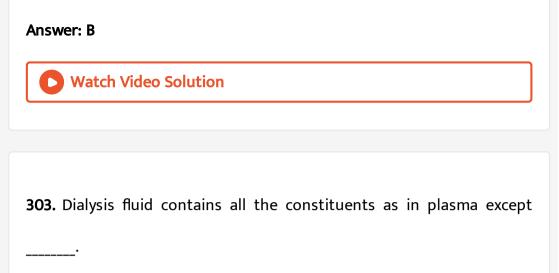
302. During summer season, which hormone concentration is maintained at high level ?

A. Insulin

B. Vasopressin

C. Oxytocin

D. Corticoid



A. Electrolytes

B. Proteins

C. Nitrogenous wastes

D. All the above

Answer: C

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304. Effective filtration pressure in glomerulus is caused due to

- A. Secretion of adrenaline
- B. Afferent arteriole is slightly broader than efferent arteriole
- C. Vacuum develops in proximal convoluted tubule and sucks the

blood

D.

Answer: C

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305. When a fresh water protozoan is placed in marine water

A. The contractile vacuole disappears

B. Contractile vacuole increases in size

C. A number of contractile vacuoles appear

D. The contractile vacuole remains unchanged

Answer: A



306. Select the correct statement wrt nephrons

A. Juxtamedullary nephrons have reduced Henle's loops

B. Vasa recta is well developed in cortical nephrons

C. Ascending limb of Henle's loop extends as DCT

D. Glomerulus enclose Bowman's capsule

Answer: C



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

A. Collecting ducts

B. Loop of Henle

- C. Convoluted tubules
- D. Peritubular capillaries

Answer: C

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308. Which is correct

A. Distal convoluted tubule- Reabsorption of K^+ ions

B. Afferent arteriole - Carries blood away from glomerulus

C. Podocytes - create minute spaces (slit pores) for filtration

D. Henle's loop - Most reabsorption of major substances

Answer: C

309. Which is correct statement?

A. An increase in glomerular blood flow stimulates formation of angiotensin II

B. During summe, when body loses a lot of water by evaporation,

the release of ADH is suppressed

C. When some one drinks a lot of water, ADH release is suppressed

D. Exposure to cold temperature stimulates ADH release

Answer: C

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310. which of the following vacuoles help in osmoregulation in Amoeba?

A. Food vacuole

B. Mitochondria

C. Nucleus

D. Contractile vacuole

Answer: D

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311. Which is true of excretion

A. Large amount of water from renal filtrate is absorbed by DCT and

lesser amount in PCT

B. Descending limb of loop of Henle is impermeable to salts

C. Malpighian corpuscles occur in renal medulla

D. Urine is pale yellow and slightly alkaline

Answer: B



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

A. PCT

B. Descending limb of Henle's loop

C. Ascending limb of Henle's loop

D. DCT

Answer: A

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313. Juxtaglomerular apparatus is made up of

A. Juxtaglomerular cell, macula densa and lacis cell

B. Juxtaglomerular cell, lacis cell and myoepithelial cell

C. Juxtaglomerular cell, lacis cell and Purkinje cell

D. Juxtaglomerular cell, macula densa and argentaffin cell

Answer: A

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314. Ketone bodies consist of

A. Nicotinic acid, folic acid and ascorbic acid

B. Acetone, beta hydroxybututyryl CoA and acetoacetic acid

C. Acetoacetic acid, acetone and beta hydroxybutyric acid

D. Acetic acid, acetone and beta hydroxybutyric acid

Answer: C

315. Which of the following glands does not help in excretion ?

A. Liver

B. Sweat glands

C. Both A and B

D. Pancreas

Answer: D

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316. Urinary bladder opens to the outside through

A. Nephron

B. Glomerulus

C. Ureter

D. Urethra

Answer: D

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317. Which is correctly categorised

A.

Ammonotelic	Ureotelic	Uricotelic
Pigeon, Humans	Aquatic amphibia, Lizards	Cockroach, Frog

Β.

Ammonotelic	Ureotelic	Uricotelic
Aquatic amphibia	Frog, Humans	Pigeon, Lizards, cockroach

C.

AmmonotelicUreotelicUricotelicAquatic amphibiaCockroach, HumansFrog, Pigcon, Lizards

D.

AmmonotelicUreotelicUricotelicFrog, LizardsAquatic amphibia, HumansCockroach, Pigeon

Answer: B

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

A. Juxtaglomerular cells to release renin

B. Adrenal cortex to release aldosterone

C. Posterior pituitary to release vasopstession

D. Adrenal medulla to release adrenaline

Answer: A

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319. Which of the following characteristic is common both in humans

and adult frogs ?

A. Internal fertilization

B. Nucleated RBCs

- C. Four chambered heart
- D. Ureotelic excretion

Answer: D

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320. Kidneys perform all the functions except

A. Filtration of blood

B. Regulation of B.P

C. Secretion of antibodies

D. Regulation of pH of body fluids

Answer: C

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

A. DCT

B. Henle's loop

C. Glomeruli

D. Bowman's capsule

Answer: A

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322. Which is correct in normal humans

A. pH of urine is around 8

B. 20-30 mg of urea is excreted per day

C. Ketone bodies in urine indicate diabetes mellitus

D. Glycosuria is treated with hemodialysis

Answer: C



323. Pressure which favours filtration and one which opposes filtration of blood are and respectively

A. Capsular hydrostatic pressure and glomerular osmotic pressure

B. Glomerular hydrostatic pressure and glomerular osmotic pressure

- C. Glomerular osmotic pressure and glomerular hydrostatic pressure
- D. Glomerular osmotic pressure and arterial pressure

Answer: B

324. Assertion. In PCT, glomerular filtrate becomes hypertoinc

Reason. HCO_3 is absorbed in PCT

A. both are true with reason being correct explanation

B. both are true but reason is not correct explanation

C. assertion is true but reason is wrong

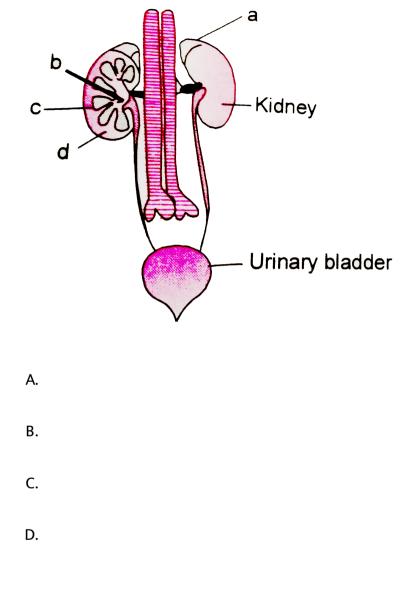
D. both are wrong

Answer: D

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325. Amongst labels a - d of human urinary system, select option with

correct identification and characteristics/function



Answer: B

326. Select the correct match of animal, excretory organs and product

A. Salamander - kidney - urea

B. Peacock - kidney - urea

C. Housefly - renal tubules - uric acid

D. Labeo - nephridal tubes - ammonia

Answer: A

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327. Urine is formed from

A. Tubular absorption

B. Glomerular filtration

C. Tubular secretion

D. Both A and B

Answer: D

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328. Peritubular capillaries develop from

A. Renal vein

B. Afferent arteriole

C. Efferent arteriole

D. Arcuate artery

Answer: C



329. Hypertonic urine formation is a characteristic of kidneys of

A. Fishes and amphibians

- B. Amphibians and reptiles
- C. Reptiles and fishes
- D. Birds and mammals

Answer: D

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330. Excretion in Hydra occurs through

A. Flame cells

B. Nephridia

C. Cnidoblasts

D. General body surface

Answer: D

331. Assertion A. The process of filtration takes place in malpighian corpuscles

Reason R. The total blood pressure is very high in glomerular capillaries

A. A is wrong and R is correct

B. A and R are correct. R is not explanation of A

C. A is correct and R is wrong

D. A and R both are correct. R is correct explanation of A

Answer: D

332. Select the proper option

(x) PCT

I

- (y) DCT (q)
- (z) Descending limb of loop of Henle
- (w) Ascending limb (s)of loop of Henle blood plasma.

Π

- Ascending limb of (\mathbf{p}) nephron opens in it Filtrate is hypertonic
- to blood plasma Fluid gets diluted due (r)
 - to diffusion of electrolytes out of medullary fluid
 - Filtrate is isotonic to
- A. x p, y q, z r, w s
- B. x s, y p, z r, w q
- C. x s, y r, z q, w p
- $\mathsf{D}. x s, y p, z q, w r$

Answer: D



333. Which is true for excretion in humans

A. Glucose and amino acids are reabsorbed in PCT by simple

diffusion

B. DCT is impermeable to water

C. On the average, $25-30~{
m gm}$ of urea is excreted per day

D. Maximum reabsorption occurs in loop of Henle's

Answer: C

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334. Mosquito is

A. Ammonotelic

B. Uricotelic

C. Ureotelic

D. Guanotelic

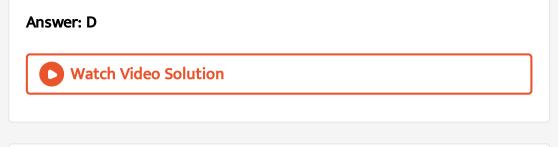
Answer: B

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335. Read the following statement and choose the correct option I. Asceding limb of Henle's loop is permeable to water II. Tubular cells secrete substance like H^+, K^+ and ammonia into

filtrate

- III. There is maximum reabsorption in Henle's loop
- IV. Conditional reabsorption of Na^+ occurs in DCT
- V. PCT helps in maintaining ionic balance of body fluids
 - A. I, IV and V alone are correct
 - B. II, III and V alone are correct
 - C. III, IV and V alone are correct
 - D. II, IV and V alone are correct



336. Angiotensinogen is a protein produced and secreted by

A. Macula densa cell

B. Liver cells

C. Juxtaglomerular cells

D. Endothelial cells

Answer: B



337. Which ones regulate solute reabsorption during urine formation

A. ADH and angiotensin

- B. Angiotensin II and angiotensin I
- C. Norepinephrine and epinephrine
- D. Angiotensin II and aldosterone

Answer: D

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338. Arginosuccinase is

A. Hydrolase

B. Ligase

C. Lyase

D. Oxido-reductase

Answer: C

339. Which are catabolised by human and apes to produce uric acid

A. Carbohydrates

B. Lipids

C. Nucleic acids

D. Vitamins

Answer: C

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340. The following is/are removed during haemodialysis

A. Urea

B. Glucose

C. Amino acids

D. All the above

Answer: A

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341. Which are not ureotelic

A. Mammals

B. Terrestrial amphibians

C. Aquatic insects

D. Bird/Snake

Answer: D



342. Snake, a reptile is

A. Ammonotelic

B. Ureotelic

C. Uricotelic

D. Both A and B

Answer: C

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343. Accumulation of urea in blood due to malfunctioning of kidneys is

A. Edema

B. Uremia

C. Renal calculi

D. Glomerulonephritis

Answer: B

344. PCT is responsible for

A. Filtration of blood

B. Maintenance of glomerular filtration rate

C. Reabsorption of salt only

D. Selective reabsorption of glucose, amino acids, NaCl and H_2O

Answer: D

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

A. Renin

B. Angiotensin

C. ANF

D. None of the above

Answer: C

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346. Which is incorrectly matched

A. Renin - liver

B. Ptyalin - mouth

C. Pepsin - stomach

D. Trypsin - intestine

Answer: A



347. Match the lists and find the correct match

I (part C f nephron)		II (function)
(a) Proximal convoluted tubule	L s	Impermeable to sodium ions
(b) Distal convoluted tubule	II.	Impermeable to water
(c) Descending limb of Henle's loop	Ш.	Facultative reabsorption of H ₂ O, Na ⁺
(d) Ascending limb of Henle's loop	IV.	Reabsorption of nutrients and Na ⁴

A.
$$a - III, b - IV, c - II, d - I$$

$$\mathsf{B}.\,a-III,b-IV,c-I,d-II$$

- C. a IV, b III, c I, d II
- $\mathsf{D}.\,a-IV,b-II,c-I,d-III$

Answer: C

348. The correct match is

I. DCT - Secretion of H^+ and K^+ ions

II. Henle's loop -Reabsorption of glucose, water and Na^+ ions

III. Podocytes - Attached to parietal layer of Bowman's capsule

IV. JGA - Rise in glomerular blood pressure activates it to release renin.

A. III

B. II

C. I

D. IV

Answer: C



349. Which one produces erythropoietin

A. Kidney

B. Pancreas

C. Pineal body

D. Thyroid gland

Answer: A

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350. The wall of urinary bladder has a thick layer of smooth muscle

called

A. Dartos

B. Detrusor

C. Deltoid

D. Depressor

Answer: B

351. Match the columns and choose the correct option

Ι	an a	TI CARACTERISTIC
(i) Epithelial cells of	(a)	
Bowman's capsule		nephrons
(ii) Extension of cortex	(b)	Vasa recta
between medullary		
pyramids as renal		
columns		
(iii) Nephrons with long	(<i>c</i>)	Juxtaglomerular
loop of Henle running		apparatus
deep into medulla		
(iii) A fine vessel of		Podocytes
peritubular capillaries	;	
running parallel to		
Henle's loop.		
(v) A special sensitive	(<i>e</i>)	Columns of Bertin
region in DCT and		
region in Dor una		
afferent arteriole at		
the location of their		
contact.		a l'almontron
	(f)	Cortical nephron.

A.
$$i-c, ii-b, iii-a, iv-d, v-e$$

 $\mathsf{B}.\,i-e,ii-a,iii-b,iv-c,v-d$

 $\mathsf{C}.\,i-d,ii-c,iii-f,iv-e,v-a$

D.
$$i - d$$
, $ii - e$, $iii - a$, $iv - b$, $v - c$

Answer: D



352. Identify the CORRECT statement regarding urine formation.

A. Counter-current mechanism works around glomerules and PCT

B. To prevent diuresis, ADH facilitates water reabsorption from the

later parts of the tubule

- C. Maximum absorption of electrolytes occurs in Henle's loop
- D. A decrease in blood pressure can increase glomerular filtration

rate

Answer: B

353. Which of the following causes an increase in sodium reabsorption

in the distal convo-luted tubule?

A. Increase in antidiuretic hormone levels

B. Decrease in aldosterone levels

C. Decrease in antidiuretic hormone levels

D. Increase in aldosterone level

Answer: D

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354. Which of the following waste products is not excreted in Grasshopper but is used in other metabolic activities

A. Carbon dioxide

B. Water

C. Uric acid

D. Faeces

Answer: B

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355. The increase in blood flow to heart stimulates secretion of

A. Renin

B. Oxytocin

C. Antidiuretic hormone

D. Atrial natriuretic factor

Answer: D

356. Uric acid gets deposited in small joints to produce

A. Urea

B. Uric acid

C. Guanine

D. Ammonia

Answer: B

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357. Choose the wrong statement regarding urine formation

A. Filtration is non-selective process perfomed by glomerulus

B. Glomerular capillary blood pressure causes filtration of blood

through three layers

C. GFR in a healty individual is approximately 125 ml/min

D. Ascending limb of Henle's loop is permeable to water but allows

transport of electrolytes actively or passively

Answer: D

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358. Vasa recta refers to

A. Rectum region of insects

B. Blood capillaries in invertebrates

C. A fine blood capillary network of afferent artriole

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

Answer: D

359. Find the wrongly matched pair of animal and its excretory structure

A. Balanoglossus - Proboscis gland

B. Earthworm - Nephridia

C. Grasshopper - Malpighian tubules

D. Prawn - Flame cells

Answer: D

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360. 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



361. Which one of the following component of urine in a healthy human does not differ much in concentration from that of blood plasma

A. NH_4^+

 $\mathsf{B.}\,K^{\,+}$

C. Na^+

D. SO_4^{2-}

Answer: D

362. Birds excrete nitrogenous waste as

A. Uric acid

B. Urea

 $\mathsf{C}. NH_3$

D. Guanine

Answer: A

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363. ANF (Atrial Natriuretic Factor) is secreted by

A. Heart

B. Brain

C. Kidney

D. Pancreas

Answer: A
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364. Concentration of urine is controlled by
A. ACTH
B. MSH
C. ADH
D. Oxytocin
Answer: C
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365. Which of the following statements is false regarding the

nitrogenous wastes

- A. Urea is more toxic than ammonia
- B. Ammonia is converted to urea in liver
- C. Ammonia is produced in the body cells by the metabolism of

proteins

D. Fluid collected in Bowman's capsule is called glomerular fluid

Answer: A

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366. Which determines the abiltiy of a mammal to concentrate its urine

- A. Number of nephrons
- B. Length of proximal convoluted tubules
- C. Length of collecting ducts
- D. Size of glomerulus

Answer: C



367. The principal nitrogenous excretory compound in humans is aynthesized

A. Kidneys as well as eliminated by kidneys

B. Liver but eliminated mostly through kidneys

C. Kidneys but mostly eliminated through liver

D. Liver and also eliminated by the same through bile

Answer: B



368. Human urine is usually acidic because

A. Sodium transporter exchanges one hydrogen ion for each

sodium ion, in peritubular capillaries

- B. Excreted plasma proteins are acidic
- C. Potassium and sodium exchange generates acidity
- D. Hydrogen ions are actively secreted into the filtrate

Answer: D

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369. Choose the correct one regarding urinary excretion

A. Urinary excretion : Glomerular filtration - Tubular reabsorption

+ Tubular secretion

B. Urinary excretion : Tubular reabsorption + Glomerular filtration

Tubular secretion

C. Urinary excretion : Tubular secretion + Tubular reabsorption

D. Urinary excretion : Tubular secretion – Glomerular filtration

Answer: A



370. Which of the following functions is not performed by xylem?

A. In the maintenance of pH and ionic balanced of blood by the

secretion of H^+ and K^+ ions

B. Maintenance of pH of blood and removal of Na^+ and K^+ ions

C. Absorption of glucose and ammonia from the blood

D. None of the above

Answer: A

371. Which of the following disease shows the blockage of kidney tubules and causes severe back pain

A. Renal calculi

B. Uremia

C. Kidney failure

D. Nephritis

Answer: A

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372. Facultative absorption of water from primary urine is influenced

by the hormone

A. Androgens

B. Epinephrine

C. Vasopressin

D. Thyroxine

Answer: C



373. Intakes of ORS inhibits the secretion of

A. Vasopressin

B. Oxytocin

C. Melatonin

D. Thyroxine

Answer: A



374. Select the group of animals adapted to ammontelism, guanotelism and ureotelism respectively

A. Tadpole larva of Frog, Spider Pigeon

B. Scorpion, Turtle, Labeo

C. Catla, Penguin, Cat

D. Cobra, Cockroach, Bombay Duck

Answer: C

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375. Hydrostatic pressure of blood while flowing in glomerulus of

nephron is

A. 10 mm Hg

B. 18 mm Hg

C. 32 mm Hg

D. 60 mm Hg

Answer: D

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376. Assertion A : In dializer the plasma proteins of the blood, cannot be filtered but molecules like urea, uric acid, creatinine and ions can be filtered

Reason R: The cellophane membrane used in dializer is permeable to macromolecules but impermeable to micromolecules

A. Both A and R are true, R is correct explanation of A

B. Both A and R is true, R is not the correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: C



377. In renal tubules, aldosterone increases

A. Absorption of K^+, H^+ and elimination of Na^+, H_2O

B. Absorption of Na^+, H_2O and elimination of K^+, PO_4^{3-}

C. Absorption of $Na^+, H_2O, K^+, PO_4^{3-}$

D. Elimination of $Na^+, H_2O, K^+, PO_4^{3-}$

Answer: B



378. Excretory structures of rotifers are

A. Green glands

- B. Malpighian tubules
- C. Flame cells
- D. Gills

Answer: C

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379. Read the following statements and choose the correct option
(i) Glomerular filtration rate in a healthy individual is about 180 ml/day
(ii) All constituents of plasma pass into lumen of Bowman's capsule
(iii) 70 - 80 % of electrolystes and water are absorbed in PCT
(iv) Angiotensin II increases the glomerular blood pressure and GFR
(v) Counter current system contribute in concentrating the filtrate
A. i and ii only are correct

B. v along is correct

C. ii, iii and iv are correct

D. iii, iv and v are correct

Answer: D



380. What conditions are responsible for stimulation of juxtaglomerular apparatus

A. An increase in blood pressure or blood volume in heart

B. An increase in the solute concentration of the blood plasma

C. A decrease in the solute concentration of the blood plasma

D. Decrease in blood pressure or blood volume in afferent arteriole

Answer: D

381. Which of the following statements on human kidney is false

A. Renal plasma flow is normally 660 ml/min

B. Blood flow in the cortex is greater than that in the medulla

C. Reabsorption of ions and water occurs mainly in the distal

convoluted tubules

D. Renal blood flow is decreased in dehyration

Answer: C

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382. Ketone bodies are bypoducts in metabolism of

A. Carbohydrates

B. Protein

C. Fat

D. All the above

Answer: c



383. 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

384. 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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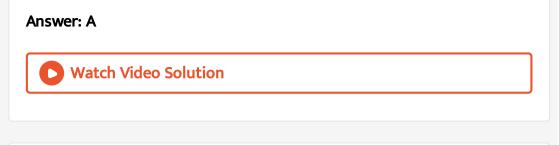
385. Which of the following statements is correct?

A. Ascending limb of loop of Henle is impermeable to water

B. Descending limb of loop of Henle is impermeable to water

C. Ascending limb of loop of Henle is permeable of water

D. Descending limb of loop of Henle is permeable to electrolytes.



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

A. Renin

B. Atrial natriuretic factor

C. Aldosterone

D. ADH

Answer: B

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Check Your Graps

1. Archinephros occurs in

A. Adult Hagfish

B. Larva of Hegfish

C. Molluscs

D. Anamniotes

Answer: b

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2. Ammonotelic animals are

A. Cockroach

B. Nereis

C. Pila and Starfish

D. Elasmobranch fishes

Answer: c

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3. Excretory product of spider is		
A. Ammonia		
B. Urea		
C. Uric acid		
D. Guanine		
Answer: A		
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4. The cell lining the Bowman's capsule are

A. cubical

B. Columnar

C. Podocytes

D. Glomerular cells

Answer: c

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5. Which one is the diluting segments of uriniferous tubule ?

A. Ascending loop of Henle

B. Descending loop of Henle

C. PCT

D. DCT

Answer: A

6. Which one increases glomerular pressure ?

A. Renin

B. Angiotensin

C. Aldosterone

D. ADH

Answer: A

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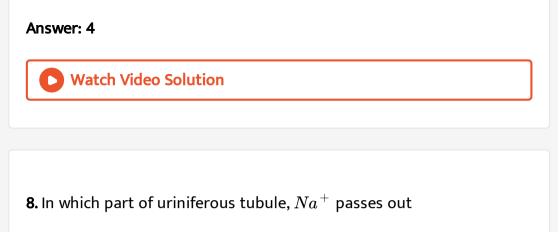
7. Urine calculi are

A. Bile pigments

B. Protein particles

C. Ketones

D. Small stones



A. Descending loop of Henle

B. collecting tubule

C. Ascending loop of Henle

D. None of the above

Answer: c



9. Vasa rectae are peritubular capillaries around

A. Posterior part of alimentary canal

B. PCT

C. Loop of Henle

D. DCT

Answer: c

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10. Green gland is excretory organ of

- (a) Prawn
- (b) Snail
- (c) Butterfly
- (d) Earthworm

A. Crustaceans

- **B.** Centipedes
- C. Annelids

D. Molluscs

Answer: A