

EXCRETORY PRODUCTS AND THEIR ELIMINATION

1. Choose the least toxic excretory product :-

- (1) Urea
- (2) Uric acid
- (3) Ammonia
- (4) Carbon dioxide

2. Filtration of the blood takes place at

- (1) PCT
- (2) DCT
- (3) Collecting ducts
- (4) Malpighian body

3. The characteristic(s) common to urea, uric acid and ammonia is/are :-

- (i) They are nitrogenous wastes
- (ii) They all need very large amount of water for excretion
- (iii) They are all equally toxic
- (iv) They are produced in the kidneys

- (1) (i), (iii) and (iv)
- (2) (i) only
- (3) (i) and (iii)
- (4) (i) and (iv)

4. Match Column - I with Column - II and select the **correct** option from the codes given below.

Column - I		Column - II	
(A)	Nephridia	(i)	Crustaceans
(B)	Malpighian tubules	(ii)	Annelids
(C)	Antennal gland or green glands	(iii)	Insects

- (1) (A) - (i), B - (ii), C - (iii)
- (2) A - (iii), B - (ii), C - (i)
- (3) A - (ii), B - (iii), C - (i)
- (4) A - (ii), B - (i), C - (iii)

5. The principal nitrogenous excretory compound in humans is synthesized

- (1) In kidneys but eliminated mostly through liver
- (2) as well as eliminated by kidneys
- (3) in liver and also eliminated through bile
- (4) in the liver, but eliminated mostly through kidneys

6. Which of the following options shows the **correct** measurement of an adult human kidney?

	Length	Width	Thickness	Weight
(1)	10-12 cm	5-7 cm	2-3 cm	120-170 gm
(2)	10-20 cm	10-12 cm	6-12 cm	40-50 cm
(3)	2-6 cm	8-10 cm	5-10 cm	60-70 cm
(4)	10-12 mm	5-7 mm	2-3 mm	120-170 mg

7. Read the given statements and select the **correct** option.

Statement-1 :- The urinary bladder dilates a good deal as urine trickles into it from the ureters.

Statement-2 :- Urinary bladder is lined throughout by transitional epithelium.

- (1) Both statement 1 and 2 are correct and statement 2 is the correct explanation of statement 1.
- (2) Both statement 1 and 2 are correct but statement 2 is not the correct explanation of statement 1.
- (3) Statement 1 is correct and statement 2 is incorrect.
- (4) Both statements 1 and 2 are incorrect.

8. The dotted appearance of cortex of kidney is due to
 (1) ducts of Bellini
 (2) malpighian corpuscles
 (3) loop of Henle
 (4) collecting tubes

9. Consider the following four statements (i - iv) and select the option that correctly identifies the true (T) and false (F) ones.

- (i) Atrial natriuretic factor can cause vasodilation (dilation of blood vessels) and thereby decreases the blood pressure.
 (ii) One on average, 60 - 70 gm of urea is excreted out per day.
 (iii) Sebaceous glands eliminate certain substances like NaCl, urea and lactic and through sebum.
 (iv) PCT is lined by simple cuboidal brush border epithellium which increases the surface area for reabsorption.

	(i)	(ii)	(iii)	(iv)
(1)	F	F	T	T
(2)	F	T	T	T
(3)	T	F	F	T
(4)	T	T	F	T

10. Match Column - I with Column - II and select the **correct** option from the codes given below.

Column - I		Column - II	
(A)	Lungs	(i)	Lactic acid
(B)	Liver	(ii)	Hypertonic urine
(C)	Micturition	(iii)	Counter - Current System
(D)	Sweat	(iv)	CO ₂
(E)	Vasa recta	(v)	Urinary bladder
(F)	Sebum	(vi)	Glucose
(G)	ADH	(vii)	Bilirubin
(H)	Tubular reabsorption	(viii)	Sterols

- (1) A-(iv), B-(vii), C-(v), D-(i), E-(iii), F-(viii), G - (ii), H - (vi)
 (2) A-(iii), B-(i), C-(iv), D-(viii), E-(ii), F-(v), G-(vii), H-(vi)
 (3) A-(iv), B-(viii), C-(i), D-(vi), E-(v), F-(iii), G-(ii), H-(vii)
 (4) A-(vii), B-(i), C-(iv), D-(iii), E-(viii), F-(vi), G-(v), H-(ii)

11. Consider the following statements each with two blanks.

- (i) Annelids have (1) and insects have (2) for excretion.
 (ii) Blood enters the glomerulus via (3) arteriole and leaves via (4) arteriole.
 (iii) During micturition, the urinary bladder (5) and the urethral sphincters (6).

Which one of the following options correctly fills the blanks in any two of the above statements?

- (1) (1) - Malpighian tubules, (2) - flame cells, (5) - contracts, (6) - relax
 (2) (3) - afferent, (4) - efferent, (5) - contracts, (6) - relax
 (3) (1) - nephridia, (2) - Malpighian tubules, (5) - relaxes, (6) - contract
 (4) (3) - efferent, (4) - afferent, (5) - relaxes, (6) - contract

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

- (1) acute renal failure (ARF)
 (2) anuria and haematuria
 (3) Motor aphasia
 (4) chronic renal failure (CRF)

13. In peritoneal dialysis

- (1) the blood is removed from the body and a natural filter is used.
 (2) the blood is not removed from the body and a natural filter is used.
 (3) the blood is not removed from the body and an artificial filter is used.
 (4) the blood is removed from the body and an artificial filter is used.

14. Which of the following sequences is correct regarding regulation of kidney function?

- (1) An excess loss of water from body → Hypothalamus → Osmoreceptors → Neurohypophysis → ADH → Increases water permeability of DCT and CT → Prevention of diuresis
- (2) An excess loss of fluid from body → Osmoreceptors → Hypothalamus → Neurohypophysis → ADH → Increase water permeability of DCT and CT → Prevention of diuresis
- (3) An excess loss of fluid from body → Osmoreceptors → Hypothalamus → Neurohypophysis → Aldosterone → Water permeability of DCT and CT increase → Prevention of diuresis
- (4) An excess loss of fluid from body → Osmoreceptor → Hypothalamus → Adenohypophysis → ADH → Increase water permeability of DCT and CT → Prevention of diuresis

15. Which of the following statements is correct?

- (1) Water reabsorption in descending limb of loop of Henle and collecting duct occur under similar conditions.
- (2) Sodium reabsorption in ascending limb of loop of Henle and collecting duct occur under similar conditions.
- (3) Water reabsorption in descending limb of loop of Henle and collecting duct occur under different conditions.
- (4) Water reabsorption in descending limb and sodium reabsorption in ascending limb of loop of Henle occur under similar conditions.

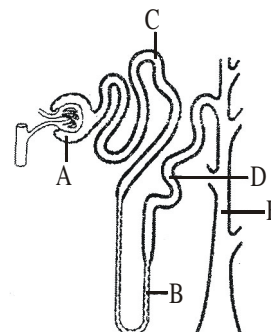
16. Complete the following paragraph by selecting the option that correctly fills the blanks (i) - (iv).

The kidneys have built - in mechanisms for the regulation of glomerular filtration rate. One such efficient mechanism is carried out by (i).

It is a special sensitive region formed by cellular modifications in the (ii) and the (iii) at the location of their contact. A fall in GFR can activate the JG cells to release (iv). Which can stimulate the glomerular blood flow and thereby brings GFR back to normal.

	(i)	(ii)	(iii)	(iv)
(1)	ANF	PCT	Efferent arteriole	Angiotensin
(2)	ANF	DCT	Afferent arteriole	Renin
(3)	JGA	PCT	Efferent arteriole	Angiotensinogen
(4)	JGA	DCT	Afferent arteriole	Renin

17. The given figure represents a single nephron from a mammalian kidney. Identify the labelled parts, match them with the functions (i - iv) and select the **correct** option :-



- (i) The site of ultrafiltration
- (ii) Particularly sensitive to ADH
- (iii) The main site for the reabsorption of glucose and amino acids
- (iv) Largely responsible for the maintenance of blood pH

- (1) (i) - A; (ii) - E; (iii) - C; (iv) - D
- (2) (i) - A; (ii) - B; (iii) - C; (iv) - D
- (3) (i) - A; (ii) - B; (iii) - C; (iv) - E
- (4) (i) - A; (ii) - B; (iii) - D; (iv) - E

18. Read the given statements and select the **correct** option :-

Statement-1 : The final reabsorption of water from the urine into the blood occurs through the collecting duct of a mammalian nephron resulting in the production of hyperosmotic urine.

Statement-2 : The loop of Henle creates a sodium gradient in the interstitial fluid.

- (1) Both statements 1 and 2 are correct and statement 2 is the correct explanation of statement - 1.
- (2) Both statements 1 and 2 are correct but statement 2 is not the correct explanation of statement 1
- (3) Statement 1 is correct and statement 2 is incorrect.
- (4) Both statements 1 and 2 are incorrect

19. Read the given statements and select the **correct** option.

Statement - 1 : In the descending limb of loop of Henle, the nephric filtrate is hypertonic, while in the ascending limb of loop of Henle, the nephric filtrate becomes hypotonic.

Statement - 2 : Descending limb is impermeable to Na^+ , while ascending limb is impermeable to H_2O .

- (1) Both statements 1 and 2 are correct and statement 2 is the correct explanation of statement 1.
- (2) Both statements 1 and 2 are correct but statement 2 is not the correct explanation of statement 1
- (3) Statement 1 is correct and statement 2 is incorrect.
- (4) Both statements 1 and 2 are incorrect.

20. Following are the steps of dialysis -

- (A) Blood is passed into a vein.
- (B) Blood is mixed with heparin.
- (C) Blood is mixed with anti - heparin.
- (D) Blood is drained from convenient artery.

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

(F) Removal of nitrogenous wastes from blood.

- (1) $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E \rightarrow F$
- (2) $F \rightarrow C \rightarrow E \rightarrow B \rightarrow A \rightarrow D$
- (3) $D \rightarrow B \rightarrow E \rightarrow F \rightarrow C \rightarrow A$
- (4) $D \rightarrow C \rightarrow E \rightarrow F \rightarrow B \rightarrow A$

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

- (1) Renin
- (2) Atrial - natriuretic factor
- (3) Alcohol
- (4) Caffeine

22. The urine of man under normal conditions does not contain glucose because :-

- (1) glucose in the glomerular filtrate is converted into glucogen
- (2) glucose in the glomerular filtrate is reabsorbed in the uriniferous tubules
- (3) glucose of the blood is not filtered in the glomerulus
- (4) the normal blood sugar is fructose

23. The main function of pyramids of kidney is to

- (1) contain collecting tubules of kidney
- (2) direct the urine to flow in ureter
- (3) support the openings of collecting canals
- (4) store fats and protein

24. The four structures listed are part of the human excretory system.

- | | |
|------------|------------|
| 1. Bladder | 2. Kidney |
| 3. Ureter | 4. Urethra |

In which order does a molecule of urea pass through these structures?

	First	→ Last		
(1)	1	2	3	4
(2)	2	3	1	4
(3)	3	1	3	4
(4)	4	3	1	4

25. Which one of the four parts mentioned below does not constitute a part of a single uriniferous tubule?
- Bowman's capsule
 - Distal convoluted tubule
 - Loop of Henle
 - Collecting duct
26. Uricotelic mode of passing out nitrogenous wastes is found in
- birds and annelids
 - amphibians and reptiles
 - insects and amphibians
 - reptiles and birds
27. Then net pressure gradient that causes the fluid to filter out of the glomeruli into the capsule is:-
- 20 mm Hg
 - 75 mm Hg
 - 30 mm Hg
 - 50 mm Hg
28. Facultative reabsorption of water occurs in
- Kidney
 - Ascending loop of Henle
 - Collecting duct
 - All of the above
29. What will happen if, the stretch receptors of urinary bladder wall are totally removed ?
- Urine will not collect in the bladder
 - Micturition will continue
 - Urine will continue to collect normally in the bladder
 - No micturition at all
30. Almost all the aquatic animals excrete ammonia as the nitrogenous waste product. Which of the following statement is not in agreement with this situation?
- Ammonia is easily soluble in water.
 - Ammonia is released from the body in a gaseous state.
 - Ammonia is highly toxic and needs to be eliminated as and when formed.
 - Ammonia gets converted into a less toxic form called urea.

31. Consider the following statement -

- Flame cells are excretory structures in flatworms.
- Green glands are excretory organs in annelids.
- Columns of Bertini are the conical projections of renal pelvis into renal medulla between the renal pyramids.

- I and II correct
- II and III incorrect
- I, II and III correct
- I, II and III incorrect

32. Match the following columns.

	Column - I	Column - II
(A)	Ultrafiltration	(P) Henle's loop
(B)	Concentration of urine	(Q) Ureter
(C)	Transport of urine	(R) Urinary bladder
(D)	Storage of urine	(S) Malpighian corpuscles

	A	B	C	D
(1)	P	S	Q	R
(2)	S	P	R	Q
(3)	S	P	Q	R
(4)	P	R	Q	S

33. Which is not a nephric function?

- Reabsorption
- Secretion
- Perfusion
- Filtration

34. In nephrons, there is complete absorption of :-

- urea
- salt
- glucose
- water

35. Which of the following statements is incorrect?

- ADH-facilitates water reabsorption from latter parts of the tubule
- Aldosterone-facilitates water reabsorption
- ANF-enhances sodium reabsorption
- Renin-causes constriction

36. Marine teleosts undergoing putrefaction emit sharp characteristic foul odour, which is due to the production of
- (1) Trimethylamine
 - (2) Hydrogen sulphide
 - (3) Ammonia
 - (4) Lactic acid
37. An advantage of excreting nitrogenous wastes in the form of uric acid is that
- (1) uric acid can be excreted in almost solid form
 - (2) the formation of uric acid requires a great deal of energy
 - (3) uric acid is the first metabolic breakdown product of acids
 - (4) uric acid may be excreted through the lungs

38. Identify the correct match the columns, I, II and III?

	Column-I		Column-II		Column-III
A	PCT	a	In medulla of kidney	i	Concentration of urine
B	Loop of Henle	b	Simple squamous epithelium	ii	Main area of tubular reabsorption
C	DCT	c	Brush border	iii	Ultrafiltration
D	Bowman's capsule	d	In cortex of kidney	iv	Conditional reabsorption of H ₂ O

- (1) B-a-i, A-c-iv, C-d-ii, D-b-iii
 - (2) A-c-ii, B-b-i, C-d-iv, D-a-iii
 - (3) B-a-i, A-c-ii, D-b-iii, C-d-iv
 - (4) C-d-iv, A-c-i, B-a-ii, D-b-iii
39. Which statement is true with the regard to reabsorption?
- (1) Mammals have the ability to pass concentrated urine
 - (2) Nearly all of the essential nutrients are reabsorbed by PCT
 - (3) DCT is also capable of reabsorption of HCO₃⁻
 - (4) All the above

40. Which of the following option shows correct match of all three columns

	Column-I	Column-II	Column-III
i	ANF	Atria of heart	Vasoconstriction
ii	ADH	Neurohypophysis	Prevent diuresis
iii	RAAS	Low blood pressure	Juxta glomerular apparatus

- (1) i only
 - (2) ii and iii
 - (3) iii only
 - (4) ii only
41. Which one of the following options given the correct categorization of six animals according to the type of nitrogenous wastes (A, B, C) they give out?

	(A) Ammonotelic	(B) Ureotelic	(C) Uricotelic
(1)	Aquatic amphibian	Frog, humans	Pigeon, lizards, cockroach
(2)	Aquatic amphibian	Cockroach, humans	Frog, pigeon, lizard
(3)	Pigeon, humans	Aquatic amphibia, lizard	Cockroach, frog
(4)	Frog, lizards	Aquatic amphibia, humans	Cockroach, pigeon

42. Which one of the following statements is incorrect?
- (1) The medullary zone of kidney is divided into a few conical masses called medullary pyramids projecting into the calyces
 - (2) Inside the kidney, the cortical region extends in between the medullary pyramids as renal pelvis
 - (3) Glomerulus along with Bowman's capsule is called the renal corpuscle
 - (4) Renal corpuscle, proximal convoluted tubule (PCT) and distal convoluted tubule (DCT) of the nephron are situated in the cortical region of kidney

43. Find out correct match.

- (1) Uraemia - Rise in urea in urine
- (2) Polyurea - Rise in urea in urine
- (3) Diuresis - Decrease in volume of urine
- (4) Glomerulonephritis - Inflammation of glomeruli

44. What causes the liquid part of the blood to filter out from the glomerulus into the renal tubule?

- (1) Osmosis
- (2) High (hydrostatic) pressure
- (3) Diapedesis
- (4) Dialysis

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

- (1) The glomerular filtration rate is about 125 ml per minute
- (2) The ultrafiltration is opposed by the colloidal osmotic pressure of plasma
- (3) Tubular secretion takes place in the PCT
- (4) The counter current system contributes in diluting the urine

46. Match the structure and function of the following in given columns.

	Column-I		Column-II
A	Delivers blood to glomerulus	i	Ascending and descending limb
B	Carries urine to pelvis	ii	Renal artery
C	Collects filtrate from Bowman's capsule	iii	Collecting duct
D	Loop of Henle	iv	Proximal convoluted tubules

- (1) A-iv, B-iii, C-ii, D-i
- (2) A-i, B-ii, C-iii, D-iv
- (3) A-ii, B-iii, C-iv, D-i
- (4) A-ii, B-iii, C-i, D-iv

47. Read the following statements and choose the right option given below.

- (I) Blood vessel leading to the glomerulus is called efferent arteriole
 - (II) Vasa-recta, peritubular capillaries and glomerulus all have blood
 - (III) Cortical nephrons have peritubular plaxus
 - (IV) Vasa-recta runs parallel to the Henle's loop in the juxta-medullary nephron
- (1) I, II and III
 - (2) I, II and IV
 - (3) I, III and IV
 - (4) II, III and IV

48. How many layers are there between the glomerular and Bowman's capsule through which the filtration occurs?

- (I) endothelium of the glomerular blood vessel.
 - (II) middle lamella
 - (III) basement membrane present above the endothelium of the Bowman's capsule
 - (IV) Inner lining of epithelium of the Bowman's capsule
- (1) I, II and III
 - (2) II, III and IV
 - (3) I, III and IV
 - (4) I, II and IV

49. Which one is reabsorbed actively in the nephron?

- (1) Glucose and amino acid only
- (2) Glucose, amino and Na^+
- (3) Glucose and Na^+ only
- (4) Glucose

50. Match regarding loop of Henle the following columns-I and II.

	Column-I		Column-II
A	Ascending limb of Loop of Henle	i	Permeable to H_2O
B	Descending limb of Loop of Henle	ii	Impermeable to H_2O
		iii	Permeable to electrolyte
		iv	Impermeable to electrolytes

- (1) A-ii, iv; B-i, iii
- (2) A-ii, iii; B-i, iv
- (3) A-i, iv; B-ii, iii
- (4) A-i, iii; B-ii, iv

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

- (1) less urea in his urine
- (2) more sodium in his urine
- (3) less amino acids in his urine
- (4) more glucose in his blood

52. Consider the following four statements (i-iv) about certain desert animals such as kangaroo-rat.

- (i) They have dark colour 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 to not use water to regulate body temperature

Out of these four, which two are correct?

- (1) iii and i
- (2) i and ii
- (3) iii and iv
- (4) ii and iii

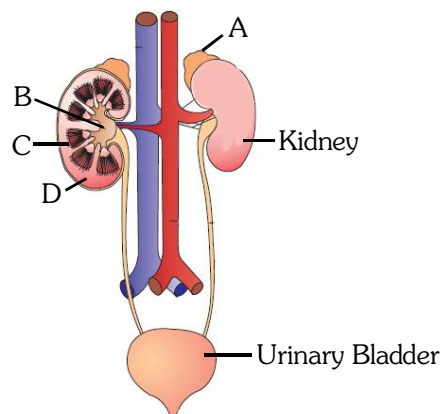
53. Which one of the following statements is correct with respect to kidney function regulation?

- (1) During summer, have body loses of lot of water by evaporation, the release of ADH is suppressed
- (2) When someone drinks lot of water, ADH release is suppressed
- (3) Exposure to cold temperature stimulates ADH release
- (4) An increase in glomerular blood flow stimulates formation of Angiotensin II

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

- (1) Afferent arteriole - Carries the blood away from the glomerulus towards renal vein
- (2) Podocytes - Create minute spaces (slit pores) for the filtration of blood into the Bowman's capsule
- (3) Henle's loop - Most reabsorption of the major substances from the glomerular filtrate
- (4) Distal convoluted tubule - Re-absorption of K^+ ions into the surrounding blood capillaries

55. The figure shows human urinary system with structure labelled A to D. Select the option which correctly identifies them and gives their characteristics and/or functions.



- (1) A-Adrenal gland is located at the anterior part of Kidney secretes catecholamines which stimulate glycogen breakdown
- (2) B-pelvis is broad funnel shaped space inner to hilum, directly connected to loop of Henle
- (3) C-Medulla is inner zone of kidney and contains complete nephrons
- (4) D-Cortex is the outer part of kidney and do not contain any part of nephrons

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

- (1) Urea and carbon dioxide
- (2) Carbon dioxide and ammonia
- (3) Ammonia and uric acid
- (4) Ammonia and urea

- ▼
- 57.** Number of nephrons of a kidney is equal to
- (1) Sum of Bowman's capsules and glomeruli
 - (2) Sum of Bowman's capsules and malpighian corpuscles
 - (3) Double the number of Bowman's capsules
 - (4) Equal to number of Bowman's capsules
- 58.** What is the osmolarity (in mosmol L⁻¹) in the outer cortex and inner medulla region?
- (1) 300 and 600 respectively
 - (2) 600 and 300 respectively
 - (3) 1200 and 300 respectively
 - (4) 300 and 1200 respectively
- 59.** Indicate whether the following statements are true(T) or False(F).
- (a) Micturition is carried out by a reflex.
 - (b) ADH helps in water elimination, making the urine hypotonic.
 - (c) Protein-free fluid is filtered from blood plasma into the Bowman's capsule
 - (d) Henle's loop plays an important role in concentrating the urine
 - (e) Glucose is actively reabsorbed in the proximal convoluted tubule.
- (1) a-T, b-F, c-T, d-T, e-T
 - (2) a-T, b-F, c-T, d-F, e-T
 - (3) a-F, b-F, c-F, d-T, e-F
 - (4) a-T, b-F, c-F, d-T, e-T
- 60.** Our lungs remove large amounts of CO₂. The amount is
- (1) 18 litres/day
 - (2) 180 litre/day
 - (3) 200 ml/minute
 - (4) 200 ml/day

- 61.** Match the columns.

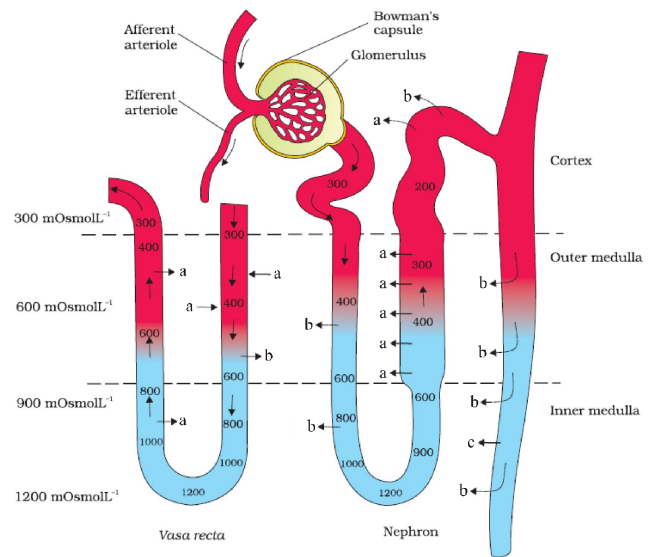
	Column-A		Column-B
a	Glycosuria	i	Accumulation of uric acid in joints
b	Renal calculi	ii	Inflammation of glomeruli
c	Glomerulonephritis	iii	Mass of crystallised salts within the kidney
d	Gout	iv	Presence of glucose in urine
e	Proteinuria	v	Presence of protein in urine.

Options :

- (1) a-ii, b-i, c-iii, d-iv, e-v
 - (2) a-iii, b-v, c-ii, d-i, e-iv
 - (3) a-v, b-iii, c-iv, d-ii, e-i
 - (4) a-iv, b-iii, c-ii, d-i, e-v
- 62.** A person on long hunger strike and surviving only on water will have
- (1) Less amino acids in urine
 - (2) More glucose in blood
 - (3) Less urea in urine
 - (4) More sodium in urine
- 63.** When a litre of water is introduced in human blood.
- (1) BMR decreases
 - (2) RBCs collapse and urine production increase
 - (3) BMR increase
 - (4) RBCs collapse and urine production decrease
- 64.** Pressure which favours filtration and one which opposes filtration of blood are _____ and _____ respectively.
- (1) Capsular hydrostatic pressure and glomerular osmotic pressure.
 - (2) Glomerular hydrostatic pressure and glomerular osmotic pressure, capsular hydrostatic pressure
 - (3) Glomerular osmotic pressure and glomerular hydrostatic pressure
 - (4) Glomerular osmotic pressure and arterial pressure.
- ▲

65. Human urine is usually acidic because
- (1) Excreted plasma proteins are acidic
 - (2) Potassium and sodium exchange generates acidity
 - (3) Hydrogen ions are actively secreted into the filtrate
 - (4) The sodium transporter exchange one hydrogen ion for each sodium ion, in peritubular capillaries.
66. What is true of urea biosynthesis ?
- (1) Uric acid is starting point
 - (2) Urea is synthesized in lysosomes
 - (3) Urea cycle enzymes are present inside hepatic cells
 - (4) Urea is synthesized in kidney
67. Read the following statements and find out the incorrect statements :-
- During urine formation, the tubular cells secrete substances like H^+ , K^+ and HCO_3^- into the filtrate.
 - As glomerular filtrate move down in descending limb of HL it gets concentrated and as concentrated filtrate pass upward in ascending limb of HL it gets diluted.
 - Conditional reabsorption of Na^+ and water takes place in PCT.
 - Reabsorption in ascending limb of HL is minimum.
- (1) a and b
 - (2) b and c
 - (3) c and d
 - (4) a and c
68. Counter-current mechanism helps to maintain a concentration gradient in the medullary interstitium. Presence of such interstitial gradient helps in an easy passage of water from the :-
- (1) Vasa recta
 - (2) Henle's loop
 - (3) PCT
 - (4) DCT
69. If Henle's loop were absent from mammalian nephron, which of the following is to be expected :-
- (1) There will be no urine formation
 - (2) The urine will be more concentrated
 - (3) The urine will be more dilute
 - (4) No change

70. Recognise the figure and find out the correct matching :-



- (1) a- H_2O , b-Urea, c- $NaCl$
 - (2) c- H_2O , a-Urea, b- $NaCl$
 - (3) b- H_2O , c-Urea, a- $NaCl$
 - (4) a- H_2O , c-Urea, b- $NaCl$
71. Which of the following statements is correct ?
- (1) ADH can not affect the kidney functions by its constrictory effects on blood vessels
 - (2) Aldosterone-facilitates water reabsorption
 - (3) ANF-enhances sodium reabsorption
 - (4) Renin-causes vasodilation
72. Indicate whether the following statements are true (T) or false (F) :-
- Micturition is carried out by a reflex.
 - ADH helps in water elimination, making the urine hypotonic.
 - Protein-free fluid is filtered from blood plasma into the Bowman's capsule.
 - Henle's loop plays an important role in concentrating the urine.
 - Glucose is actively reabsorbed in the proximal convoluted tubule.
- (1) a-T, b-F, c-T, d-T, e-T
 - (2) a-T, b-F, c-T, d-F, e-T
 - (3) a-F, b-T, c-F, d-T, e-F
 - (4) a-T, b-F, c-F, d-T, e-T

73. Out lungs remove large amount of CO₂. The amount is :-

- (1) 18 litres/day (2) 180 litres/day
(3) 200 ml/minute (4) 200 ml/day

74. Which one acts as artificial kidney in haemodialysis ?

- (1) Dialysis liquid (2) Bubble trap
(3) Blood pump (4) Dialyser

75. What will happen if one kidney is removed from the body of a human being ?

- (1) Death due to poisoning
(2) Uremia and death
(3) Stoppage of urination
(4) Nothing, the person will survive and remain normal

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	2	4	2	3	4	1	1	2	3	1	2	2	2	2	3
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	4	1	1	1	3	1	2	1	2	4	4	1	3	4	2
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	2	3	3	3	3	1	1	3	4	2	1	2	4	2	4
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	3	4	3	2	2	1	1	2	2	1	2	4	4	1	3
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	4	3	2	2	3	3	4	2	3	3	2	1	3	4	4