Excretion and osmoregulation

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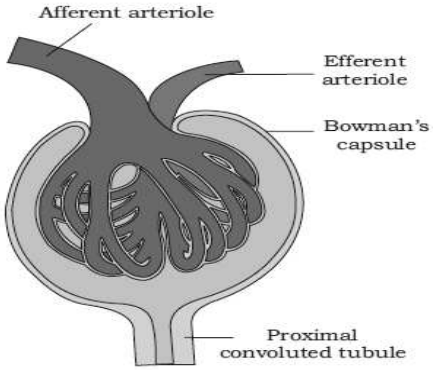
1. Write any 3 nitrogenous waste materials excreted by living organism?
2. Platyhelminthes : Flame cells
   Earthworm : ……..
3. Ammonotelic : bony fish
   Man : …….
4. Hormone of kidney : erythropoietin
   Hormone of heart : ……
5. ADH : Vasoconstrictor
   ……..: Vasodilator
6. Protonephridia : Cephalochordates
   Insects : ……..
7. Ureotelic : man
   Uricotelic : ……..
8. Give one word for the following
   a) ionic and fluid volume regulation
   b)Ureotlic ?
9. Where does urea cycle operate?
10. Which mechanism helps in concentrating urine ?
11. What are the excretory organs of prawns?
12. What will happened if tubular re absorption doesnot took place in human body during urine formation ?
13. What is the function of JGA in the regulation of excretion ?



   a)Identify the picture ?
   b) What is the function of efferent arteriole ?
14. In your biology class, your biology teacher presented a topic on excretion and said : "The glomerular capillary blood pressure causes filtration of blood through 3 layers"
   a)What are the 3 layers ?
   b)What you meant by glomerular filtrate and glomerular filtration ?
15. Give an example for Uricotelic organism?
16. What are the different types of nephrones ? write different types of nephrones ?
17. Expand
   a)GFR b)RAAS C)ANF
   d)ADH e)JGA
18. Hypothalamus can regulate the kidney function. Explain ?
19. What is the advantage of Uricotelic organism?
20. Normal glomerular filtrate of blood is 180l/day, but a normal human will not excrete such an amount of urine. He will excrete 1-1.5l/day. Explain?
21. What are the 3 important steps in human Urine formation ?
22. In human beings ammonia is produced. But human beings are not ammonotolic but Ureotelic explain ?
23. What is the difference between renal artery and renal vein ?
24. Match the following

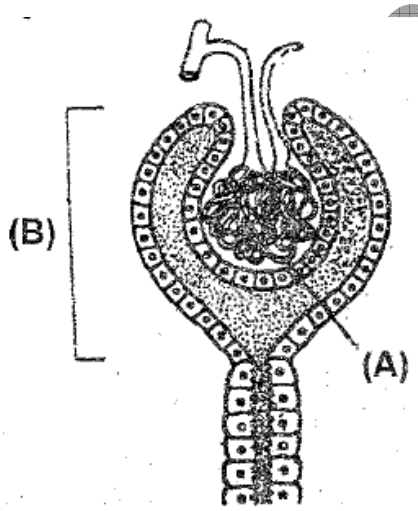
Column I	Column II
(a) Ammonotelism	(i) Birds
(b)Bowman's capsule	(ii)Water reabsorption
(c) Micturition	(iii) Bony fish
(d) Uricotelism	(iv) Urinary bladder
(e) ADH	(v) Renal tubule

25. What are the structural and functional unit of kidney?
26. What are the function of nephrones in the kidney ?
27. Match the terms given in Column I with their physiological processes given in Column II and choose the correct answer

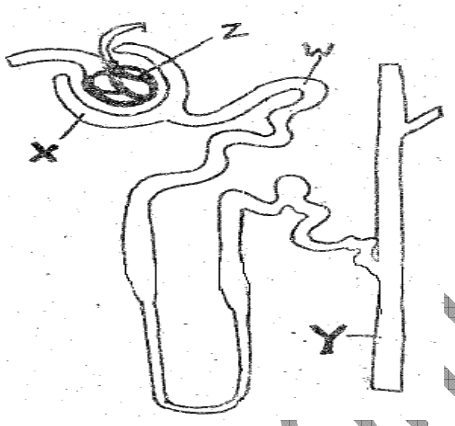
Column I	Column II
A. Proximal convolute tubule	i.Formation of concenterated urine
B. Distal convoluted tubule	ii. Filtration of blood
C. Henle's loop	iii. Reabsorption of 70-80% of electrolytes
D.Counter-current mechanism	iv. Ionic balance
E. Renal corpuscle	v.maintenance of concentration gradient in medulla

28. Human kidneys can produce urine nearly four times concentrated than the initial filtrate formed
   a)Do you agree with this statement?
   b)Evaluate this statement ?

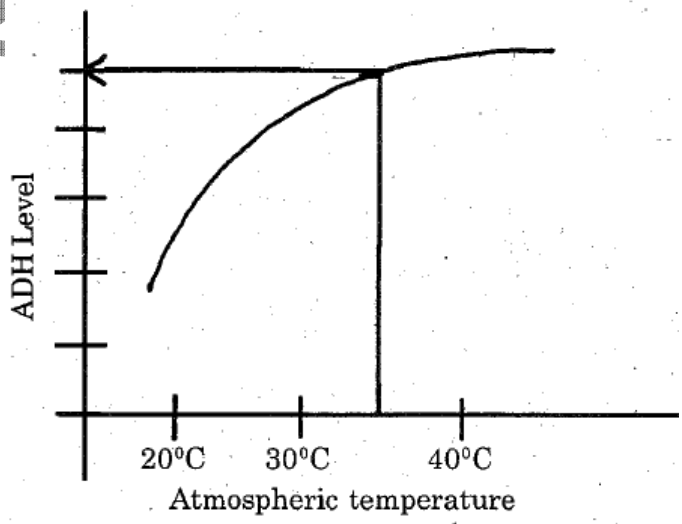
29. Why concentration of glomerular filtrate increases as it move from cortex to medulla ?
30. Mr.Rajesh said in class room that the volume of urine and Level of ADH are inversely propotional
    a)Do you agree with this statement ?
    b)Explain ?
    C)what will be the relationship between level of ADH and temperature ?
31. Write any 2 glands in the skin ?
32. How RAAS and ANF function in antagonistic manner ? explain?
33. Uricotelism is more advantageous than ureotelism and ammonotelism in strictly terrestrial animals on the basis of water conservation in then body. Justify ?
34. The functioning of human kidney is efficiently monitored and regulated by hormonal action of hypothalamus, pituitary, JGA and to certain extent by heart
    a)Do you agree with this statement ?
    b)justify your answer with suitable reason?
35.
36. Terrestrial animals are either Ureotelic or Uricotelic not ammonotelic. Evaluate the statement ?
37. Observe the figure given below and answer the question (HSE-MARCH-2015) (2)



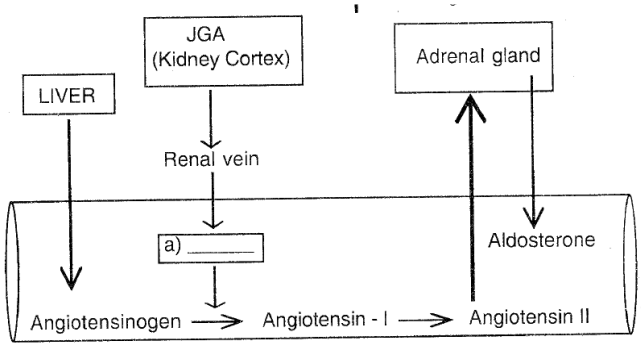
    a)Write the name of the figure?
    b)Name the labeled part A and B?
    c)which is the site of formation of ultra filtrate?
38. Where do you find the following
    a)Podocyte b)vasa recta
    c)nephridia d)Green gland
39. A diagrammatic representation of nephrones is given below



    a)Identify the part labeled as X and Y
    b)which part/parts of a nephron constitute malpighian body ?
40. What will happened if the
41. Skin play an important role in excretion. Explain ?
42. Why Vasopressin is called ADH ? Explain?
43. The output of urine increase in cold days while decreased in hot and sunny days. Can you give the reason for this phenomenon as realized from the graph given below



44. Observe the schematic diagram showing the mechanism for regulating blood volume.



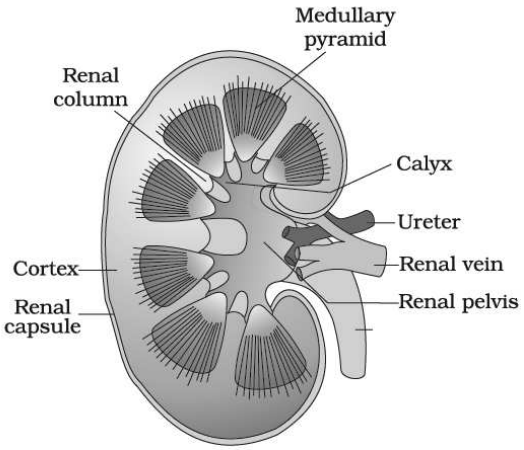
    a) fill the gap in the diagram?

b) Illustrate how blood volume is regulated by this system ?

45. In a biology class related to excretion in the human body, a student gave an opinion that in every minute about 2% of total blood volume is converted into GFR whereas only 1% of GFR is eliminated as urine. Evaluate this opinion and substantiate your answer?
46. While you taking a seminar one of your friend asked , is there is any other excretory organ in human body besides Kidney , if so name it
    a)What will be your answer ? (Write any 2)
    b)What are its function
47. Arrange the following In correct order
    i) A voluntary signal is initiated by the stretching of the urinary bladder as it gets filled with urine
    ii) contraction of smooth muscles of the bladder and simultaneous relaxation of the urethral sphincter
    iii) Urine formed by the nephrons is ultimately carried to the urinary bladder
    iv) The CNS passes on motor messages
    v) Release of urine
48. What will happened if the
    a)both kidney of a person damaged
    b)The liver got damaged
    (explain in the level of excretion)
49. How the counter current mechanism helps to maintain concentration gradient in medullary interstitium ?
50. On a hot day would you expect your level of ADH in blood to be high or low? Explain?
51. What is the functions of heparin in haemodialysis ?
52. What is the importance of tubular secretion in urine formation?
53. Salivary gland is a digestive gland, but it can also act as a excretory organ? Explain ?
54. What is the main role of tubular re absorption ?
55. What will happen when tubular secretion did not took place?
56. What are the primary functions of sweat gland ? How it helps in excretion?
57. Frogs shows dual mode of excretion during its life cycle, explain ?
58. Explain the following terms
    a)Uremia b)Diuresis
    c)Renal calculi
    d)Glycosuria
    e)Ketonuria
59. Urine analysis of a patient shows that his urine contains Blood cells and blood proteins.
    What it indicate ?
60. Match the Excretory of section A with parts of the excretory system in section B. Choose the correct combination from among the answer given

Section A (Function)	SECTION B (Parts of excretory system)
A-Ultra filteration B-Concentration of urine C-Transporrt of urine D-Storage of urine	1-Henle's loop 2-Ureter 3-Urinary bladder 4-Malpighian Corpuscle 5-PCT

61. What will happened if both kidney of you failed ?
62. Which of the parts is/are labeled incorrectly

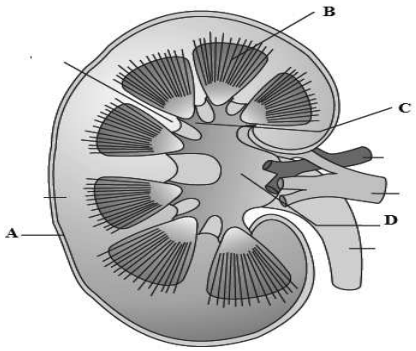


63. Different types of excretory structures and animals are given below. Match them appropriately and mark the correct answer from among those given below:

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

64. Match the abnormal conditions given in Column A with their explanations given in Column B and Choose the correct option
65. What are artificial kidney ? what is its function?
66. What is the significance of urine analysis ?
67. What is the significance in the arrangement of podocyte in human kidney ?
68. Why ADH is called vasopressin ?

69. Explain counter current mechanism ?
70. Urine analysis of a patient shows that his urine contains abnormally high amount of glucose and ketones
    a)Write one word for it?
    b)what the patient is suffering from?
71. Label A,B,C and D



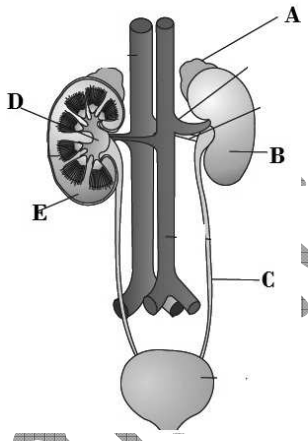
72. Match the following

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

73. A chart hanged in a hospital regarding human urine is given below fill in the blanks

Urine
Color :.....
pH :.....
urea :...../day
volume :...../day

74. Accumulation of urea in blood is called……..
75. Find the odd one and write reason for selection
    Uremia, Renal calculi, constipation, glomerulonephritis
76. Identify the disease
    a) Stone or insoluble mass of crystallised salts (oxalates, etc.) formed within the kidney.
    b) Inflammation of glomeruli of kidney.
    c) accumulation of urea in blood
77. Why blood group checking is must in kidney transplantation?
78. How lungs and liver act as the excretory organ in human?
79. Arrange the following , based on the procedure of haemodialysis
    Patient, artery, adding antiheparin, Dialyzing unit, adding heparin, vein
80. a)Label A,B,C,D and E ?



    b)What is the function of C and Urinary bladder ?
81. Which of the following nitrogenous material is least toxic?
    a)Ammonia b)urea c)Uricotelic
82. Which method is used in correcting acute renal failure?