

BIOLOGY

BOOKS - EVERGREEN BIOLOGY (ENGLISH)

EXCRETORY SYSTEM

Review Questions

1. Define the Glomerulus



2. Define the Nephritis



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3. Define the Osmoregulation



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4. Define the Ultrafiltration



5. Differentiate between : Excretion and Egestion



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6. Differentiate between : Ammonotelism and Aminotelism



7. Differentiate between : Ureter and Urethra



8. Differentiate between : Renal papilla and Renal pelvis



9. Differentiate between : Afferent and Efferent arterioles



10. Describe in brief: Ultrafiltration



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11. Describe in brief: Selective reabsorption



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12. Describe in brief: Tubular secretion



13. Describe in brief: Osmoregulation



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14. Discuss various functions of kidneys.



15. Name the Some common disorders of kidneys in man.



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16. Name the Various excretory products in man.



17. Name the The organ where urea is produced.



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18. Name the The pigment providing colour to urine.



19. Name the knot like mass of blood capillaries inside the Bowman's capsule.



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20. Name the The process of removal of nitrogenous wastes from the body.



21. The diagram given below represents a mammalian kidney tubule (nephron) and its blood supply. Parts indicated by the guidelines 1 to 8 are as follows:



- 1. U-shaped loop of Henle,
- 2. Proximal convoluted tubule with blood capillaries,
- 3. Bowman's capsule,
- 4. Afferent arteriole from renal artery,
- 5. Glomerulus,
- 6. Venule to renal vein,

- 7. Collecting tubule.
- 8. Distal convoluted tubule with blood capillaries.

Study the diagram and answer the following questions in each case :

Where does ultrafiltration take place?



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22. The diagram given below represents a mammalian kidney tubule (nephron) and its blood supply. Parts indicated by the guidelines

1 to 8 are as follows: 1. U-shaped loop of Henle, 2. Proximal convoluted tubule with blood capillaries, 3. Bowman's capsule, 4. Afferent arteriole from renal artery, 5. Glomerulus, 6. Venule to renal vein, 7. Collecting tubule. 8. Distal convoluted tubule with blood capillaries.

Study the diagram and answer the following

questions in each case:

Which structure contains the lowest concentration of urea ?



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23. The diagram given below represents a mammalian kidney tubule (nephron) and its blood supply. Parts indicated by the guidelines 1 to 8 are as follows:



1. U-shaped loop of Henle,

- 2. Proximal convoluted tubule with blood capillaries,3. Bowman's capsule,
- 4. Afferent arteriole from renal artery,
- 5. Glomerulus,
- 6. Venule to renal vein,
- 7. Collecting tubule.
- 8. Distal convoluted tubule with blood capillaries.

Study the diagram and answer the following questions in each case:

Which structure contains the highest concentration of urea?

24. The diagram given below represents a mammalian kidney tubule (nephron) and its blood supply. Parts indicated by the guidelines 1 to 8 are as follows:



- 1. U-shaped loop of Henle,
- 2. Proximal convoluted tubule with blood capillaries,
- 3. Bowman's capsule,
- 4. Afferent arteriole from renal artery,

- 5. Glomerulus,
- 6. Venule to renal vein,
- 7. Collecting tubule.
- 8. Distal convoluted tubule with blood capillaries.

Study the diagram and answer the following questions in each case:

Which structure (normally) contains the lowest concentration of glucose?



25. The diagram given below represents a mammalian kidney tubule (nephron) and its blood supply. Parts indicated by the guidelines 1 to 8 are as follows:



- 1. U-shaped loop of Henle,
- 2. Proximal convoluted tubule with blood capillaries,
- 3. Bowman's capsule,
- 4. Afferent arteriole from renal artery,
- 5. Glomerulus,
- 6. Venule to renal vein,

- 7. Collecting tubule.
- 8. Distal convoluted tubule with blood capillaries.

Study the diagram and answer the following questions in each case:

Where is the most water reabsorbed?



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26. Given below is a simple diagram of the human kidney cut open longitudinally. Answer the following questions :



Give the definition of excretion.



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27. Given below is a simple diagram of the human kidney cut open longitudinally. Answer the following questions:



Name the structural and functional units of the kidney.



28. Given below is a simple diagram of the human kidney cut open longitudinally. Answer the following questions:



Why does the cortex of the kidney show a 'dotted' appearance ?



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29. Answer the following questions:

Mention two functions of the kidney.

30. Given below is a simple diagram of the human kidney cut open longitudinally. Answer the following questions:



Write two differences in the composition of the blood flowing through blood vessels A and B.



31. Comment upon the following:

Micturition is more frequent during winter as compared to summer.



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32. Comment upon the following:

Energy requirements of the kidney are very high.



33. Comment upon the following:

Blood entering the kidney has more glucose than the blood leaving the kidney but urine contains no glucose.



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34. Comment upon the following:

In addition to excretion, kidneys also help in osmoregulation and maintenance of pH.



35. Comment upon the following:

Diameter of afferent arteriole and its capillaries is more than the diameter of efferent arteriole and its capillaries.



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36. Comment upon the following:

The urine is slightly thicker in summer than in winter.



37. Draw a neat diagram of a single Malpighian capsule and label the following parts in it:

Glomerulus, Bowman's capsule, Afferent arteriole and Efferent arteriole



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38. Name and define the process that occurs in the Glomerulus.



39. Draw a labelled diagram of L. S. of the kidney.



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40. Briefly describe the formation of Glomerular filtrate.



41. Explain the term Osmoregulation.



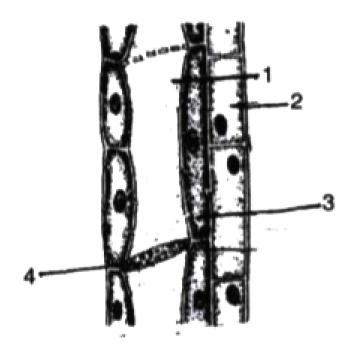
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42. State whether the following statement is True or False. If False rewrite the correct form of the statement by changing the first or last word only:

Urethra carries urine from kidney to the urinary bladder.



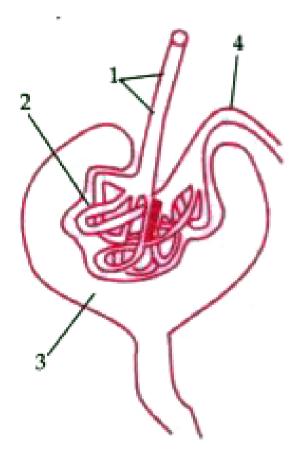
43. Study the diagram given below and then answer the question that follow:



Name the parts labelled 1,2,3 and 4.



44. Study the diagram given below and then answer the questions that follow:



Name the stages involved in the formation of urine.

45. Given below is a set of five terms. Rewrite the terms in logical sequence as directed at the end of each statement,

Renal vein, Renal artery. Afferent arteriole, Efferent arteriole, Glomerulus (Pathway of blood through glomerulus).



46. The diagram below shows the Excretory System of a Human being. Study the same and then answer the questions that follow:



Name the endocrine gland which could be added in the diagram and state its location/position.



47. Differentiate between the following pair on the basis of what is mentioned within brackets:

Bowman's capsule and Malpighian capsule (Parts included)



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48. Differentiate between the following pair on the basis of what is mentioned within brackets:

Renal cortex and Renal medulla [Parts of the nephrons present]



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49. Differentiate between the following pair on the basis of what is mentioned within brackets:

Ureter and Urethra [function]



50. Give biological reason for the following:

The renal cortex has a dotted appearance.



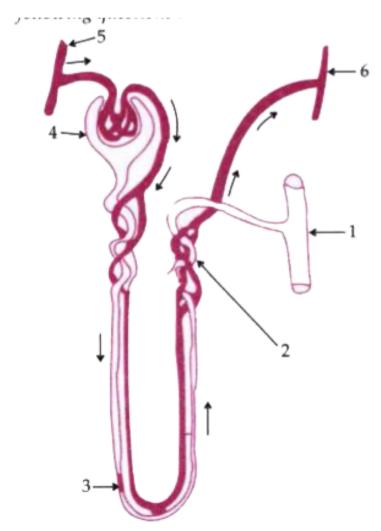
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51. Give biological reason for the following:

There is frequent urination in winter than in summer.



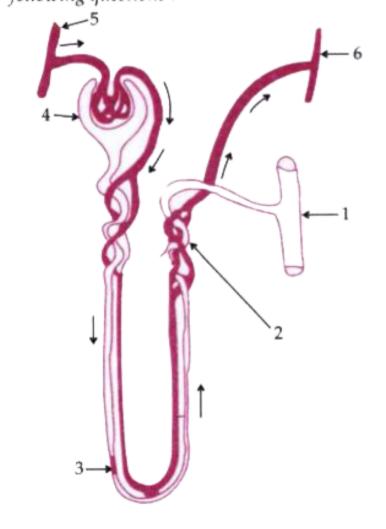
52. The given diagram represents a nephron and its blood supply. Study the diagram and answer the question :



State the reason for the high hydrostatic pressure in the glomerulus.



53. The given diagram represents a nephron and its blood supply. Study the diagram and answer the question:



Name the blood vessel which contains the least amount of urea in this diagram.



54. The given diagram represents a nephron and its blood supply. Study the diagram and answer the following questions:



Name the two main stages of urine formation.



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55. The given diagram represents a nephron and its blood supply. Study the diagram and answer the following questions:

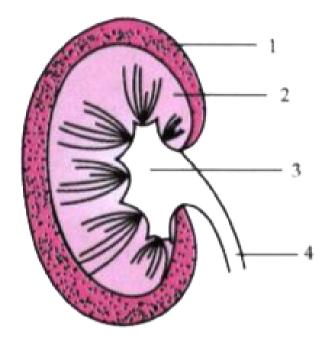


Name the part of the nephron which lies in the renal medulla.



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56. The diagram given below shows a section of a human kidney. Study the diagram carefully and answer the questions that follow:



Label the parts numbered 1 to 4.



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57. Given below is a simple diagram of the human kidney cut open longitudinally. Answer

the following questions:



Name the structural and functional units of the kidney.



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58. Choose the correct answer from the given four options.

- (i) The nephrons discharge their urine at the:
- 1)Urinary bladder
- 2)Urethra

- 3)Renal pelvis
- 4)Renal pyramid
 - A. Urinary bladder
 - B. Urethra
 - C. Renal pelvis
 - D. Renal pyramid

Answer:



59. Complete the following paragraph by filling in the blanks (1) to (V) with appropriate words: The amount of urine output is under the regulation of a hormone called (i)_____ secreted by the (ii)____lobe of the pituitary gland. If this hormone secretion is reduced, there is an increased production of urine. This disorder is called (iii) . Sometimes excess glucose is passed with urine due to hyposecretion of another hormone called (iv) _____ leading to the cause of a disease called (v)_____



60. What is the exact location of proximal convoluted tubule.



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Bile, Urea, Uric acid, Ammonia

61. Choose the ODD one out of the following terms given and name the CATEGORY to which the others belong:

62. Choose the ODD one out of the following terms given and name the CATEGORY to which the others belong:

Urethra, uterus, urinary bladder, ureter.



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63. Name & describe the Process of maintaining water and salt balance in the blood.

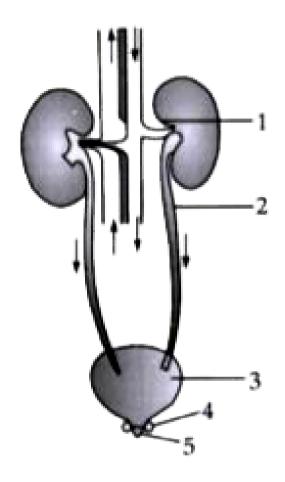


64. Correct and rewrite the statement by changing the biological term that is underlined for each statement: The kidney is composed of number of neurons.



65. The diagram given below represents an organ system in the human body. Study the

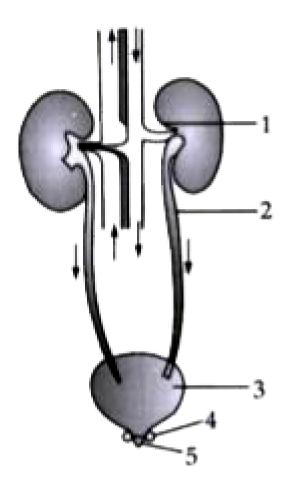
same and answer the questions that follow:



Identify the system.



66. The diagram given below represents an organ system in the human body. Study the same and answer the questions that follow:

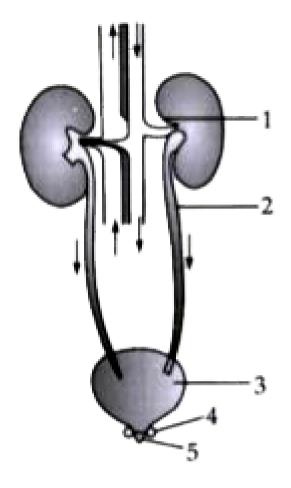


Label the parts marked 2 and 4. Mention the function of part 5.



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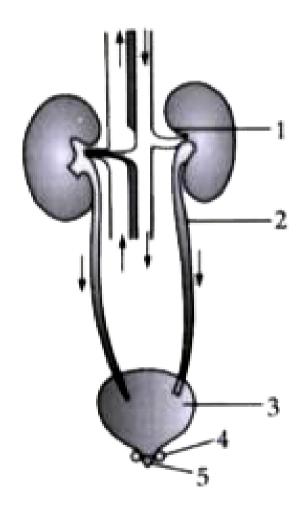
67. The diagram given below represents an organ system in the human body. Study the same and answer the questions that follow:



Name the structural and functional units of the part marked 1.



68. The diagram given below represents an organ system in the human body. Study the same and answer the questions that follow:



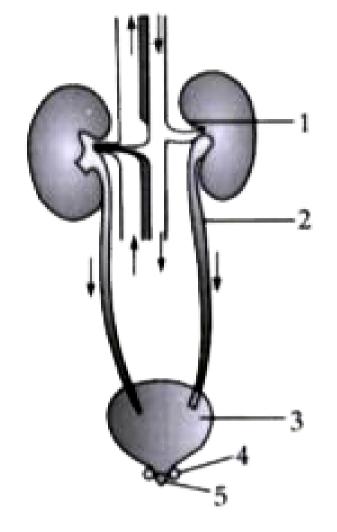
What is the fluid that accumulats in part 3?

Which is the main nitrogenous waste present in it?



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69. The diagram given below represents an organ system in the human body. Study the same and answer the questions that follow:



Draw a neat, labelled diagram showing the longitudinal section of part 1.



Review Questions Complete The Sentences



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2. is the removal of uric acid.



3. Aboutmillion are present in each kidney.

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5. Urea is produced in



6. Collecting tubules converge medially to form a group called



7. Process of passing out urine is called



8. In blood passes out along with urine.



