



BIOLOGY

BOOKS - MBD

Excretory Products and Their Elimination

Example

1. What are excretory structure of annelids, insects and crustaceans?



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2. Name the animal having simple tubular system called protonephridia.



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3. What is the basic catabolic nitrogenous waste?



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4. Give the aim of excretion.



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5. Name two important functions of the kidneys.



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6. Name three types of excretion.



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7. What is the significance of ureotelism over ammonotelism?



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



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9. Name the excretory organs of cockroach.



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



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11. The following substances are the excretory products in animals. Choose the least toxic

form among them.

A. 1. Urea

B. 2. Uric acid

C. 3. Ammonia

D. 4. Carbon dioxide

Answer:



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12. 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 / organ
(a) Protonephridia	(I) Prawn
(b) Nephridia	(II) Cockroach
(c) Malpighian tubules	(III) Earthworm
(d) Green gland or Antennal gland	(IV) Flatworms

(A) I, (II), (III) and (IV)
(B) I, (II), (IV) and (III)
(C) I, (II), (III) and (IV)
(D) I, (II), (III) and (IV).



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13. Name the structure through which urine leaves the kidney.



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14. What is the average volume of fluid filtered from plasma into Bowman's capsule?



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15. Name the exact part of uriniferous tubule which is directly influenced by ADH.



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16. Name two accessory excretory organs of man.



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



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18. Why is urinary bladder lined by transitional epithelium?



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19. What is trigone?



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



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21. What are podocytes?



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22. Name two compounds of malpighian body.



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23. Why is PCT lined by Brush -bordered cuboidal epithelium?



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



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25. Define ultrafiltration. Give the site of ultrafiltration.



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



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27. Define selective reabsorption.



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28. Fill in the blank

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



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29. Fill in the blank

The morphological and physiological units of a mammalian kidney, are.....



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30. Fill in the blank

Inner concave side of the mammalian kidney is called.....



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31. Fill in the blank

The yellow colour of urine is due to



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32. Fill in the blank

Sweat serves to eliminate mainlyand
.....



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33. True or False

Each kidney of human measures 10-12 cm in the length and 5-7 cm in width and 2-3 cm in thickness and average weight 120-170 g.



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34. True or False

Man is ureotelic while a bird is uricotelic.



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35. True or False

Glomerulus and Bowman's capsule collectively called Malpighian body.



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36. True or False

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



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37. True or False

The counter-current system of vasa rectae retain the reabsorbed Na^+ in the medullary tissue.



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38. Give the technical terms used for the following:

When nitrogenous wastes are removed from the body as ammonia.



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39. Give the technical terms used for the following:

Where nitrogenous wastes are removed as urea.



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40. Give the technical terms used for the following:

In which excretion of nitrogenous are in the form of insoluble uric acid.



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41. Give the technical terms used for the following:

The process of voiding of urine from bladder to the exterior.



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42. Give the technical terms used for the following:

Maximum limit up to which a substance can be reabsorbed from the nephric filtrate into blood capillaries.



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43. Give the technical terms used for the following:

The loop of blood vessel present along the loop of Henle.



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44. Define Glomerular Filtration Rate (GFR).



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45. Explain the autoregulatory mechanism of GFR.



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46. True or False

Micturition is carried out by a reflex.



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47. True or False

ADH helps in water elimination, making the urine hypotonic.



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48. True or False

Protein free fluid is filtered from blood plasma into the Bowman's capsule.



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49. True or False

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



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50. True or False

Glucose is actively reabsorbed in the proximal convoluted tubule.



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



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



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53. Explain micturition.



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54. Match column I and column II

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



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55. What is meant by the term osmoregulation?



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



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57. What is the significance of juxta glomerular apparatus (JGA) in kidney function?



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58. Name the following :

A chordate animal having flame cells as excretory structures.



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59. Name the following: Cortical portions projecting between the medullary pyramids in the human kidney.



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60. Name the following: A loop of capillary running parallel to the Henle's loop.



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61. Fill in the gaps : Ascending limb of Henle's loop is _____ to water whereas the descending limb is _____ to it.



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62. Fill in the blanks:

Reabsorption of water from distal parts of the tubules is facilitated byhormone.



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63. Fill in the blanks:

Dialysis fluid contain all the consti-tuents as in plasma except.....



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64. Fill in the blanks:

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



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65. Where does the selective reabsorption of Glomerular filtrate take place?



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



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



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



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69. What are the excretory structures of amoeba?



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

ANF



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

ADH





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

GFR



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73. The following abbreviations are used in the context of excretory functions, what do they

stand for ?

DCT



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74. Differentiate glycosuria from ketonuria.



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75. What is the role of sebaceous glands?



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76. Name two actively transported substances in Glomerular Filtrate.



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



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78. What are the main processes of urine formation?



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79. Sort the following into actively or passively transported substances during reabsorption of GFR?

glucose, amino acids, nitrogenous wastes, Na^+ and water.



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80. Complete the following :

urinary excretion = tubular reabsorption +
tubular secretion -



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81. Complete the following : Dialysis fluid =

Plasma -



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



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83. Fill in the blanks:

Organ Excretory Wastes

Kidneys



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84. Fill in the blanks:

Organ Excretory Wastes

Lungs



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85. Fill in the blanks:

Organ Excretory Wastes

Liver



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86. Fill in the blanks:

Organ Excretory Wastes

Skin



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



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88. What is the role played by Renin-Angiotensin in the regulation of kidney function?



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89. Aquatic animals generally are ammonotelic in nature whereas terrestrial forms are not. Comment.



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



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



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92. Explain , why a hemo-dialysing unit called artificial kidney?



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93. Comment upon the hormonal regulation of selective reabsorption.



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



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



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



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



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



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



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100. Name the process by which the waste material are disposed of from the body of an animal.



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101. Name the substance which is excreted by the lungs.



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102. Name the substance which is excreted by the lungs.



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103. What are other functions of kidney apart from excretion?



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104. Name blood vessels which carry waste products to kidney.



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105. Define osmoregulation.



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106. What is osmolarity?



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107. What are three main parts of nephron?



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108. What is a malpighian body(renal corpuscle)?



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109. What is loop of Henle?



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110. What are the two kinds of nephrons according to position ?



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111. Which part of the nephron adds some material to the filtrate?



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112. List two intrinsic mechanisms which provide auto regulation of GFR.



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113. What is the role of renin?



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114. List three hormones which regulate kidney function by negative feed back circuit.



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115. Why urine is yellow in colour?



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116. Define albuminuria, glycosuria and haematuria.



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117. Expand JGA, PCT, DCT, ADH, GFR and ANF.



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118. What is renal calculi ?





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119. What term is used for inflammation of glomeruli of kidney?



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120. Explain briefly the ammonotelism.



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121. Differentiate ureotelism and uricotelism.



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122. List the excretory organs of invertebrates, man and birds.



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123. What is the main excretory organs of tapeworm



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124. What is the main excretory organs of insects?



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125. Name the main excretory products of marine teleost fishes



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126. Name the main excretory products of Spider



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127. Name the end products (five other than urea and uric acid).



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128. What is creatine?





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129. Give the morphological account of kidney of man.



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130. Explain the position and structure of kidney of man.



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131. Where is urea formed ? Briefly discuss the urea cycle.



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132. Write the function of kidney.



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133. How do excretory organs work?



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134. Henle's loops are longer in mammals and birds, but are shorter or absent in vertebrates like reptiles. Why?



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135. "Urine is formed from alkaline blood, but it is acidic in nature." comment.



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136. What is the chemical composition of urine? Compare the urine, glomerular filtrate and plasma.



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137. Describe very briefly human excretory system.



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138. Describe the structure of functional unit of kidney.



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139. What are the two kinds of nephrons according to position ?



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140. Briefly explain mechanism of urine formation.



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141. Differentiate :

PCT and DCT



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142. Differentiate :

Ascending limb and Descending limb of loop of Henle.



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143. Differentiate Tubular reabsorption and tubular secretion.



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144. What are the two modes of tubules reabsorption from the nephrons? Name the material absorbed by these modes.



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145. What happens to the walls of distal convoluted tubule(DCT) of the nephrons when vasopressin is released by pituitary gland into blood stream?



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146. How is amount of sodium regulated during excretion?



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147. "Ultrafiltration is passive process and secretion is an process." Explain.



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148. Explain the following : "Why is urine pale yellow in colour and yields smell?"



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149. Explain the function of vasa rectae.



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150. Write about the excretory role of lungs.



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151. Differentiate Sweat and Sebum.



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152. Explain the following

Skin functions as an accessory excretory organ.



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153. Explain the following

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



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154. State the importance of counter current systems in renal functioning.



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155. Describe the structure and functioning of nephron



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156. Differentiate Tubular reabsorption and tubular secretion.



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157. State the normal and abnormal constituents of urine.



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158. What is meant by the term osmoregulation?



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159. Briefly give an account of excretory organs in vertebrates.



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160. Explain briefly:

Micturition is a reflex proces, but is under some voluntry control.



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161. Explain briefly:

Mammals are uretelic, but birds are uricotelic.



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162. Ureters do not have valves at their ends opening into the urinary bladder, yet urine does not flow back into them on contraction of the bladder. What is the reason?



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163. What happens to the walls of distal convoluted tubule(DCT) of the nephrons when vasopressin is released by pituitary gland into blood stream?



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Exercise

1. What are the excretory structures of amoeba?



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2. Expand DCT, ADH, GFR and ANF.



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3. What is the role of sebaceous glands?



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4. Differentiate glycosuria from ketonuria.



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



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6. Discuss role of Renin-Angiotensin in the regulation of kidney function.



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7. Differentiate ureotelism and uricotelism.



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8. Discuss role of aldosterone and antidiuretic hormone in regulation of selective reabsorption



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9. Write the function of kidney.



[Watch Video Solution](#)

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



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11. Give a brief account of haemodialysis.



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12. Discuss the excretory role of skin and liver.



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13. Draw a well labelled diagram of human excretory system.



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14. Name two important functions of the kidneys.





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