



BIOLOGY

BOOKS - CHETANA BIOLOGY (MARATHI ENGLISH)

Excretory products and their elements

Example

1. Why are various waste products produced in the body of an organism?



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2. How are these wastes eliminated?



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3. Define the following:

Excretion



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4. Which pigments formed due to breakdown of hemoglobin?



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5. Define : deamination



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6. When does urine appear deeply coloured?



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7. If we consume onion and garlic, we get bad breath. Why?



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8. Do organisms differ in type of metabolic wastes they produce?



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9. Write a note on Modes of excretion in animals.

Ammonotelism



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10. Write a note on Modes of excretion in animals.

Ureotelism



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11. Write a note on Modes of excretion in animals.

Uricotelism



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12. Write a note on Modes of excretion in animals.

Guanotelism



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13. Name any one guanotelic organism.



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14. Which is the most toxic excretory product formed in animals?



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15. Why ammonia is highly toxic?



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16. Name the excretory product of the marine fish.



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17. Mammals can eliminate both hypotonic and hypertonic urine as needed by the body. Explain.



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18. You will study about a type of arthritis called gouty arthritis caused due to accumulation of uric acid in joints. Where does uric acid comes from in case of ureotelic human beings?



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19. How much water is needed to remove 1 gm ammonia?



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20. What is the end product of deamination?



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21. How is urea formed in the liver?



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22. How is uric acid formed in the liver?



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23. What is homeostasis?



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24. During summer, we tend to produce less urine, why is it so?



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25. What would happen if human being has no option but to drink sea water?



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26. How do freshwater fishes and marine fishes carry out osmoregulation?



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27. Define

Stenohaline Organisms



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28. Define

Euryhaline Organisms



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29. Define

Nephridiopores



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30. Write short note on Protonephridia. OR

Explain the type of nephridia present in animal that lack true body cavity.



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31. Draw a well-labelled diagram on Excretory system in Platyhelminthes and thus name the types of nephridia seen



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32. What is metanephridia?



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33. How does Albatross survive osmoregulation?



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34. What is excretory structure in amoeba?



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35. Give example of uricotelism.



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36. Mention the excretory organ seen in earthworm.



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37. List the different kinds of excretory structure of organisms.



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38. Which blood vessel brings waste products into the kidney?



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39. Starfish eliminate waste through which organ?



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40. Table of various excretory organs found in animals phyla.



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41. What is the structural and functional unit of kidney?



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42. Name the smooth muscles present in the urinary bladder.



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43. What is renal fascia?



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44. What is pygmalion capsule?



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45. Which hormone is secreted by Juxtaglomerular Apparatus?



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46. What is column of Bertini?



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47. How much amount of water can be stored in the urinary bladder?



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48. Creatinine is considered as index of kidney function. Give reason?



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49. Find out what is floating kidney?



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50. Write a note on functions of kidney. OR
How do kidneys bring about homeostasis.



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51. Akshay is suffering from imbalance of salt in the body. Which part of Nephron must correct for such defect [Hint: Defect in Osmoregulation] [Loop of Henle.]





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52. Define Micturition.



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53. Explain the process of Micturition?



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54. Anish's baby is a 1 year child who shows lack of voluntary control over micturition.

Explain the reason for this.



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55. What is Nephrology?



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56. What is nephron? Which are its main parts? Why are they important? OR

With a neat labelled diagram describe structure of nephron/uriniferous tubule.



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57. Add Distinguish between PCT (Proximal Convoluted Tubule) and DCT (Distal Convoluted Tubule)



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58. Why are kidneys called 'retroperitoneal'?



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59. Why urinary tract infections are more common in females than males?



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60. How much blood is supplied to kidney?





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61. Kidney are retro peritoneal structure. Give reason?



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62. Where are column of Bertini located?



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63. Name the cortical portions projecting between the medullary pyramids in the human kidney's?



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64. Name the two kinds of nephrons?



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65. What are podocytes?



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66. What is glomerulus?



[Watch Video Solution](#)

67. What is filtration membrane?



[Watch Video Solution](#)

68. What is capsular space?



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69. Which part of nephron bears brush border cells?



[Watch Video Solution](#)

70. What are collecting tubules?



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71. Which are the main parts of a Nephron?



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72. Draw a well-labelled diagram of Nephron



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73. Draw a Schematic diagram of blood supply to kidney.



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74. Explain the mechanism of urine formation in detail.



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75. What is the length of each nephron?



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76. What would happen if ADH secretion decrease due to any reason?



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77. In which regions of nephrons the filtrate will be isotonic to blood?



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78. Dietary restrictions suggested for kidney patients.



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79. Write a short note on Juxta Glomerular Apparatus.



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80. Treatments other than surgical removal of kidney stone like Lithotripsy. (Breaking down of kidney stones using shock waves).



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81. Draw a diagram on Bowman's capsule and glomerulus.



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82. Mention the function Angiotensin II.



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83. Prove that mammalian urine contains urea.



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84. When does kidney produce renin? Where is it produced in kidney?



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85. Explain how electrolyte balance of blood plasma maintained.



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86. How do skin and lungs help in Excretion?

OR

Explain role of lungs and skin in excretion?



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87. What is the composition of sweat?



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88. Why do we get bad breath after eating garlic or raw onion?



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89. Effective filtration pressure was calculated to be 20 mmHg, where glomerular hydrostatic

pressure was 70 mmHg. Which other pressure is affecting the filtration process? How much is it?



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90. Anitaji needs to micturate several times and feels very thirsty. This is an indication of change in permeability of certain part of nephron. Which is this part?



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91. Write short notes on

Skin.



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92. Write short notes on

Sebaceous glands



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93. Write a short note on Haemodialysis?





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94. Doctors say Mr. Shaikh is suffering from urolithiasis. How it could be explained in simple words?



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95. State role of liver in urea production.



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96. How many types of Kidney Stone are there?



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97. Distinguish between Acute kidney injury AKI and chronic kidney disease CKD.



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98. Distinguish between Descending Limb and Ascending Limb



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99. Peritoneal dialysis



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100. If a person is undergoing kidney transplant, immunosuppressants are administered. Justify



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Exercise

1. Which one of the following organisms would spend maximum energy in production of nitrogenous waste?

A. Polar bear

B. Flamingo

C. Frog

D. Shark

Answer:



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2. In human beings uric acid is formed due to metabolism of..... .

A. amino acids

B. fatty acids

C. creatinine

D. nucleic acids

Answer:



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3. Visceral layer: Podocytes :: PCT :.....

A. Ciliated cells

B. Squamous cells

C. Columnar cells

D. Cells with brush border

Answer:



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4. Deproteinised plasma is found in _____.

- A. Bowman's capsule
- B. Descending limb
- C. Glomerular capillaries
- D. Ascending limb

Answer:



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5. Specific gravity of urine would.....if level of ADH increases.

A. remain unaffected

B. increases

C. decreases

D. stabilise

Answer:



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6. What is micturition?

A. Cockroach

B. Earthworm

C. Crab

D. Liver Fluke

Answer:



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7. Person suffering from kidney stone is advised not to have tomatoes as it has _____.

A. seeds

B. lycopene

C. oxalic acid

D. sour taste

Answer:



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8. Tubular secretion does not take place in _____.

A. DCT

B. PCT

C. collecting duct

D. Henle's loop

Answer:



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9. The minor calyx

- A. collects urine
- B. connects pelvis to ureter
- C. is present in the cortex
- D. receives column of Bertini

Answer:



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10. Which one of the followings is not a part of human kidney?

- A. Malpighian body
- B. Malpighian tubule
- C. Glomerulus
- D. Loop of Henle

Answer:



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

A. uric acid

B. cholesterol

C. urochrome

D. urea

Answer:



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12. Hypotonic filtrate is formed in

A. PCT

B. DCT

C. LoH

D. CT

Answer:



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13. In reptiles, uric acid is stored in

A. cloaca

B. fat bodies

C. liver

D. anus

Answer:



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14. The part of nephron which absorbs glucose and amino acid is

A. collecting tubule

B. proximal tubule

C. Henle's loop

D. DCT

Answer:



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15. Bowman's capsule is located in kidney in the

A. cortex

B. medulla

C. pelvis

D. pyramids

Answer:



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16. The snakes living in desert are mainly

A. aminotelic

B. ureotelic

C. ammonotelic

D. uricotelic

Answer:



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17. Urea is a product of breakdown of

A. fatty acids

B. amino acids

C. glucose

D. fats

Answer:



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18. Volume of the urine is regulated by

A. aldosterone

B. ADH

C. both a and b

D. none

Answer:



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19. Mode of excretion in bony fishes is

A. ammonotelism

B. ureotelism

C. uricotelism

D. guanotelism

Answer:



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20. Nitrogenous waste which is less toxic, soluble in water and formed during ornithine cycle is..... .

A. urea

B. uric add

C. ammonia

D. amino acid

Answer:



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21. Conservation of water is possible in this mode of excretion

A. urotelism

B. uricotelism

C. ammonotelism

D. guanotelism

Answer:



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22. Retroperitoneal kidney is

- A. Peritoneum on anterior side
- B. Peritoneum on posterior side
- C. Absence of peritoneum
- D. Peritoneum on both anterior and posterior side

Answer:



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23. The part of the cortex continued inside the renal medulla between the pyramids is

- A. Columns of Bellini
- B. Columns of Bertini
- C. Columnae Camae
- D. Chordae Tindinae

Answer:



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24. Structural and functional unit of kidney is called as

- A. Seminiferous tubule
- B. Uriniferous tubule
- C. Malpighian tubule
- D. Haversian Canal

Answer:



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25. Ultrafiltration takes place in

- A. Loop of Henle
- B. Malpighian corpuscle
- C. Collecting duct
- D. Minor calyx

Answer:



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26. Which one of the following is the normal constituent of urine?

A. blood

B. glucose

C. protein

D. urea

Answer:



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27. Osmoregulation is carried out by

A. Ureter

B. nephron

C. ACTH

D. ADH

Answer:



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28. In distal convoluted tubule of the nephrons.

A. Na^+ reabsorption requires energy.

B. Secretion of K^+ ions does not require energy.

C. Water reabsorption requires energy.

D. Ammonia is secreted.

Answer:



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29. Tubular secretion does not take place in _____.

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B. PCT

C. collecting duct

D. Henle's loop

Answer:



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

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C. urochrome

D. urea

Answer:



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A. ammonotelism

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Answer:



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32. Hypotonic filtrate is formed in

A. PCT

B. DCT

C. LoH

D. CT

Answer:



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33. Define the following:

Excretion



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