



# **BIOLOGY**

## **BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)**

### **EXCRETORY PRODUCTS AND THEIR ELIMINATION**

**Multiple Choice Questions Mcq**

1. Which factors influence the volume of urine produced by the body?



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2. The functional unit of kidney where urine is actually produced is the

A. bladder

B. nephron

C. neurone

D. glomerulus

**Answer: B**



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**3.** Reabsorption of which of the following substances in collecting ducts is enhanced by aldosterone

A.  $\text{Ca}^{++}$

B.  $\text{Cl}^-$

C. Na<sup>+</sup>

D. K<sup>+</sup>

**Answer: C**



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4. Water and small solutes enter kidneys during

A. tubular secretion

B. filtration

C. tubular reabsorption

D. both (a) and (c)

**Answer: C**



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5. Kidneys return water and small solutes to blood by

A. tubular secretion

B. tubular reabsorption

C. filtration

D. both (a) and (b)

**Answer: B**



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6. Which of the following trigger renin-angiotensin system?

A. high  $\text{Cl}^-$  concentration in blood

B. increased Na retention

C. increased blood sugar

D. lowered blood pressure

**Answer: D**



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7. Oxygenated blood enters the kidney through the

A. renal portal system

B. renal vein

C. hilum artery

D. renal arteries

**Answer: D**



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**8. The loop of Henle is associated with**

A. brain

B. liver

C. heart



D. kidney

**Answer: D**



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**9.** Which of the following is not a nitrogenous waste that must be excreted from the body?

A. faeces

B. ammonia

C. urea

D. uric acid

**Answer: A**



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**10.** The basic unit of vertebrate kidney is the

A. malpighian tubule

B. nephron

C. ureter

D. flame cell

**Answer: B**



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**11.** Which of the following parts of the nephron is least permeable to H<sub>2</sub>O?

A. proximal tubule

B. collecting duct

C. ascending limb of loop of Henle.

D. descending limb of loop of Henle

**Answer: C**



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**12. Henle's loop is ment for bsorption of**

A. glucose

B. urea

C. potassium

D. Na<sup>+</sup> ions

**Answer: C**



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**13.** Ureotelic organisms like mammals excrete urea in their urine, that is formed in

A. kidney

B. liver

C. gall bladder

D. spleen

**Answer: B**



14. Which of the following structures is not related to osmoregulation or maintenance of water balance?

A. gill

B. kidney

C. contractile vacuole

D. lungs

**Answer: D**



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**15.** Write short notes on the renal threshold.



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**16.** Which of the following substances is not filtered into the cavity of Bowman's capsule?

A. urea

B. plasma roteins

C. glucose

D. amino acids

**Answer: B**



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**17.** Which of the following does not constitute a part of a uriniferous tubule?

A. distal convoluted tubule

B. collecting duct



C. loop of Henle

D. bowman's capsule

**Answer: D**



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**18.** Which of the following compounds would be completely reabsorbed under normal conditions in nephrons?

A. urea

B. salts

C. uric acid

D. glucose

**Answer: D**



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**19. Ammonia is excreted by most**

A. adult amphibians

B. insects

C. bony fishes

D. land snails

**Answer: C**



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**20.** Occurrence of excess urea in blood due to kidney failure is

A. uricotelism

B. ureotelism

C. urochrome

D. uraemia

**Answer: D**



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**21. which of the following human structures are least apt to find urine**

A. urethra

B. bladder

C. large intestine

D. ureter

**Answer: C**



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**22.** Which of the following promotes water conservation?

A. low extracellular fluid volume

B. ADH

C. aldosterone

D. both (a) and (b)

**Answer: D**



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**23.** Which of the following organisms is closest to being isosmotic to its environment?

A. fresh water bony fish

B. fresh water protozoan

C. marine bony fish

D. marine jelly fish

**Answer: D**



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**24.** Waste products of adenine and guanine metabolism are excreted by man as

A. urea

B. proteins

C. ammonia

D. uric acid

**Answer: D**



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**25.** The two metabolic end products that are utilised during the ornithine cycle are

A. CO<sub>2</sub> and urea

B. ammonia and uric acid



C. CO<sub>2</sub> and ammonia

D. ammonia and urea

**Answer: C**



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**26.** Glucose is reabsorbed in the renal tubule  
by

A. secretion

B. diffusion

C. osmosis

D. active transport

**Answer: D**



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**27.** Which of the following vitamins is generally excreted in human urine?

A. vitamin K

B. vitamin A

C. vitamin D

D. vitamin C

**Answer: D**



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**28.** Which of the following is mainly reabsorbed from the DCT of a nephron?

A. urea

B. NaCl

C. water

D. glucose

**Answer: B**



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**29.** Proteins are normally present in

A. urine only

B. plasma, glomerular filtrate and urine

C. glomerular filtrate and urine only

D. plasma only

**Answer: D**



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**30.** Which of the following forces the plasma to be filtered across the glomerulus?

A. water retention

B. pressure of urine in the glomerulus

C. pressure of the blood

D. a full urinary bladder

**Answer: C**



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**31.** In human beings gout is caused by

A. deficiency of iodine

B. excessive secretion of thyroid

C. deposition of uric acid

D. excessive liberation of uric acid

**Answer: C**



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**32.** Which of the following materials is removed from the filtrate at the loop of Henle?

A. ammonia

B. magnesium ions

C. glucose

D. water

**Answer: D**



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**33.** Filtrate in the nephron is reabsorbed from the renal tubules back into the

A. peritubular capillaries

B. glomerulus

C. efferent arterioles

D. afferent arteriole



**Answer: A**



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**34.** A mammal excretes nitrogen in the form of

- A. amino acids
- B. urea
- C. ammonium ions
- D. uric acid

**Answer: B**



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35. The permeability of the distal tubule and collecting duct to water is under the control of a hormone called

A. rennin

B. aldosterone

C. renin

D. vasopressin

**Answer: D**



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**36.** filtration pressure is associated with

- A. DCT
- B. collecting duct
- C. glomerular capsule
- D. all of these

**Answer: C**



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37. The presence of ADH causes an individual to excrete

A. less water

B. more water

C. sugars

D. both (a) and (c)

**Answer: A**



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**38.** Which of the following components of blood does not enter the nephron?

A. glucose

B. urea

C. plasma roteins

D. Na<sup>+</sup> ions

**Answer: C**



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**39.** The force that moves fluid from the blood through the walls of a capillary and Bowman's capsule of a nephron is

- A. blood pressure
- B. gravity
- C. beating of cilia
- D. peristalsis of capsule

**Answer: A**



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**40.** Excretion of hypertonic urine in humans is associated with the

A. PCT

B. DCT

C. loop of nephron

D. glomerular capsule

**Answer: C**



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**41.** Which of the following enhances sodium reabsorption ?

A. low extracellular fluid volume

B. aldosterone

C. ADH

D. both (b) and (c)

**Answer: B**



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42. Osmoregulation is controlled by the

A. removal of  $N_2$  from the body

B. concentration of salt and water in the  
body

C. PH of the blood and other tissues

D. osmotic properties of cell membranes

**Answer: B**



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**43.** Reabsorption of useful substances back into blood from the filtrate in a nephron occurs in

A. DCT

B. loop of henle

C. collecting duct

D. PCT

**Answer: D**



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**44.** Animals most likely to excrete a semisolid nitrogenous waste with

A. malpighian tubules

B. nephridia

C. kidneys

D. all of the above

**Answer: B**



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**45.** In humans, glucose

A. is in the filtrate and not in urine

B. undergoes tubular secretion and is not  
in urine

C. is in the filtrate and in urine

D. undergoes tubular secretion and is in  
urine

**Answer: A**



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**46.** Maximum energy is consumed during formation of

A. urea

B. guanine

C. ammonia

D. uric acid

**Answer: D**



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47. Fluid within the loop of Henle is most concentrated in the

A. descending limb

B. hairpin bend

C. bend between ascending limb and distal tubule

D. ascending limb

**Answer: B**



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**48.** In birds, excretion of nitrogenous wastes, mainly as uric acid is helpful for

- A. conserving body water
- B. eliminating excess sugar
- C. eliminating excess body water
- D. eliminating excess body heat

**Answer: A**



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**49.** A nephron's reabsorption mechanism depends on

A. active transport of Na across nephron wall

B. a steep solute concentration gradient

C. osmosis across nephron wall

D. all of above

**Answer: D**



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50. A few substances move out the peritubular capillaries that thread around tubular parts of nephron. The substances are moved into the nephron during

A. tubular reabsorption

B. filtration

C. tubular secretion

D. both (a) and (b)

**Answer: C**



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51. Fresh water bony fishes survive by

A. getting rid of salt and gaining H<sub>2</sub>O

B. getting rid of H<sub>2</sub>O and gaining salt

C. both a and b

D. none of the above

**Answer: B**



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52. Which of the following amino acids play important role in ornithine cycle?

A. glycine, methionil

B. citrulline, giycine

C. ornithine, citrulline

D. arginine, methionine

**Answer: C**



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**53.** Find the incorrect statement regarding mechanism of urine formation

A. Glomerular filtration rate is 125 ml/min

B. Aldosterone induces greater reabsorption of Na<sup>+</sup>

C. Counter - current systems contribute in diluting urine

D. Tubular secretion takes place in PCT

**Answer: C**



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54. The pH of fresh urine is about

A. 8.4

B. 7.1

C. 9.9

D. 6

**Answer: B**



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55. In which part of nephron, absorption of filtrate is maximum?

A. Glomerulus

B. Distal convoluted tubule

C. henle's loop

D. proximal convoluted tubule

**Answer: D**



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56. When a litre of water is introduced in human blood

A. BMR increases

B. RBCs collapse and urine production decreases

C. BMR decreases

D. RBCs collapse and urine production increases

**Answer: D**



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57. Uric acid is chief nitrogenous component of excretory products of

A. frog

B. earthworm

C. cockroach

D. man

**Answer: C**



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**58.** A large quantity of fluid is filtered out from blood every day by nephrons. Only 1% of it is is excreted as urine. The maining 99%

- A. is absorbed into blood
- B. is stored in urinary bladder
- C. gets collected in reanal pelvis
- D. is lost as sweat

**Answer: A**



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**59.** Excretory wastes of animals are produced during

- A. catabolism
- B. anabolism
- C. digestion
- D. none of these

**Answer: C**



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60. The conversion of a protein waste, the ammonia into urea occurs in

A. intestine

B. liver

C. lungs

D. kidneys

**Answer: B**



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61. Excretory product of birds and reptiles is

A. uric acid

B. TMO

C. urea

D. ammonia

**Answer: A**



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**62.** Uric acids gets deposited in small joints to produce

A. osteoarthritis

B. burtusis

C. gout

D. rheumatoid , arthritis

**Answer: C**



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**63.** Loop of Henle takes part in absorption of

A. water retention

B. urea

C. glucose

D. potassium

**Answer: B**



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

A. death due to poisoning

B. uremia and death

C. stoppage of urination

D. nothing the person will survive and remain normal another kidney will become hypertrophied

**Answer:**





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65. What will happen if stretch receptors of urinary bladder wall are totally removed?

A. urine will not collect in bladder

B. urine will continue to collect normally in bladder

C. there will be no micturition

D. micturition will continue

**Answer: C**





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66. The substance present in higher concentration in blood than glomerular filtrate

A. urea

B. plasma proteins

C. glucose

D. water

**Answer: B**



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67. Antennal gland functions as excretory organ in

A. humans

B. earthworm

C. prawn

D. planaria

**Answer: C**



68. Correct pathway for passage of urine is

A. collecting duct → ureter →

bladder → urethra

B. renal cortex → medulla → urinary

bladder → urethra

C. pelvis → medulla → urinary bladder →

urethra

D. renal vein ---rarr urethra ---rarrbladder ---  
rarrureter

**Answer: A**



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**69.** Characteristics shared by urea, uric acid and ammonia are

- 1 They need large amount of water for excretions
2. they are equally toxic

3. they are produced in kidneys 4. they are nitrogenous wastes

A. 1,4

B. 3,4

C. 4 only

D. 1,3

**Answer: C**



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70. Genetic deficiency of ADH-receptor leads to

A. glycosuria

B. diabetes mellitus

C. nephrogenic diabetes

D. diabetes insipidus

**Answer: D**



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71. Size of filtration slits of glomerulus is

A. 20nm

B. 25nm

C. 10nm

D. 15nm

**Answer: B**



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72. Glycosuria is the condition where a man

A. has low sugar level in blood

B. Sugar is excreted in faeces

C. excretes sugar in urine

D. eats more sugar

**Answer: C**



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**73.** Choose the animals which are not ureotelic ?

A. crab

B. labeo

C. tadpole

D. all of these

**Answer: D**



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**74.** Vasa recta and network of blood capillaries occur in association with

- A. renal tubules
- B. digestive system
- C. skin
- D. liver lobule

**Answer: A**



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75. Which is not part of glomerular ultrafiltrate?

- A. amino acids
- B. Bowman's capsule
- C. RBC
- D. minerals

**Answer: C**



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76. Define the term micturition



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77. Which one of the following statements in regard to the excretion by the human kidney is correct?

A. distal convoluted tubule is incapable of reabsorbing  $\text{HCO}_3$

B. ascending limb of loop of Henle is impermeable to electrolytes

C. descending limb of loop of henle is impermeable to water

D. nearly 99 percent of the glomerular filtrate is reabsorbed by the renal tubules

**Answer: D**



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**78.** Volume of urine is regulated by

A. ADH

B. aldosterone and ADH

C. aldosterone

D. aldosterone and testosterone

**Answer: B**



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**79.** In which one of the following organisms its excretory organs are correctly stated?

- A. frog- kidneys, skin and buccal epithelium
- B. human-kidneys, sebaceous glands and  
tear glands
- C. earthworm-pharyngeal, integumentary  
and septal nephridia
- D. cockroach-malpighian tubules and  
enteric caeca

**Answer: C**



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**80.** The first movements of the foetus appearance of hair on its head are usually observed during which month of pregnancy?

- A. six month
- B. third month
- C. fourth month
- D. fifth month

**Answer: D**



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

A. Henele's loop : Most reabsorption of the major substances from the glomerular filtrate

B. Podocytes create minute spaces(Slit pores) for the filtration of blood into the Bowman's capsule.

C. Afferent arteriole: Carries the blood away from the glomerulus towards renal vein

D. Distal convoluted tubule: Reabsorption of  $K^+$  ions into the surrounding blood capillaries.

**Answer: B**



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**82.** Uricotelic mode of excreting nitrogenous wastes is found in

- A. birds and annelids
- B. insects and amphibians
- C. amphibian and reptile
- D. reptiles and birds

**Answer: D**



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**83.** The condition where urea accumulates in blood is

A. uraemia

B. ketonuria

C. anaemia

D. glycosuria

**Answer: A**



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**84.** Which of the following statement is correct with respect to kidney function regulation

A. exposure to cold temperature stimulates

ADH release

B. during summer when body looses lot of

water by evaporatio, the release of ADH

is suppressed

C. when someone drinks lot of water, ADH

release is suppressed

D. an increase in glomerular blood flow stimulates formation of angiotensin II

**Answer: C**



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**85.** Which one of the following is not a part of a renal pyramid?

A. loop of henle

B. peritubular capillaries

C. collecting ducts

D. convoluted tubules

**Answer: D**



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**86.** Select the correct statement

A. Vasa recta is well developed in cortical nephron

- B. The ascending limb of the henle's loop extends as the DCT
- C. The glomerulus encloses the Bowman's capsule
- D. The juxta medullary nephrons have reduced Henle's loop

**Answer: B**



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**87.** The maximum amount of electrolytes and water (70-80 percent) from the glomerular filtrate is reabsorbed in which part of the nephron?

- A. ascending limb of loop of Henle
- B. proximal convoluted tubule
- C. distal convoluted tubule
- D. descending limb of loop of Henle

**Answer: B**



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**88.** Proximal convoluted tubule of nephron is responsible for

A. filtration of blood

B. maintenance of glomerular filtration rate

C. selective reabsorption of glucose, amino acid, NaCl and water

D. reabsorption of salts only

**Answer: A**



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**89.** Which of the following causes an increase in sodium reabsorption in the distal convoluted tubule?

- A. increase in aldosterone levels
- B. increase in antidiuretic hormone levels
- C. decrease in aldosterone levels
- D. decrease in antidiuretic hormone levels

**Answer: A**



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**90.** Removal of proximal convoluted tubule from the nephron will result in

- A. No urine formation
- B. More diluted urine
- C. More concentrated urine

D. No change in quality and quantity of  
urine

**Answer: B**



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**91.** In which following conditions protein  
appears in urine ?

A. Galactosuria

B. nephritis

C. ketosis

D. Fructosuria

**Answer: B**



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**92.** Which of the following statement on human kidney is false?

A. Renal plasma flow is normally

660ml/minute

B. Blood flow in the cortex is greater than that in the medulla

C. Reabsorption of ions and water occurs mainly in the distal convoluted tubules

D. The renal blood flow is decreased in dehydration

**Answer: C**



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**93.** Where majority of the reabsorption takes place?

A. Renal capsule

B. Proximal convoluted tubule

C. Collecting duct

D. Asending limbs of loop of Henle

**Answer: B**



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**94.** The part of nephron involved in active reabsorption of sodium is

A. Descending limb of henle's loop

B. Distal convoluted tubule

C. Bowman's capsule

D. Proximal convoluted tubule

**Answer: C**



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95. In mammals, which blood vessel would normally carry largest amount of urea?

- A. Dorsal aorta
- B. Hepatic vein
- C. hepatic portal vein
- D. Renal vein

**Answer: B**



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96. Which of the following statement is correct?

A. The descending limb of loop of henle is impermeable to water

B. The ascending limb of loop of henle is permeable to water

C. The descending limb of loop of henle is permeable to electrolytes

D. The ascending limb of loop of henle is impermeable to water

**Answer: D**



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**Choose More Than One Option**

**1. Which of the following pairs are correct?**

A. dysuria --very painful urination

B. oligouria--- very less urine

C. bright's disease -----presence of  
stone in kidney

D. azotemia----- nitrogenous wastes in blood

**Answer: A::B::D**



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2. Which of the following are the function of  
renin?

A. modulates blood pressure

B. regulated renal blood flow

C. regulated counter current mechanism

D. regulated GFR

**Answer: A::B::D**



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**3. Normally, in a healthy adult the daily initial filtrate in the kidneys is**

A. 18L

B. 1.8L

C. 180L

D. 9L

**Answer:**



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**4.** Which of a the following are not correctly explains the function of a specific part of a human nephron?

A. podocytes-create minute space (slit pores) for the filtration of blood into the Bowman's capsule

B. Henle's loop -most reabsorption of the major substances from the glomerular filtrate

C. distal convoluted tubule-reabsorption of K ions into the surrounding blood capillaries



D. afferent arteriole- carries the blood away  
from the glomerulus towards renal vein

**Answer: B::C::D**



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5. Which of the following function perform of  
atriopeptin?

A. increase  $\text{Na}^+$  reabsorption

B. inhibits renin secretion

C. decrease aldosterone secretion

D. inhibits ADH secretion

**Answer: B::C::D**



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6. Excretion is required for maintaining homeostasis of body fluids through regulation of their

A. volume, composition, pH and osmotic potential

B. volume

C. composition and pH

D. osmotic potential

**Answer:**



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7. Name three abnormal constituents of urine



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8. Which of the following pairs are correct?

- A. ammonia production-glutaminase
- B. urea synthesis-ornithine cycle
- C. hypotonic urine-Henle's loop
- D. juxtaglomerular apparatus-angiotensin

**Answer: A::B::D**



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9. Which of the following pairs are correct?

A. macula densa- juxtaglomerular apparatus

B. podocytes cell-parietal layer

C. Henle's loop -hypertonic urine

D. distal convoluted tubule- active absorption

**Answer: A::C::D**



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10. Which of the following pairs are correct?

A. ultrafiltration- Malpighian corpuscle

B. transport of urine -ureter

C. storage of urine -urinary bladder

D. ADH-Ascending limb of loop of Henle

**Answer: A::B::C**



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**11. What is Alkaptonuria?**



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**12. What is Renal calculi?**



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**13. What is Uremia?**



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## 14. What is osmoregulation?



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### Fill In The Blanks

1. Glycosuria is a condition that involves the excretion of large amount of \_\_\_\_\_



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2. Ammonia is the chief nitrogenous excretory material in \_\_\_\_\_



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3. Urine is passed out from the bladder through \_\_\_\_\_



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4. The yellow colour of urine is due to \_\_\_\_\_



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5. Ammonia is converted into urea in \_\_\_\_\_



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6. The function of ureter is \_\_\_\_\_



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7. The process of purifying blood by means of an artificial kidney is called \_\_\_\_\_



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8. In man, urea is mainly produced in the \_\_\_\_\_



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9. The hormone ADH increases the absorption of \_\_\_\_\_ from the collecting duct



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10. The network of capillaries, enclosed in a Bowman's capsule is called \_\_\_\_\_



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11. Urea is formed from ammonia and CO<sub>2</sub> in \_\_\_\_\_



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12. Kidneys are concerned with the functions of \_\_\_\_\_ and osmoregulation.



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13. Osmoregulation is controlled over the amount of \_\_\_ and \_\_\_ in the body .



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**14.** A condition in which kidneys fail to form urine is called \_\_\_\_\_



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**15.** Two counter-current systems are formed in the kidney by the \_\_\_\_\_ and the \_\_\_\_\_



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**16.** Urine is carried from the kidney by \_\_\_\_\_ to the urinary bladder.



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**17.** During micturition, the urinary bladder \_\_\_\_\_ and the urethral sphincter \_\_\_\_\_



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**18.** Desert mammals are adapted to water shortage by having nephrons with longer \_\_\_\_\_



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**19.** Kidey of a mammal resembles contractile vacuole of amoeba in expelling out \_\_\_\_\_



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20. An animal is not an osmoregulator if its fluids are \_\_\_\_\_ with its surroundings.



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## True Of False Statement Questions

1. All terrestrial animals are ammonotelic.



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2. Mention the effect of ADH on blood vessels



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3. The functional unit of kidney is neurone.



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4. Renal function is associated with the blood pressure in the glomerulus.



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5. Urea is produced in the kidneys.



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6. Urine reaches the bladder from the kidneys through the urethra.



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7. Ammonia is combined with carbon dioxide to form urea in kidney.



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8. Birds is a uricotelic animal.



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



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**10.** What is ureotelism



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**11.** Reabsorption of water in the nephron is controlled by ADH and aldosterone hormone.



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**12.** What do you mean by uricotelism?



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**13.** Glucose is reabsorbed by the process of tubular reabsorption.



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**14.** Glomerular filtration take place in Bowman's capsule.



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15. shark is an ammonotelic animal.



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## Very Short Answer Type Questions

1. How would each of the following affect fluid balance: Hyperventilation, vomiting and Diuretics?



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2. What is a lack of voluntary control over micturition called?



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3. what are the functions performed by nephrons?



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4. Besides ADH, which other hormones contribute to regulation of water reabsorption?



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5. In which part of nephron does filtration take place?



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6. name the different parts of a nephron.



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7. In which organ ammonia is converted to urea?



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8. Name a hormone that controls osmoregulation?



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**9.** How does filtered glucose enter and leave a proximal convoluted tubule cell?



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**10.** In tubular secretion, are substances entering or leaving the blood stream?



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**11.** Which among the following is/are ureotelic animals: Whale, camel, toad, shark?



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**12.** Why are the kidneys said to be retroperitoneal?



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**13.** Elaborate the following: ADH.



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**14.** What happens to GFR if blood pressure in the kidney increases?



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**15.** Give scientific term for the act of passing out the urine.



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**16.** What is the principal nitrogenous waste product in (i) fish and (ii) Birds?



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**17.** Name the structures that pass through the renal hilum.



**Watch Video Solution**

**18.** Name the chief excretory product of human.



**Watch Video Solution**

**19.** Name the hormone that regulates the formation of urine in nephron.



**Watch Video Solution**

**20.** Name the yellow coloured pigments present in urine.



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**21.** List any three organs in mammals which act as accessory excretory organs.



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**22.** What is the volume of blood that enters the renal arteries per minute?



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**23.** What happens to plasma proteins during haemodialysis?



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24. which part of the endothelial capsular membrane prevents red blood cells from entering the capsular space?



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25. Name the hormone associated with reabsorption of water from the urine in the DCT?



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**26.** Where does arcuate artery is found?



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**27.** How many nephrons are there in each kidney of a human?



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**28.** Substance T is present in the urine. Does this prove that it is filterable at the

glomerulus?



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**29.** Which solutes contribute to the high osmotic pressure of interstitial fluid in the renal medulla?



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**30.** Name the structural and functional units of the kidney.



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**31. What is micturition?**



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**32. Where do ultrafiltration, reabsorption, and secretion occur in a nephron?**



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



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**34.** mention any one characteristic of ammonia as a nitrogenous metabolic waste, which of the following animals is /are ammonotelic: Camel, whale, Hydra, Frog?



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**35.** Name the major cation and the major anions in ECF and in ICF.



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**36.** What happens to the walls of DCT of a nephron when vasopressin is released by pituitary into the blood stream?



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**37.** What type of epithelium forms the parietal layer of the glomerular capsule, the PCT and the DCT?



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## Short Answer Type Questions

**1.** What is tubular reabsorption?



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2. Explain why we usually excrete more urine in winter than in summer?



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3. What is Ultrafiltration?



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4. What is meant by glomerular filtrate?



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5. What are the functions of renal tubule?



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6. What is diabetes insipidus?



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7. What is urine?



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8. In which condition the following abnormal constituents are found in urine-glucose, albumin, ketone body and bilirubin?



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9. What are the accessory excretory organs of man?



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**10. what is excretion?**



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**11. What are the organs of excretion in man?**



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**12. What is juxtaglomerular apparatus?**



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**13.** what is hilum (hilus)?



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**14.** what is vasa recta?



**Watch Video Solution**

**15.** Mention the dailly urine output of a healthy person.



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**16.** why protein and glucose are not present in normal urine?



**Watch Video Solution**

**17.** What is tubular reabsorption. ?



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**18.** Enumerate the nitrogenous and non - nitrogenous secretory products of human

body.



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**19.** (a) What is the amount of glomerular filtrate per day? (b) what is the volume of urine excreted in 24 hrs.? (c) what are nitrogenous constituents of urine? (d) Name two hormones which act on renal tubules.



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**20.** What are the reaction (acid / alkaline) of the following: (a) blood, (b) glomerular filtrate, (c) urine,



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**21.** What are different modes of Excretion?  
Describe in brief.



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22. What are the different excretory products of animals. State in brief.



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23. state the functions of kidney.



**Watch Video Solution**

24. What is juxtaglomerular apparatus.



**Watch Video Solution**

**25.** What are the different accessory excretory organs? State their functions.



**Watch Video Solution**

**26.** What is diabetes insipidus? State its cause and symptoms.



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**1. Define Ureotelism and Uricotelism.**



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**2. Renin and Rennin.**



**Watch Video Solution**

**3. Osmconformers and osmoregulators.**



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#### 4. Uricotelism and Ammonotelism.



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#### 5. What is ammonotelism?



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#### 6. Proximal convoluted tubules (PCT ) and Distal convoluted tubules (DCT).





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## Long Answer Type Questions

1. Name the two osmolytes which maintain the osmolarity gradient in the medullary interstitium



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2. What is nephron?.



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3. What is urine? How it is formed. State three abnormal constituents of urine. When they found in urine.

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4. What is the normal composition of urine? Show it by a table, What is the function of urine

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5. What is osmoregulation? How kidney helps in osmoregulation



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6. Which is the major seat of reabsorption in a nephron?



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7. What is renal failure? what are the types and how you will manage ARF and CRF?



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8. What is kidney stone? Describe its cause and treatment



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9. What is nephritis? Describe its cause and treatment.



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10. What is dialysis?



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**Ncert Questions**

**1. Define Glomerular Filtration Rate(GRR).**



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**2. Explain the function of DCT**



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**3. Indicate whether the following statements are true or fals: (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 capsule. proximal convoluted tubule.



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4. State the parts of nephron situated in the cortical region of kidney



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



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6. What is micturition ?



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7. What is meant by the term osmoregulation?





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**8. What are Malpighian tubules?**



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**9. what is the significance of juxta glomerular apparatus (JGA) in kidney function?**



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**10.** name the following : (a) A chordate animal having flame cells as excretory structures. (b) Cortical portions projecting between the medullary pyramids in the human kidney. (c) A loop of capillary running parallel to the hwenle's loop.



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