Q1. Name the following:

1. Fibrous connective tissue covering the kidneys. ______________________________
2. The deep notch present on the inner surface of the kidney. ______________________________
3. The peripheral dark reddish brown part of kidney. ______________________________
4. The central light red area of the kidney. ______________________________
5. Funnel shaped structure in which all major calyces open. ______________________________
6. Functional and structural units of kidney. ______________________________
7. Network of capillaries present in the cavity of Bowman’s capsules. _____________________
8. Chemical pathway leading to urea formation in liver. ______________________________
9. Glomerular filtrate after it passes through the proximal convoluted duct. __________________
10. Pituitary gland hormone, causing the absorption of water in the collecting duct. _________________
11. Increase flow of urine caused by caffeine and alcohol. ______________________________
12. The process of urination. ______________________________
13. Organs other than kidneys, involved in excretion in human body. ____________________________
14. Pear-shaped sac like organ for temporary storage of urine in human body. _________________

Q 2. Fill in the blanks.

1. The separation and elimination of the _____________________ from the body is called excretion.
2. Human excretory system includes __________ , ___________________ and urethra.
3. Right kidney is _________________ than the left one.
4. Each kidney consists of about 10 lac _________________. These are functional and structural units of the kidney.
5. Kidney consists of two types of nephrons, _______________ and ___________ nephrons.

6. Each nephron consists of a _______________ corpuscle, neck, proximal _______________, loop of _______________ and distal _______________.

7. The glomerulus receives blood through _______________ arteriole and blood moves out through _______________ arteriole.

8. Glomerulus and Bowman’s capsule are jointly called as _______________.

9. Proximal convoluted duct is lined by cuboidal _______________ epithelial tissue.

10. Loop of Henle can be distinguished into three regions _______________, _______________, and _______________.

11. Formation of urea takes place in the _______________ and is also called _______________ cycle.

12. Ultrafiltration of blood takes place in _______________.

13. Some toxic substances such as _______________ acid, _______________ and _______________ ions are secreted by the blood into renal fluid.

14. Out of _______________ litre glomerular filtrate, only _______________ to _______________ litre urine formation takes place per day.

15. The opening of urinary bladder into urethra is guarded by _______________ and _______________ sphincters.

16. On the basis of the nature of nitrogenous water formed, the animals are divided into three categories, namely a) _______________ b) _______________ and c) _______________.

17. Urine formation involves three processes- _______________ filtration, _______________ reabsorption, and _______________ secretion.

18. A _______________ is the structural and functional unit of the kidney.

19. The u-shaped tube of uriniferous tubule is called _______________.

20. The first network of capillaries present in nephrons is known as _______________.
21. Kidneys regulate the arterial blood pressure by a hormone ________________

22. Glucose and amino acids are reabsorbed from the tubules by ________________ reabsorption.

23. The pigment ___________ provides yellow colour to the urine.

24. Excess water in the urine indicates the disease ____________________.

Q 3. Select the odd one in the following series:

1. a. loop of Henle  b. vein  c. proximal convoluted duct.

2. a. kidney  b. ureter  c. heart

3. a. glomerulus  b. alveoli  c. bronchi.

4. a. urea  b. uric acid  c. haemoglobin

5. a. renal fat  b. renal capsule  c. nerve

6. a. column of bertini  b. minor calyces  c. brain

Q 4. Select the correct option

1. How many nephrons are contained in each kidney?
   a) about 100  
   b) about 1000  
   c) less than 100  
   d) about a million

2. Which of the following contains the least concentration of glucose
   a. plasma  
   b. nephric filtrate  
   c. urine

3. What percentage of the glucose in the filtrate is reabsorbed in the nephron?
   a. 0%  
   b. 20%  
   c. 50%  
   d. 100%

4. What part of the nephron is located between the proximal convoluted tubule and the distal convoluted tubule?
   a. medial convoluted tubule  
   b. loop of Henle  
   c. collecting tubule  
   d. glomerulus

5. What triggers the release of ADH from the posterior pituitary?
   a. Aldosterone  
   b. ADH releasing factor  
   c. blood osmotic pressure  
   d. hematopoietin  
   e. 
6. By what process does an artificial kidney work?
   a. filtration  
   b. phagocytosis  
   c. dialysis  
   d. hemolysis

7. Tuft of capillaries inside the Malpighian body is known as
   a. Glomerulus  
   b. Collecting ducts  
   c. Nephron  
   d. Renal artery

8. Formation of urea occurs in
   a. Liver  
   b. Kidneys  
   c. Small intestine  
   d. Pancreas

10. Which of these is not a normal constituent of urine:
    a. Sugar  
    b. Urea  
    c. Creatinine  
    d. Uric acid

11. Which of these is not an excretory organ: intestine, lungs, thyroid or kidneys?
    a. Thyroid  
    b. Intestine  
    c. Lungs  
    d. Kidneys

12. Main function of the ________ is to filter the wastes from the blood and excrete them in the form of urine.
    a. Kidneys  
    b. Lungs  
    c. Urinary Bladder  
    d. Endocrine glands

13. Bag like structure in which urine is stored.
    a. Urinary Bladder  
    b. Kidney  
    c. Ureter  
    d. Stomach

14. Which is not true regarding kidneys?
    A. They do not have any capsule.  
    B. They are bean shaped and reddish brown in color.  
    C. Each kidney is divided into 2 parts - cortex and medulla.  
    D. They are the main excretory organs.
    a. A  
    b. B  
    c. C  
    d. D

15. Which of these is not true?
    A. Kidney excretes urea.  
    B. A small fraction of CO2 is removed through the skin.  
    C. Small amount of salt is excreted through skin.  
    D. Feces are excreted through the anus.
    a. A  
    b. B  
    c. C  
    d. D
16. Which of these is not a function of kidneys?
   A. Maintenance of acid base balance.
   B. Excretion of nitrogenous waste products.
   C. Temperature regulation.
   D. Maintenance of water balance.
   
   a. A  
   b. B  
   c. C  
   d. D

Q 5. The given diagram is that of a part of the kidney. Identify and label its parts-

   a. Name the process taking place here.

   b. Name two nutrients and two harmful substances associated with the diagram and give their fate.

Q 6. Given below is the internal structure of the kidney. Observe and answer the questions.
1. What are the two main parts seen in the internal structure of the kidney?

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…………………………………………………………………………………………………………

2. What is the outermost layer of the kidney?

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3. On the basis of the excretory material state the types of excretory products.

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Q1. Observe the given diagram and label the parts-

1. Name and give the number of the part responsible for storing urine temporarily.

…………………………………………………………………………………………………………

2. How is structure 4 different in males and females?

…………………………………………………………………………………………………………

3. What is the function of structure 2?

…………………………………………………………………………………………………………

4. What is the capacity of the structure 3? How can it manage to hold its contents?

…………………………………………………………………………………………………………
5. Name the structure that guards 3.

6. State the function of structure 1 and name the part present inside that is responsible for it.

7. What is the length of structure 2?

8. When structure 3 contracts the contents do not move back into 2. Give reason.

9. Show the position of the adrenal gland in the diagram.

10. How many functional units are present in structure 1?

11. Mark hilum in the diagram and give its importance.

12. How are the following metabolic wastes removed from the body?
   A. CO2
   B. Water
   C. Salts
   D. Urea