DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 8

Topic :- Excretory Products & Their Elimination

1 **(b)**

Urine specific gravity is a test that measures the concentration of particles in the urine. Specific gravity of urine is normally 1.015-1.020.

2 **(c)**

Haemodialysis During dialysis, the blood drained from a convenient artery is pumped into a dialysing unit after adding anticoagulant like heparin. The unit contains a coiled cell phone tube surrounded by a fluid (dialysing fluid) having the same composition as that of plasma except the nitrogenous wastes.

The porous cell phone membrane of the tube allows the passage of molecules based on concentration gradient. As nitrogenous wastes are absent in dialysing fluid these substances freely move out, there by clearing the blood. The cleared blood is pumped back to the body through a vein after adding antiheparin to it. This method is a boon for thousands of uremia patient all over the world

3 **(c)**

The process of pressure filtration through glomerular capillaries in Bowman's capsule is known as glomerular filtration and the filtrate is called renal fluid. Renal fluid is isotonic to cortical fluid and blood in PCT and DCT.

4 **(b)**

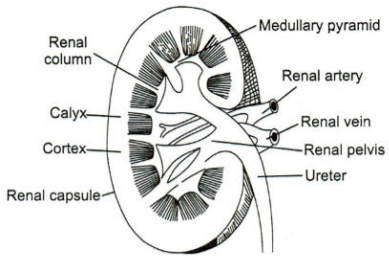
Presence of excess urea in urine is uremia.

5 **(d)**

DCT reabsorbs →Na^+, K^+, HCO_3, NH_3 and water.

Nitrogenous water are absorbed by passive transport. Reabsorption of water also occurs passively in the initial segment of nephron

7 **(d)**



Longitudinal section (digrammatic) of kidney

The outer layer of the kidney is a tough capsule. Inside the kidney, there are two zones- cortex and medulla. Medulla is divided into few conical masses called medullary pyramids. The cortex extends in between the medullary pyramids as renal columns called columns of Bertini

8 **(d)**

The flow of filtrate in the two limbs of Henle's loop is in opposite directions and thus forms a counter current mechanism (The process due to which the urine is made hypertonic). Vasa-recta also plays a significant role in counter-current mechanism

9 **(c)**

Aldosterone causes the reabsorption of water and Na^+ from distal part of duct

10 **(c)**

Alkaptonuria is the genetic disease in which homogenestic acid is excreted out with urine

11 **(d)**

Sweat produced by sweat gland is a watery fluid containing NaCl, small amounts of urea, lactic acid, etc. Though the primary function of sweat is to facilitate a cooling effect on the body surface

12 **(c)**

GFR The amount of the filtrate formed by the kidneys per minute is called glomerular filtration rate. GFR in healthy individual is 125 mL/minute, *i.e.*, 180 litres per day

13 **(c)**

A-urea, B-liver, C-kidney

14 **(d)**

A comparison of the volume of the filtrate formed per day (180 litre per day) with that of the urine released (1.5 litres), suggests that nearly 99% of this filtrate has to be reabsorbed by the renal tubules. This process is called reabsorption

15 **(a)**

Camel is called as 'Ship of Desert' due to its adaptations for xerophytic environment. Camel excretes a highly concentrated urine to conserve water and can also tolerate desiccation up to 40% cellular content.

16 **(c)**

Tubular secretion takes place in DCT and collecting tubules. It is the active secretion or excretion of waste products from blood capillaries and interstitial fluid into the lumen of nephron.

17 **(d)**

pH of urine ranges from the 5.0 to 7.8. Average pH = 6.0 (slightly acidic)

18 **(b)**

If one litre of water is introduced in human blood then RBCs absorbs it (as water is hypotonic to their internal environment) swell up and burst. Besides of this, there is also increases in the urine production as more water is passed in the nephric filtrate.

19 **(d)**

A – reabsorbed, B – Concentrated, C – Urea

20 **(b)**

Glucose, amino acid, Na^+ are absorbed actively in the nephron

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**B**	**C**	**C**	**B**	**D**	**B**	**D**	**D**	**C**	**C**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**D**	**C**	**C**	**D**	**A**	**C**	**D**	**B**	**D**	**B**