

**Topic :-Excretory Products & Their Elimination**

- 1 **(b)**  
Meristic variation is a type of variation involving the number of arrangement of parts of an organism.  
  
In meristic trait, the phenotype is determined by counting.
- 2 **(b)**  
**Haemodialysis** is the process, in which an artificial kidney is used for removing accumulated excretory substances like urea, uric acid, creatinine and other waste products from the blood. It is generally used in case, of uremia (in which concentration of urea is increased) in urine patients when kidneys are not functioning properly.
- 3 **(c)**  
The kidneys have built in mechanisms for the regulation of glomerular filtration rate. One such efficient mechanism is carried out by juxta glomerular apparatus (JGA). JGA is the special sensitive region formed by cellular modification in the distal convoluted tubule and the afferent arteriole at the location of their contact. A fall in GFR can activate the JG cells to release renin, which can stimulate the glomerular blood flow and there by GFR back to normal
- 4 **(d)**  
Kidney transplantation is the ultimate method in the correction of acute renal failure. A functioning kidney is used is transplantation from a donor, preferably a close relative, to minimise its chances of rejection by immune system of the host. Modern clinical procedures have increased the success rate of such complicated technique. Cyclosporin-A is used as immunosuppressive agent in the kidney transplant patient
- 5 **(d)**  
**Glycosuria** is the condition, when glucose is excreted in the urine because the blood sugar level exceeds from the normal.
- 6 **(b)**  
Henle's loop concentrate the urine. It is highly develop in the organism, which are found in xerophytic condition in order to conserve water. But organism, which produces the dilute urine have little or no Henle's loop like fishes
- 7 **(b)**  
**Osmoconformers** are those organisms whose body is osmotic, *i.e.*, osmotic concentration of

internal environment and surrounding sea water are approximately equal. There is no net tendency for water to move in or out of body in osmoconformers. Among vertebrates hagfishes are osmoconformers.

8 **(b)**

Duct of Bellini is one of the main urinary ducts of the mammalian kidney, acting as a common collecting duct receiving branches from a number of Malpighian bodies.

All duct of Bellini then, open at the tip of the papilla or papillae into the pelvis.

9 **(b)**

Ornithine cycle or urea cycle takes place in the liver cells by which urea is produced from the deaminated excess amino acids.

10 **(b)**

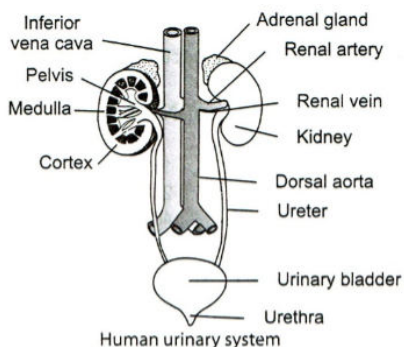
It has been found that in rabbit, all the glucose, amino acids and some urea are absorbed in the proximal convoluted tubule.

11 **(c)**

Water reabsorption in DCT and CT by ADH is called the facultative water reabsorption. Vasopressin (ADH) hormone from posterior pituitary plays an important role in regulating the amount of urine passed out by effecting the permeability of DCT

12 **(c)**

- A – ureter
- B – Inferior vena cava
- C – Dorsal aorta
- D – Urethra
- E – Medulla



13 **(c)**

Spiders excrete guanine and therefore, these are called guanotelic. Guanine is a metabolic waste product of nucleotide metabolism.

14 **(b)**

Medullary interstitial fluid

15 **(c)**

Release Urine.

Micturition is a reflex of voiding urine. If the urine content of urinary bladder reaches more than 300 mL micturition reflex starts. Neural mechanism of micturition is called micturition reflex

16 (d)

A – CNS, B – motor message, C – relaxation.

**Steps for Urination** Bladder fills with urine and becomes distended. Stretch receptors on the wall of urinary bladder send signal to the CNS.

CNS passes on motor message to initial messengers to initiate the contraction smooth muscle of bladder and simultaneous relaxation of urethral sphincter causing the release of urine

17 (d)

**Kidneys** are the main excretory organ in humans. Kidneys are reddish-brown, bean-shaped structure situated between the levels of the last thoracic and third lumbar vertebrae closer to the dorsal inner wall of the abdominal cavity.

Each kidney is 10-12 cm long, 5-7 cm width, 2-3 cm in thickness. The average weight of the kidney is 120 to 170 gm

18 (d)

Loop of Henle is found in renal medulla of kidney. It consists of a descending limb and an ascending limb. The upper part of descending limb is the thick segment while distal part of descending limb is the thin segment.

19 (a)

The excretory system of crustacean (*Palaemon*) consists of a pair of antennary or green glands, a pair of lateral ducts and an unpaired renal or nephroperitoneal sac. Coxa of each antenna encloses an antennary gland.

20 (b)

Pronephric kidney is the most primitive type of kidney. It opens into body cavity and the functional unit is ciliated funnel or nephrostomes, *e.g.*, tadpole of frog.

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