

**Class: 11**

**Subject: biology**

**Topic: Excretory Products and Their Elimination**

**No. of Questions: 20**

**Duration: 60 Min**

**Maximum Marks: 60**

1. Ornithine cycle was discovered by

- A. Krebs
- B. Henseleit
- C. Krebs and Henseleit
- D. Ornithine

Answer: C

2. Match the columns and find the correct combination

	I		II
a	Nephridia	p	Hydra
b	Malpighian tubules	q	Leech
c	Protonephridia	r	Shark
d	Kidneys	r	Roundworms
		t	Cockroach

- A. a-t, b-q, c-s, d-r
- B. a-q, b-s, c-t, d-p
- C. a-q, b-t, c-s, d-r
- D. a -s, b -q, c -p, d -t

Answer: C

3. Chemical formula of urea is

- A.  $(\text{NH}_3)$
- B.  $\text{CO}_2\text{NH}_2$
- C.  $\text{CO}(\text{NH}_2)_2$
- D.  $\text{C}_5\text{H}_4\text{N}_4\text{O}_3$

Answer: C

4. Deamination is the first step in urea formation

- A. Reduction of ammonia
- B. Oxidation of ammonia
- C. Addition of amino group to a nonamino organic molecule
- D. Removal of amino group from an amino acid

Answer: D

5. The kidneys are located
- A. Within the coelom
  - B. Near the buccal cavity
  - C. Near the heart
  - D. Outside the coelom

Detailed Answer:

The kidneys are retroperitoneal, which means they are located "behind" the peritoneal cavity.

Answer: D

6. If kidneys fail to reabsorb water, the effect on tissues would be
- A. Remain unaffected
  - B. Shrink and shrivel
  - C. Absorb water from blood plasma
  - D. Take more O<sub>2</sub> from blood

Detailed Answer:

Under this circumstances, the body water would be lost (as urine) and the tissues would shrink due to lack of water.

Answer: B

7. Urea is derived from
- A. Fats
  - B. Amino acids
  - C. Carbohydrates
  - D. Uric acid

Answer: B

8. Uric acid gets deposited in small joints to produce
- A. Rheumatoid arthritis
  - B. Gout
  - C. Osteoarthritis
  - D. Bursitis

Detailed Answer:

The deposition of uric acid in body joints produce urate crystals which cause inflammation, redness and swelling of the joints a medical symptom known as gout.



Answer: B

9. Match the two and nick correct combination.

	Column I (Cells)		Column II (Parts)
a	Kupffer's cells	p	Small intestine
b	$\beta$ -cells	q	PCT
c	Brush border cells	r	Liver sinusoids
d	Paneth cells	r	Pituitary
		t	islets of Langerhans

- A. a-r, b-s, c-q, d-p
- B. a-r, b-t, c-q, d-p
- C. a-r, b-p, c-t, d-q
- D. a-r, b-t, c-p, d-q

Answer: B

10. The position of kidneys is

- A. Inter-peritoneal
- B. Retroperitoneal
- C. Intraperitoneal
- D. None of these

Detailed Answer:

The kidneys are retroperitoneal, which means they are located "behind" the peritoneal cavity.

Answer: B

11. The process that pushes out water and other dissolved materials from blood in the glomerulus is

- A. Dialysis
- B. Secretion
- C. Filtration
- D. Ultrafiltration

Answer: A

12. Main functions of kidney is

- A. Passive absorption
- B. Ultrafiltration
- C. Selective reabsorption
- D. Both B and C

Detailed Answer:

**Selective reabsorption** takes place in the proximal convoluted tubule (PCT) of the kidney. It is the process by which useful substances within the glomerular filtrate (such as glucose, amino acids, vitamins and water) are taken back into the blood after ultrafiltration. As only certain substances are reabsorbed, it is known as selective reabsorption.

In biological terms, **ultrafiltration** occurs at the barrier between the blood and the filtrate in the renal corpuscle or Bowman's capsule in the kidneys. The Bowman's capsule contains a dense

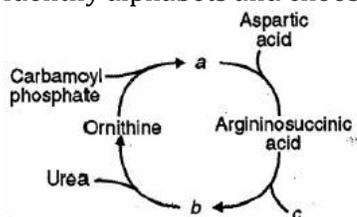
capillary network called the glomerulus. Blood flows into these capillaries through a wide afferent and leaves through a narrower efferent arteriole. The blood pressure inside these capillaries is high because:

Answer: D

13. Which one is component of ornithine cycle
- Ornithine, citrulline and alanine
  - Ornithine, citrulline and arginine
  - Amino acids are not used
  - Ornithine, citrulline and fumaric acid

Answer: B

14. Identify alphabets and choose correct combination



- a-arginine, b -succinic acid, c -fumaric acid
- a -citrulline, b- arginine, c-succinic acid
- a-citrulline, b-fumaric acid c-arginine
- a -citrulline, b -arginine, c -fumaric acid

Answer: D

15. The process used in separating larger particles from smaller ones in a solution is called
- Chromatography
  - Dialysis
  - Osmosis
  - Tyndallisation

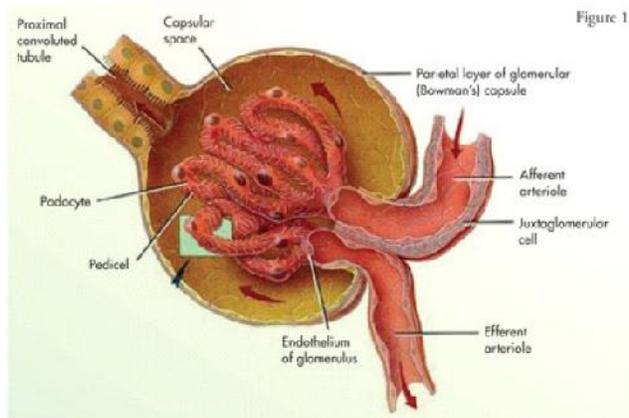
Detailed Answer:

**Dialysis:** The process of cleansing the blood by passing it through a special machine. Dialysis is necessary when the kidneys are not able to filter the blood. Dialysis allows patients with kidney failure a chance to live productive lives. There are two types of dialysis: hemodialysis and peritoneal dialysis.

Answer: B

16. Diameter of the renal afferent vessel is
- Same as that of efferent
  - Smaller than that of efferent
  - Larger than that of efferent
  - There is no efferent vessel

Detailed Answer:



Answer: C

17. The conversion of a protein waste, the ammonia into urea, occurs in Urea is synthesised in Ornithine cycle operates in
- Kidneys
  - Lungs
  - Intestine
  - Liver

Answer: D

18. The cells which line the neck and the body of the nephron are
- Smooth squamous epithelial
  - Tesselated epithelial
  - Stratified epithelial
  - Cuboidal and ciliated epithelial

Answer: D

19. The narrow apex of pyramid is called
- Column of Bertin
  - Calyx
  - Papillary duct of Bellini
  - Pelvis

Answer: C

20. Uricotelism in animals is associated with
- Energy requirement
  - Food habits
  - Conservation of water
  - None of the above

Detailed Answer:

# askITians

ENGINEERING | MEDICAL | FOUNDATION

An adaptation of terrestrial reptiles and birds which effectively provides for detoxification of ammonia and also for efficient conservation of water due to a relatively low rate of glomerular filtration and active secretion of uric acid by the tubules to form a urine practically saturated with urate.

Answer: C

askITians