

Section A

● Write the answer of the following questions. [Each carries 1 Mark] [20]

- Filtration of the blood takes place at  
(A) PCT (B) DCT (C) Collecting ducts (D) Malpighian body
- Different types of excretory structures and animals are given below. Match them appropriately and mark the correct answer from among those given below :

Excretory structure/ organ	Animals
(a) Protonephridia	(i) Prawn
(b) Nephridia	(ii) Cockroach
(c) Malpighian tubules	(iii) Earthworm
(d) Green gland or Antennal gland	(iv) Flatworms

- (A) (a - iv), (b - iii), (c - ii), (d - i) (B) (a - ii), (b - iii), (c - i), (d - iv)  
(C) (a - iv), (b - iii), (c - i), (d - ii) (D) (a - i), (b - iii), (c - ii), (d - iv)
- Match the following columns :

Column - I	Column - II
(a) Proximal convoluted tubule	(i) Formation of concentrated urine
(b) Distal convoluted tubule	(ii) Filtration of blood
(c) Henle's loop	(iii) Reabsorption of 70- 80% of electrolytes
(d) Counter-current mechanism	(iv) Ionic balance
(e) Renal corpuscle	(v) Maintenance of concentration gradient in medulla.

- (A) (a - iii), (b - v), (c - iv), (d - ii) (e - i) (B) (a - i), (b - iii), (c - ii), (d - v) (e - iv)  
(C) (a - iii), (b - iv), (c - i), (d - v) (e - ii) (D) (a - iii), (b - i), (c - iv), (d - v) (e - ii)
- Dialysing unit (artificial kidney) contains a fluid which is almost same as plasma except that it has  
(A) High glucose (B) High urea (C) No urea (D) High uric acid
  - Which of the following reason is responsible for increase in reabsorption of Na<sup>+</sup> in distal convoluted tubule ?  
(A) Increase in the amount of aldosterone (B) Increase in ADH  
(C) Decrease in the amount of aldosterone (D) Decrease in ADH
  - Of the following option, which classify animals correctly based on removal of excretory waste ?

	A Ammonotelic	B Ureotelic	C Uricotelic
(A)	Pigeon, Human	Aquatic, Amphibian, Lizard	Cockroach, Frog
(B)	Frog, Lizard	Aquatic, Human, Amphibian	Cockroach, Pigeon
(C)	Aquatic, Amphibians	Frog, Human	Pigeon, Lizard, Cockroach
(D)	Aquatic, Amphibians	Cockroach, Human	Frog, Pigeon, Lizard

- Stimulates decrease in GFR.  
(A) JG cells to release renin (B) Adrenal medulla to release aldosterone  
(C) Adrenal medulla to release adrenaline (D) Post pituitary to synthesize vasopressin
- Of the following which shows proper function ?

- (A) Henle's loop – Most of the substances reabsorbed from glomerular filtrate.  
 (B) DCT (Distal convoluted tubule) – Reabsorption of ions from the veins or blood from the surroundings.  
 (C) Efferent arteriole – Blood is transported from glomerulus to renal vein.  
 (D) Podocytes - Form sieve like structure for the filtration of blood from bowman's capsule.
9. Which of the following option is correct based on rule of functioning of kidney.  
 (A) When come in contact with cold atmosphere, ADH secretion is induced.  
 (B) Increase in blood flow in glomerulus induces synthesis of angiotensin - II.  
 (C) When body loses H<sub>2</sub>O in summer ADH secretion is inhibited.  
 (D) When someone drinks more H<sub>2</sub>O, ADH is secreted.
10. What is GFR in healthy person ?  
 (A) 250 ml/min                      (B) 200 ml/min                      (C) 125 ml/min                      (D) 100 ml/min
11. Which cells release Renin ?  
 (A) Liver cells                      (B) JG cells                      (C) Heart cells                      (D) Lung cells
12. Pick up wrong pair  
 (A) Nephritis - frequent urination  
 (B) Renal calculi - severe pain in urinary Bladder  
 (C) Kidney failure - excretion function completely fails  
 (D) Uremia - frequent urination
13. ADH is secreted by  
 (A) Kidney    (B) Anterior lobe of pituitary gland  
 (C) Posterior lobe of pituitary gland                      (D) Liver
14. Condition in which accumulation of urea in blood takes place.  
 (A) Uremia                      (B) Uremia                      (C) Uricotelism                      (D) Urichrome
15. Juxta medullary nephron has  
 (A) Short loop of Henle    (B) Long loop of Henle    (C) No PCT                      (D) No DCT
16. What is reabsorption ?  
 (A) Absorption of the filtrate by the renal tubules.  
 (B) Secretion of nutrients by the filtrate.  
 (C) Absorption of retentate by the renal tubules.  
 (D) Absorption of proteins and carbohydrates only.
17. What is the GFR of a healthy individual ?  
 (A) 150 litres per day    (B) 180 litres per day    (C) 200 litres per day    (D) 80 litres per day
18. What is the full form of GFR ?  
 (A) Glomerulus filtering unit                      (B) Glomerular filtration rate  
 (C) Globulin fast rate                      (D) Globulin filtering rate
19. What are diuretics ?  
 (A) Substances which increase the urine formation  
 (B) Substances which decrease the urine formation  
 (C) Substances which increase the glucose content in the urine  
 (D) Substances which change the colour of the urine
20. A : Nephritis is the inflammation of kidney tissue.  
 R : Nephritis is usually caused by viral infection.

- (A) A and R both are correct and R is correct explanation of A.
- (B) A and R are correct but R is not correct explanation of A.
- (C) A is correct and R is false.
- (D) Both A and R are false.

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