



Biology Leaving Certificate Higher Level

Past Exam Questions on:

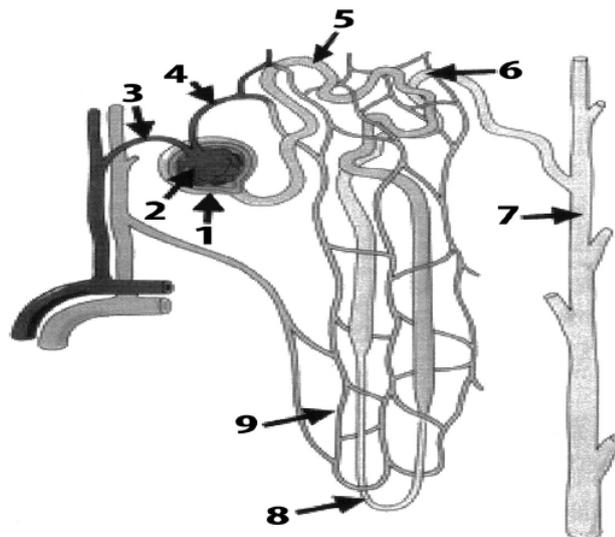
Excretion

**Q 15(c) 2012**

- (c) (i) Explain the term *homeostasis*.
- (ii) Homeostasis often requires an organism to exchange materials between different tissues, or between itself and the external environment by diffusion, osmosis, and active transport. Explain **each** of the underlined terms.
- (iii) State **one** way in which **each** of the following contributes to homeostasis.
1. Liver.
  2. Lungs.
  3. Nephrons of kidneys.
- (iv) Describe the role of the skin in controlling body temperature.

**Q12 2011**

12. (a) (i) What is meant by the term *excretion*?  
 (ii) Mention **one** method of excretion in flowering plants. (9)
- (b) (i) Draw a large labelled diagram of a vertical section through a human kidney. Label the following parts of your diagram: cortex, medulla, pelvis.  
 (ii) Indicate clearly on your diagram where re-absorption takes place.  
 (iii) 1. Name the blood vessel that supplies blood to a kidney.  
 2. From which blood vessel does the blood vessel referred to in (iii)1 arise?  
 (iv) In which cavity of the body are the kidneys located?  
 (v) Name **one** substance, other than water, excreted in the urine.  
 (vi) Give a feature of the kidney which indicates that it is an exocrine gland. (27)



- (c) (i) The diagram above shows the structure of a nephron and its associated blood supply.  
 1. Name the parts numbered 1 to 6.  
 2. Indicate clearly by number where filtration takes place.  
 3. Name the hormone associated with changing the permeability of the structure at 7.
- (ii) A sample of urine was found to contain protein.  
 1. Would you consider this to be normal?  
 2. Explain your answer.
- (iii) A sample of urine was found to contain glucose.  
 1. Would you consider this to be normal?  
 2. Explain your answer. (24)

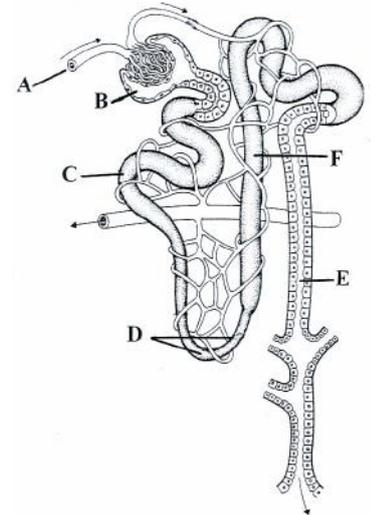
**Q 15 (c) (iii) 2009**

- (c) Write notes on **three** of the following topics:
- (i) The role of lymphocytes.
  - (ii) Neurotransmitters.
  - (iii) Homeostasis.
  - (iv) Adaptations of wind-pollinated flowers.
  - (v) The economic and medical importance of viruses.

**Q13 2008**

13. (a) (i) What is meant by excretion?  
(ii) Urea and carbon dioxide are excretory products of the human body. In the case of each product name a substance from which it is derived. **(9)**
- (b) The diagram shows the structure of a nephron and its associated blood supply.

- (i) Name the parts A, B, C, D, E and F.
- (ii) From which blood vessel is A derived?
- (iii) Where in the kidney is B located?
- (iv) Give the part of the nephron in which each of the following takes place:  
1. filtration, 2. reabsorption of amino acids.
- (v) Give **two** features of the nephron that aid filtration.
- (vi) Name a group of biomolecules in the blood which are too large to pass through the filtration system of the nephron. **(27)**



- (c) (i) Suggest **two** situations which may result in a drop in the water content of the blood.  
(ii) When the water content of the blood drops a hormone is released. Name this hormone and the endocrine gland from which it is secreted.  
(iii) Give a precise target area for this hormone. How does the hormone reach the target area?  
(iv) Explain the role of the hormone at its target area, when the water content of the blood is low. **(24)**

**Q15 (c) 2007**

- (c)  $\emptyset$  What is homeostasis? Note **one** reason why it is important in the human body.
- (ii) Draw a diagram of a section through human skin to show **two** structures involved in temperature regulation. Label each of these structures.
- (iii) For one of the structures that you have labelled in your diagram briefly describe its role in temperature regulation.
- (iv) What is meant by an ectotherm?

**Q13 (b) 2006**

- (b) Use your knowledge of the human vascular and excretory systems to answer the following.
- (i) Explain the terms, plasma, glomerular filtrate.
- (ii) Explain why red blood cells are normally absent from glomerular filtrate.
- (iii) The concentration of glucose is the same in plasma and glomerular filtrate. Why is this?
- (iv) Why is glucose normally absent from urine?
- (v) Following a period of heavy exercise an athlete may produce only a small volume of concentrated urine. Explain this observation and give an account of the process that concentrates the urine.

(27)

**Q3 (a) 2005**

3. Indicate whether the following are true (T) or false (F) by drawing a circle around T or F.

Urea is formed in the kidneys.

T F