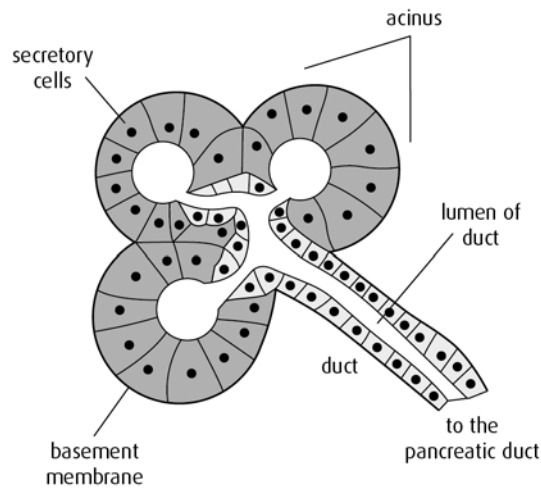
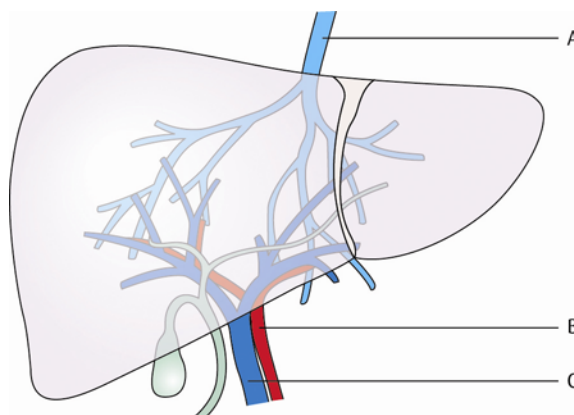


Support worksheet – Option H

- 1** The diagram below shows the structure of an exocrine gland.

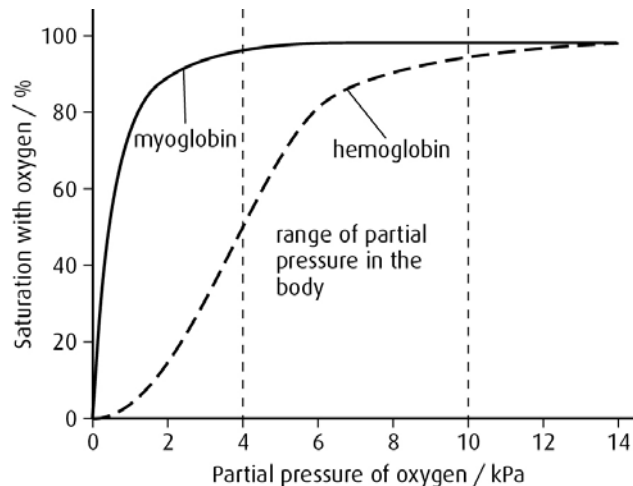


- a** Which feature distinguishes this gland as an exocrine gland? (1)
- b** If the secretory cells were to be examined under an electron microscope, name **three** structures that you would expect to be present in large numbers and indicate a function for each one. (6)
- c** What is the final destination of the products of these secretory cells? (1)
- d** Name **three** enzymes that the secretion contains and outline their functions. (3)
- 2 a** The liver is responsible for the storage of certain nutrients.
- List **four** substances stored in the liver. Outline the importance of **one** of these to the efficient functioning of the body. (4)
- b** Name **two** substances synthesized by the liver, and state their functions. (2)
- c** Name the blood vessels that enter and leave the liver, labelled A, B and C in the following diagram. (3)



- d** The lifespan of red blood cells is approximately 120 days, after which time they are engulfed by cells in the liver and their contents recycled or disposed of.
- i** Name the cells that engulf the red blood cells. (1)
- ii** State the fate of the heme group and the globin chains of hemoglobin molecules from red blood cells. (3)

3 The diagram below shows an oxygen dissociation curve.



- a** Explain in words what is shown by the curve for hemoglobin. (3)
- b** Myoglobin is found in muscle cells. Explain what the curve for myoglobin shows about the affinity of myoglobin for oxygen when compared with hemoglobin. (2)
- c** Where on the graph would the curve for fetal hemoglobin be in relation to adult hemoglobin? (1)
- d** Larvae of Chironomid worms (blood worms) and other species live in mud at the bottom of ponds where the oxygen partial pressure is low. What is the value of hemoglobin to these species? (2)
- e** Free-divers dive under the sea without 'scuba' equipment. Prior to diving, they hyperventilate to reduce the level of carbon dioxide in their blood. Explain why doing so enables them to stay underwater for longer without the need to breathe. (3)