Q 2004 9

1. (i) Cardiac muscle may be described as a contractile tissue. Explain the meaning of of the underlined term.

(ii) Which chamber of the heart has the greatest amount of muscle in its wall?

(b) Describe how you dissected a mammalian heart in order to investigate the internal structure of atria and ventricles.

Draw a labelled diagram of your dissection to show the location and structure of the bicuspid and tricuspid valves.

**MS 2004 9**

**(a) (i)** it can shorten or contract **3**

1. left ventricle **3**

## (b)

**Dissection:**

Identify sides (or front/back) / how identified / ventral side uppermost /

/ on board **or** dish /named cutting instrument / described (location of) cut /

/ any safety procedure stated e.g gloves, goggles, white coat ***any three* 3(3)**

## Diagram 3, 0

[*4 chambers + indication of 2 valves*]

**labels** (bicuspid and tricuspid valves in correct position) **3**

## Expose semilunar valve:

Cut aorta **or** cut pulmonary artery **3**

## Function semi lunar valve:

Stops back flow of blood (into ventricle or from artery) **3**

## Origin of coronary artery:

aorta **or** near semilunar valve **3**

**Q 2010 7**

(a) (i) Name the cavity of the body in which the heart and lungs are located

(ii) State **one** way in which heart muscle differs from other muscles in the body

1. Answer the following questions in relation to a dissection that you carried out to investigate the structure of an ox’s or a sheep’s heart.
   1. Describe the steps that you followed in order to identify and display the inner structures of the heart. Use suitably labelled diagrams if necessary.
   2. What did you do in order to expose a semi-lunar valve?
   3. In the space below draw and label sufficient of your dissection to show the tricuspid valve, the right atrium and the right ventricle.

**MS 2010 7**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **7.** | (a) | (i)  (ii) | Thoracic **or** chest  Doesn’t tire [*allow involuntary*] | **3**  **3** |
|  | (b) | (i) | Identify front (or back or left or right) / how identified / named cutting instrument / location of first cut / second cut described / locate (find or flag label) named structure / safety precaution described  (*any of the above points can be got from labelled diagrams*) | **4(3)** |
|  |  | (ii) | Cut open aorta **or** cut open pulmonary artery | **3** |
|  |  | (iii) | Diagram of dissection | **3, 0** |
|  |  |  | Labels: Right atrium, tricuspid valve, right ventricle | **3(2)** |

**Q 2014 9 b**

1. Answer the following in relation to investigations that you carried out in the laboratory.
   1. 1. When dissecting a mammalian heart where, precisely, did you locate the tricuspid valve?
2. Briefly describe how you carried out the dissection to expose this valve.
3. Where did you find the semilunar valves during the dissection?
   1. 1. When you investigated the effect of exercise on the human pulse rate or breathing rate what did you first establish?

2. How did you measure pulse rate or breathing rate?

**MS 2014 9 b**

|  |  |  |  |
| --- | --- | --- | --- |
| (b) | (i) | 1. | Between the right atrium and right ventricle |
|  |  | 2. | Cut through the right side of the heart / using a scalpel |
|  |  | 3. | At the base / of the aorta **or** the pulmonary artery |
|  | (ii) | 1. | The resting (pulse) rate **or** resting (breathing) rate |
|  |  | 2. | Feel (or locate) pulse (or observe breathing) / |
|  |  |  | Count heart beats (or breaths) for stated time / |
|  |  |  | Repeat **and** find average. |