2. THE HEART

2 a) Complete the sentences after studying this passage:

[1]The heart is a hollow, cone-shaped organ. [2]It is about the size of a fist and weighs approximately 230 g. [3]The base of the heart, which is directed backwards, lies opposite the borders of the 5th, 6th, 7th and 8th thoracic vertebrae. "The apex is directed forwards, downwards, and to the left, and it is located below the 5th left intercostal space in the mid-clavicular line. [5]In addition to the base and the apex, three surfaces are usually described: the sterno-costal, the left and the diaphragmatic. [6]The sterno-costal surface is limited by four borders, which are sometimes referred to as the borders of the heart.

1. 'which' in sentence 3 refers to ...
2. 'it' in sentence 2 refers to ...
3. 'it' in sentence 4 refers to ...
4. 'which' in sentence 6 refers to ...

2 b) Complete the sentences after studying this passage:

The heart is essentially a hollow muscle. The wall of the heart is made up of three layers of tissue. A serous membrane, the pericardium, forms the outer covering of the heart. [10]The middle layer, the myocardium, is the heart muscle proper. [11]This consists of specialized cardiac muscle fibers. Internally the heart is lined throughout with a serous membrane known as the endocardium.

[13]The cavity of the heart is divided longitudinally into two parts by a thick septum. Each side contains two chambers: a posterior chamber called the atrium, where the blood is received from the veins and collected, and a thickly muscled anterior chamber called the ventricle, which pumps the blood out again into the arteries. [15]The atria lie above the ventricles. The base of the heart is formed mainly by the left atrium, and partly by the right atrium. The apex is formed entirely by the left ventricle. [18]The heart pumps blood round two circuits: the pulmonary and the systemic. Blood flows into the right atrium from the superior and inferior venae cavae. [20]It passes into the right ventricle, which pumps it out along the pulmonary artery to the lungs. There it is cleansed of carbon dioxide and re-oxygenated. [22]It returns along the pulmonary veins to the left atrium, passes into the left ventricle, and is pumped out into the aorta.

1. 'this' in sentence 11 refers to ...
2. 'which' in sentence 14 refers to ...
3. 'it' in sentence 22 refers to ...
4. 'it' in sentence 20 refers to ...

2 c) Replace the words in italics with expressions from the above passages:

1. The heart *is situated* between the lungs.
2. The sinu-atrial node initiates *heart* action.
3. The heart muscle proper is *referred to as* the myocardium.
4. The endocardium lines the inside of the heart *completely*.
5. Blood *flows* along the pulmonary artery to the lungs.
6. Blood is *purified* in the *lung* capillaries.
7. The oxygenated blood *enters* the left atrium.

2 d) Place the following expressions in the sentences indicated, making any changes necessary:

1. it should be noted (5)
2. in fact (16)
3. on the other hand (17)
4. then (20)
5. then (22)

2 e) Complete the sentences below, using the verbs* pass *or* flow*, and appropriate prepositions:

1. Blood …... from the venae cavae …... the right atrium.
2. Blood …... through the tricuspid valve …... the right ventricle.
3. Blood …… of the heart …..... the pulmonary artery.
4. It …... along the pulmonary artery …... the lungs.
5. It returns …... the lungs …… the pulmonary veins …..... the left atrium.
6. It …... through the mitral valve…… the left ventricle, which pumps it out …... the aorta.