

## ***Class 11***

### **Topic: Anatomy of the cardiovascular system**

### **Grammar: Passive Voice: Simple Tenses**

#### **Warm-up activities**

#### ***Task 1. Find English equivalents of the following words and phrases:***

Конусообразный орган, полый мышечный орган, отдельные камеры, разделённые перегородкой, передняя часть сердца, полулунный клапан аорты, полулунный клапан легочной артерии, сердечно-сосудистая система, межжелудочковая перегородка, фиброзные пучки предсердий, фиброзные пучки желудочков, в месте возникновения аорты, легочная артерия, получать кровь из желудочка, верхушка и основание сердца, общий объем крови.

#### ***Task 2. Group the following under the names of the cardiovascular system:***

1. <i>the heart</i>	2. <i>vascular system</i>	3. <i>blood composition</i>

portal system, colourless fluid, the pericardium, plasma, arteries, veins, capillaries, elastic and flexible, the circulatory system, hemoglobin, a cone-shaped organ, systemic circulation, blood vessels, corpuscular elements, a hollow muscular organ, separate chambers, the most numerous cellular elements, the atrium and ventricle, systemic vessels, triangular in form, the mitral valve, erythrocytes, pulmonary circulation, thrombocytes, the tricuspid valve, the semilunar valve, vessels, leucocytes

#### ***Task 3. Complete the sentences. Use one term only:***

*the erythrocytes, hemoglobin, cone-shaped, the heart, arterial, corpuscular elements, the thoracic cavity, blood circulation, circulating and non-circulating volume*

- 1** The most important part of the red cell is \_\_\_\_.
- 2** Blood is composed of plasma or serum, and \_\_\_\_.
- 3** The scarlet blood is commonly known as \_\_\_\_.
- 4** The human heart is a \_\_\_\_ organ.
- 5** The heart lies in \_\_\_\_.
- 6** \_\_\_\_ is the centre of the circulatory system.
- 7** The cardiovascular system is the system of \_\_\_\_.
- 8** The total blood volume is divided into \_\_\_\_.
- 9** \_\_\_\_ are the most numerous cellular elements.

#### ***Task 4. Replace the following descriptions with a single-word term:***

- 1** a cone-shaped organ in the thoracic cavity;
- 2** organs that are located at the entrance and exit of each ventricle;
- 3** valves that separate the atria from the ventricles;

- 4** the vessels carrying blood to and from the tissues of the body;
- 5** the system formed by the veins passing to the liver;
- 6** the system composed of three groups of vessels – arteries, veins and capillaries;
- 7** a red fluid composed of a colourless fluid, plasma or serum, and the corpuscular elements;
- 8** the most numerous corpuscular elements.

**Task 5. What is the English for the following Latin terms?**

- |                      |                      |                  |
|----------------------|----------------------|------------------|
| <b>1</b> camera      | <b>5</b> atrium      | <b>8</b> sanguis |
| <b>2</b> ventriculus | <b>6</b> pericardium | <b>9</b> arteria |
| <b>3</b> valva       | <b>7</b> septum      | <b>10</b> humor  |
| <b>4</b> vena        |                      |                  |

**Task 6. Match the nouns with appropriate adjectives:**

1. heart	a) articular
2. vessel	b) arterial
3. skull	c) lingual
4. artery	d) thoracic
5. vein	e) ventricular
6. joint	f) valvular
7. chest	g) aortic
8. ventricle	h) venous
9. aorta	i) cranial
10. valve	j) vascular
11. tongue	k) dental
12. tooth	l) cardiac

**Grammar:**

**Task 7. Answer the questions, using a passive construction. Follow the given example:** Where are such skills practiced? (in teaching hospitals)

They are practiced in teaching hospitals.

- 1** How is the lower extremity connected with the trunk? (by the pelvis)
- 2** Where are Anatomy lectures delivered? (in a lecture hall)
- 3** When are exams usually taken? (at the end of each term)
- 4** What exams are taken in summer? (Chemistry and Anatomy)
- 5** Where are experiments typically performed? (in the laboratory)
- 6** How are these patients treated? (with a new drug)
- 7** Where is the information typically stored? (in the computer)
- 8** When are medicines usually prescribed? (after examining the patient and making a diagnosis)
- 9** When are exams resat? (when you fail an exam)
- 10** Why are antibodies produced? (to kill bacteria)

**Task 8. Ask special questions: Begin your questions with question-words**

**suggested:** Blood is composed of plasma and the corpuscular elements. (What ... of ?)

What is blood composed of?

- 1 Antibiotics are prescribed to the patients by the district doctor. (What? Who ... to?)
- 2 Appropriate treatment is administered by qualified doctors. (What? Who ... by?)
- 3 The entrance exams are taken in summer. (What? When?)
- 4 This lecture is delivered every Monday. (What? When?)
- 5 Such patients are examined in room 6. (Who? Where?)
- 6 I am invited to a scientific conference. (Who? Where ... to?)
- 7 The article is written by our professor. (What? Who ... by?)
- 8 The heart is located in the thoracic cavity, just behind the breastbone and between the lungs. (Where?)
- 9 The atria are separated from the ventricles by atrioventricular valves. (What? What ... by?)
- 10 The heart is composed of two separate chambers. (What ... of)
- 11 The valves are located at the entrance and exit of each ventricle. (What? Where?)
- 12 In the right chamber the atrium and ventricle are separated by the tricuspid valve. (What valve ... by?)
- 13 Fibrous bands are divided into two groups. (What ... into?)
- 14 The portal system is formed by the veins passing to the liver. (What ... by?)

***Task 9. Rewrite these sentences in Passive Voice:***

- 1 The arm, forearm and hand form the upper extremity.
- 2 They conduct a number of clinical trials in this laboratory.
- 3 Bones compose the skeleton.
- 4 Doctors administer an appropriate treatment to patients.
- 5 We do not do our homework every day.
- 6 Our teacher always asks a lot of questions.
- 7 The Chancellor heads the University.
- 8 They make progress every day in the world of science.
- 9 They offer a lot of various services in this rehabilitation center.
- 10 The district doctor usually prescribes antibiotics to the patients.

***Task 10. Translate from Russian into English:***

- 1 Сердце – главный орган кровеносной системы.
- 2 Сердце находится в грудной полости, непосредственно позади грудины и между легкими.
- 3 Правый желудочек треугольной формы.
- 4 Шейная часть позвоночника образована семью шейными позвонками.
- 5 Верхняя конечность образована рукой, предплечьем и кистью.
- 6 Основание сердца находится напротив третьего ребра.
- 7 Легочная артерия делится на две ветви.
- 8 Сердечно-сосудистая система состоит из сердца, артерий и вен.

***Home Assignment:***

***Task 11. Make up interrogative, and where possible, negative forms of the sentences in Passive Voice from Task 9.***