**Circulatory system**

Ch 42

**Two categories** **(Fig 42.3)**

Open circulatory system:

Closed circulatory system:

**Vertebrate circulation**:

Cardiovascular system:

Atria:

Ventricle:

Artery:

Arteriole:

Capillary bed:

Venule:

Vein:

**Anatomy of the mammalian heart**: **(fig 42.6)**

**Mammalian circulation pathway**: **(fig 42.5)**

**Cardiac cycle**: **(fig 42.7)**

Systole:

Diastole:

Cardiac output:

Heart rate:

Stroke volume:

Atrioventricular valve (AV

Similunar valve:

Pulse:

**Hearts rhythmic beat**: **(fig 4.28)**

Ainoatrial node:

Atrioventricular node:

Bundle branches:

Purkinje fibers:

**Structure of blood vessels** **(fig 42.9)**

Artery:

Vein:

Capillary:

**Capillary function**:

Control of blood flow **(fig 42.13)**

Arteriole constriction:

Arteriole relaxation:

Precapillary sphincter:

Fluid exchange in capillary bed **(fig 42.14)**

Lymphatic system:

Lymph:

Immunity:

**Composition of blood**: **(fig 42.15)**

Plasma

Red blood cells

Buffy coat:

WBC’s:

Platelets:

**Differentiation of blood cells**: **(fig 42.16)**

Pluripotent stem cells:

Location:

Lymphoid stem cells:

B cell:

T cell:

**Gas exchange**

Respiratory medium:

Respiratory surface:

**Mammalian respiratory** **system**: **(fig 42.23)**

Lung:

Pharynx:

Larynx:

Trachea:

Bronchi

Bronchioles:

Alveoli:

Diaphragm:

Tidal volume **(fig 2.24):**

Vital capacity:

Residual volume:

**Control of breathing**: **(fig 42.26)**

Breathing control center:

medulla

pons

Central chemoreceptors

Peripheral chemoreceptors:

Loading and unloading respiratory gasses: **(fig 42.27)**

Carbon dioxide transport in the blood: (**fig 42.30**)

From the tissue: **first half of fig 42.30**

To the lungs: **second half of fig 42.30**