**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**