BLOOD
1. Put the following regarding RBC production in correct order:
   a) Kidney secretes erythropoietin hormone
   b) Increase in O2 transportation to tissue
   c) O2 level in body tissue become low
   d) Blood carry hormone to bone marrow
   e) RBC is produced in bone marrow and released into circulation
2. Which of the following is not a leukocyte? a) lymphocyte b) monocyte c) neutrophil d) eosinophils
   e) megakaryocyte f) basophil
3. Which of the top are agranulocytes and which are granulocytes?
4. Find the one that summarize the events of hemostasis in correct order:
   a) formation of platelet, blood cloting, blood vessel spasm
   b) Blood vessel spasm, anticoagulant activity, blood clotting
   c) Blood vessel spasm, formation of platelets, blood clotting
   d) Anticoagulant activated, blood clotting, blood vessel spasm
5. Put following steps of blood clotting in correct order:
   a) PTA activate prothrombin to thrombin
   b) Fibrin fiber forms netlike structure to trap clotting particles
   c) Clotting factor produce PTA
   d) Fibrinogen is activate to fibrin by thrombin.

Fill in the blank
1. Blood cells are made by differentiation of same type of cell called _______ cell by process called hematopoiesis.
2. Bile pigment called ________, which comes from break down of heme, is removed from blood and put them into bile, which are then ultimately removed in feces.
3. Thrombocytes or ________ are produced from large cells called __________. Their main role is to prevent blood loss.

True/False?
1. When RBC die after 50 days, macrophages (type of monocyte) lining at the spleen and liver help remove old RBC from circulation.
2. Three types of blood cells found in blood are RBC, WBC, Hemoglobin.
3. Mature RBC has no nucleus but has hemoglobin. This is opposite to WBC component.

Compare difference in function and structure of erythrocyte and leukocyte.

HEART

MCQ
1. If you were to operate a heart, the outermost layer would be ______ and the innermost layer would be ______.
   a) myocardium, epicardium b) endocardium, epicardium, c) epicardium, endocardium d) myocardium, pericardium.
2. Which of the following is false about the 4 valves of the heart?
   a) AV valve are entrance valve to let blood enter ventricle; blood flow out of semilunar valve
   b) When ventricle contract, blood pushes the AV valve close to prevent blood from entering atria.
   c) Chordae tendineae of AV valves prevent cusp from entering the atria.
   d) Right AV valve is tricuspid valve and left AV valve is bicuspid valve.
   e) when ventricle relax, semilunar valve is open.
3. Which is incorrect about myocardium?
   a) it is thick middle layer of heart made of cardiac muscle tissue
   b) it receives supply of oxygen from left and right coronary artery.
   c) The deoxygenated blood from myocardium enter the left atrium
   d) Deoxygenated blood from myocardium is carried by coronary veins to coronary sinus.
4. As a person age, which of the following is true?
   a) there is significant age related decline occurs in resting cardiac output.
   b) As a person age, heart muscles loose elasticity and become more rigid while heart valves become thinner and less rigid.
   c) aging heart cells have decreased ability to use oxygen and increase in blood pressure.
   d) WBC activity increases and is very efficient for fighting infection.
5. 2 factors influencing cardiac output is: a) Heart rate X cardiac impulse b) stroke volume X heart rate c) starling law X inotropic effect d) none of the above.
6. List the movement of cardiac impulse in order: Atrial conducting fibers, AV node, SA node, Purkinje fiber, bundle of his.

Fill in the blank
1. Cardiac cycle is divided into contraction of heart called _______ and relaxation of heard called _______.
2. Stroke volume is influenced by 2 factor: ________ law and ________ effect. ________ is the structure around the heart that attaches heart to its surrounding.
3. In pulmonary circulation, the artery that lead deoxygenated blood from heart to lungs is called _______.
4. ________ prevents the formation of thrombus.

True/false?
1. According to starling law, if blood amount entering heart increase then stretch on myocardial fibers increase therefore stroke volume decrease.
2. Inotropic effect is the increase in stroke volume by strengthening force of myocardial contraction without stretching myocardial fibers.
3. Normal cardiac output is 5L/min.
4. Lubb is due to closing of AV valve, dubb is due to closing of semilunar valves.
5. Sinoatrial node (SA node) in right atrium is called pacemaker since it sets the heart rate.

6. In pulmonary circulation, how many pulmonary artery and pulmonary veins are there?
7. Explain the blood flow and open/closing of valves for the 3 events taking place during cardiac cycle.
8. Put the pathway of blood flow in order:
   Tricuspid valve, 4 pulmonary vein, pulmonic semilunar valve, right ventricle, left atrium, bicuspid valve, left ventricle, Aorta, pulmonary artery (main), Pulmonary arteries (2: left and right), pulmonary capillaries (within lungs), right atrium, aortic semilunar valve, superior & inferior vena cavae.
1. Which is NOT true about venous blood flow to heart?
a) blood pressure at the vein decrease to almost 0 mmHg
b) skeletal muscle pump to squeeze vein and push blood to heart
c) respiratory pump assist in return of venous blood flow
d) Sympathetic nervous system cause vasodilation to increase venous return.
2. Receptor located at aortic arch and carotid sinus, that sense change in blood pressure is called: a) chemoreceptor b) baroreceptor c) medulla receptor d) mechanoreceptor
3. Which is true about the activity of ANS to regulate blood pressure?
   a) sympathetic nerve works to decrease BP and parasympathetic increase BP
   b) Parasympathetic nerve acts on the ventricular myocardium to decrease cardiac output
   c) Sympathetic nerve supply SA node, AV node and ventricular myocardium.
   d) Vasodilation is due to parasympathetic activity.
   e) all of the above is true
4. Which is incorrect about capillaries as exchange vessels?
   a) capillary are numerous so blood flows at slow rate allowing more exchange
   b) Diffusion is the primary process and filtration-osmosis is the secondary process for substance exchange.
   c) filtration occurs as inward movement of substance into capillaries and osmosis occurs as outward movement of water since osmotic pressure outside the capillaries is high.
   d) Filtration occurs through small pores in the capillary when blood pressure inside pushes out the substance.
5. Blood pressure is normal at 120/80 mm Hg. The 120 is the _______ pressure and 80 is the _______ pressure.
6. Part of the brain that interprets sensory information about blood pressure is the _______. The motor nerves carry the information to heart and blood vessel resistance change due to nerves of autonomic nervous system.
7. During vasodilation, the pressure is _______ because resistance is _______ and during vasoconstriction; the pressure is _______ because resistance is _______. This is the effect of resistance on pressure.
8. Blood pressure = Cardiac output X Vascular resistance; this means if there is increase in stroke volume and increase in blood vessel constriction then blood pressure will decrease.

* Plz also study the structure & functions of different types of blood vessels.