2009年　ヒト生物学Ⅰ本試（大橋，１６点）　学籍番号＿＿＿＿＿＿＿＿　氏名＿＿＿＿＿＿＿＿

[Ⅰ] Match the key terms to these definitions.

a. _____ Relaxation of a heart chamber.

b. _____ Large systemic vein that returns blood from body areas below the diaphragm.

c. _____ Rhythmic expansion and recoil of arteries resulting from heart contraction; can be felt from outside the body.

d. _____ Vessel that takes blood from capillaries to a vein.

e. _____ That part of the cardiovascular system that serves body parts and does not include the gas-exchanging surfaces in the lungs.

[Ⅱ] In questions 1－5, match the descriptions to the blood vessel in the key. Answers may be used more than once.

Key: a. venules　b. veins　c. capillaries　d. arteries　e. arterioles

1. Drain blood from capillaries
2. May contain valves
3. Take blood away from the heart
4. Sites for exchange of substances between blood and tissue fluid
5. Rate of blood flow is the slowest

[Ⅲ] In questions 1－5, match the most suitable description

1. During ventricular diastole,
   a. blood flows into the aorta.
   b. the ventricles contract.
   c. the semilunar valves are closed.
   d. Both a and b are correct.
2. When the atria contract, the blood flows
   a. into the attached blood vessels.
   b. into the ventricles.
   c. through the atrioventricular valves.
   d. to the lungs.
   e. Both b and c are correct.
3. Heart valves located at the bases of the pulmonary trunk and aorta are called
   a. atrioventricular valves.
   b. semilunar valves.
   c. mitral valves.
   d. chordae tendineae.
4. Which of these associations is mismatched?
   a. left ventricle－aorta
   b. right ventricle－pulmonary trunk
   c. right atrium－vena cava
   d. left atrium－pulmonary artery
   e. Both b and c are incorrectly matched.
5. Which statement is not correct concerning the heartbeat?
   a. The atria contract at the same time.
   b. The ventricles relax at the same time.
   c. The AV valves open at the same time.
   d. The semilunar valves open at the same time.
   e. First the right side contracts; then the left side contracts.