

Memory Test - CVS Physiology_Class Test_Online_Foundation_1

Total Mark: 100

Time: 90 Min

<p>1. Blood flow is directly proportional to</p> <p>A) Viscosity of blood B) Cross sectional area of blood vessel C) Length of blood vessel D) Pressure gradient E) Diameter of blood vessel</p> <p>Answer: F, F, F, T, T Discussion: Reference: [Ref: BRS 6th/p-68]</p>	<p>2. During ventricular diastole, ventricular filling</p> <p>A) Is most rapid in the first third of diastole B) Is occurred about 80% by atrial contraction C) Begins during isometric relaxation of ventricle D) Gives rise to third heart sound in children E) Gives a concept of preload</p> <p>Answer: T, F, F, T, T Discussion: Reference: [Ref: BRS 6th/p-84]</p>
<p>3. Heart rate accelerated by</p> <p>A) Anger B) Fear C) Inspiration D) Expiration E) Hypoxia</p> <p>Answer: T, F, T, F, T Discussion: Reference: [Ref: Ganong 25th /p-590]</p>	<p>4. Lymph is formed</p> <p>A) From interstitial fluid B) From capillary fluid C) 2-3 liters/day D) 0.5-1 liter/day E) From venous blood</p> <p>Answer: T, F, T, F, F Discussion: Reference: [Ref: BRS 6th/p-91]</p>
<p>5. Local metabolic activity is the chief factor determining the rate of blood flow to:</p> <p>A) Heart B) Skin C) Skeletal muscle D) Lung E) Kidney</p> <p>Answer: T, F, T, F, F Discussion: Reference: [Ref: Rodde/Q-69]</p>	<p>6. Pulse pressure is increased in elderly due to-</p> <p>A) Increased heart rate. B) Increases stroke volume C) Arteriolar compliance D) Arteriolar resistance E) Atherosclerosis</p> <p>Answer: F, T, T, F, T Discussion: Reference: [Ref: BRS 6th/p-70]</p>
<p>7. Resistance to blood flow is directly proportional to</p> <p>A) Velocity of blood flow B) Viscosity of blood C) Fourth power of the radius of blood vessel D) Elasticity of vessel wall E) Length of blood vessel</p> <p>Answer: F, T, F, T, T Discussion: F (Blood Flow) TF(indirectly) TT Reference: [Ref: BRS 6th/p-68]</p>	<p>8. The rennin- angiotensin aldosterone system regulates</p> <p>A) Nitrogen balance B) Blood pressure C) Fluid volume D) Sodium balance E) Protein excretion</p> <p>Answer: F, T, T, T, F Discussion: Reference: [Ref: BRS 6th/p-89]</p>

<p>9. The Valsalva manoeuvre is followed by a decrease in?</p> <p>A) Intrapleural pressure B) Intra-abdominal pressure C) Cardiac output D) Arterial blood pressure E) Heart rate</p> <p>Answer: T, T, F, F, F Discussion: Reference: (Ref: Roddie 6th / Q-593)</p>	<p>10. Vasoconstriction occurs due to</p> <p>A) Release of thromboxane A₂ B) Release of CO₂ C) Norepinephrine secretion D) Formation of angiotensin II E) Increased K⁺</p> <p>Answer: T, F, T, T, F Discussion: Reference: [Ref: Ganong 25th/p-586]</p>
<p>11. Angiotensin-II</p> <p>A) Is autacoid B) Is formed in lungs C) Is a vasodilator D) Increases tubular Na⁺ reabsorption E) Increases baro-reflex sensitivity</p> <p>Answer: T, T, F, T, F Discussion: Explanation: a) [Ref: Vision pharma/7th/P-170] b. Angiotensin I is converted to angiotensin II by ACE in Lung c. Vasoconstrictor e. Decreases baroreceptor sensitivity Reference: [Ref: BRS 6th/p-89] (Ref: Ganong 25th P- 720)</p>	<p>12. Cardiac output is not affected by-</p> <p>A) Moderate exercise B) Excitement C) Sitting from standing D) Sleep E) Early pregnancy</p> <p>Answer: F, F, F, T, F Discussion: Reference: [Ref: BRS 6th/p-84]</p>
<p>13. Characteristics of 2nd heart sound are</p> <p>A) It is mainly related to turbulence set up by closure of semilunar valves B) Its duration is longer than the 1st heart sound C) It is heard when ventricles are relaxing D) It has higher frequency E) It is best heard in mitral area</p> <p>Answer: F, F, T, T, F Discussion: Reference: [Ref: Macleod's/14th /-57]</p>	<p>14. CVS changes after moderate exercise:</p> <p>A) Venous return decreased B) Cardiac output increased C) End diastolic volume increased D) Heart rate increased E) Mean pressure increased</p> <p>Answer: F, T, F, T, T Discussion: Reference: [Ref: Ganong 25th/p-549]</p>
<p>15. ECG findings in hypokalaemia</p> <p>A) ST depression B) Tall & peak T wave C) Broad QRS complex D) Prominent U wave E) Prolong QR interval</p> <p>Answer: T, F, F, T, T Discussion: TF (Hyperkalaemia) F (Hyperkalaemia) TT Reference: [Ref: Davidson's 23rd /P-361]</p>	<p>16. Fenestrated capillaries present in</p> <p>A) Bone marrow B) Connective tissue C) Spleen D) Intestine E) Kidney tubules</p> <p>Answer: F, F, F, T, T Discussion: Reference: [Ref: BRS 6th/p-91]</p>

<p>17. Following pairs are true-</p> <p>A) Cannon waves- pulmonary Hypertension B) Giant a wave- Tricuspid stenosis C) V waves- Tricuspid regurgitation D) inspiratory rise- pericardial tamponade E) Absent a wave- atrio-ventricular dissociation</p> <p>Answer: F, T, T, T, F Discussion: Reference: [Ref: ABM Abullah 6th/P-134]</p>	<p>18. Increased pressure within the carotid sinus decreases:</p> <p>A) Sympathetic tone B) Heart rate C) Pulmonary ventilation D) Cardiac contractility E) Diameter of blood vessel</p> <p>Answer: T, T, F, T, F Discussion: [V-165] [D-17] [□HR,SV,FOC,TPR,Vasodilation,venodilation] Reference: [Ref: Guyton 13th/P-220]</p>
<p>19. Plateau in the cardiac muscle</p> <p>A) Means sustained depolarization B) Is due to delayed opening of K channel C) Caused by inactivation of Na⁺ fast channel D) Is due to slow calcium-sodium channel E) Causes muscle contraction to 15 times as long as in skeletal muscle</p> <p>Answer: T, T, F, T, T Discussion: Reference: [Ref: BRS 6th/p-74]</p>	<p>20. Pulse pressure is directly proportional to</p> <p>A) Radius of blood vessels B) Length of blood vessels C) Elasticity of vessel wall D) Viscosity of blood E) Stroke volume</p> <p>Answer: F, F, T, F, T Discussion: Explanation: 1. Pulse pressure □ 2. Pulse pressure depends on 3 factors: a. age b. Stroke volume c. arterial elastic constant (arterial blood volume) - an increase elastic constant increases the pulse pressure [Vision physiology./9th/p-162] Reference: [Ref: Guyton 13th P-181] [Ref: BRS 6th/p-70]</p>
<p>21. Renin secretion is increased in</p> <p>A) Hypertension B) Over hydration C) Sodium depletion D) Diuretics therapy E) Dilatation of renal artery</p> <p>Answer: F, F, T, T, F Discussion: Reference: [Ref: Ganong 25th/P-704]</p>	<p>22. The baroreceptor reflex</p> <p>A) Has receptor located in the carotid bodies and aortic bodies B) Has receptors in the carotid sinus and aortic arch C) Results in tachycardia when a person stands up D) Involves sympathetic vasodilator cholinergic fibers E) Operates in the normal range of arterial blood pressure</p> <p>Answer: F, T, F, F, T Discussion: Reference: [Ref: BRS 6th/p-87]</p>
<p>23. The dicrotic notch on the aortic pressure curve is caused by</p> <p>A) Closure of the mitral valve B) Closure of the tricuspid valve C) Closure of the aortic valve D) Closure of the pulmonary valve E) Rapid filling of the left ventricle</p> <p>Answer: F, F, T, F, F Discussion: Reference: [Ref: Ganong 25th /p-540]</p>	<p>24. Total peripheral resistance is directly proportional to</p> <p>A) Diameter of blood vessels B) Length of blood vessels C) Elasticity of vessel wall D) Viscosity of blood E) Velocity of blood flow</p> <p>Answer: F, T, F, T, T Discussion: Explanation: a. Inversely Proportional c. Inversely proportional Reference: [Ref: BRS 6th/p-68]</p>

<p>25. Which are the vasodilator</p> <p>A) AVP B) Prostacyclin C) NO D) VIP E) Thromboxane A₂</p> <p>Answer: F, T, T, T, F Discussion: Reference: [Ref: Ganong 25th/p-586]</p>	<p>26. A 32-year-old man suffering from severe haemorrhage caused by a road traffic accident has a blood pressure of 70/30 mmHg, a heart rate of 140 beats/min and a weak pulse. Immediately following infusion of 3 unit of blood, his blood pressure rises to 100/70 mmHg and his heart rate slows to 90 beats per minute. Which of the following is most likely to decrease due to infusion of the blood?</p> <p>A) Baroreceptor discharge B) Cardiac output C) Right atrial pressure D) Stroke volume E) Total peripheral resistance</p> <p>Answer: E Discussion: Reference: (Ref: Pastest/Q-2.8)</p>
<p>27. Conduction velocity in the S.A node is</p> <p>A) 1 m/s B) 0.05 m/s C) 4 m/s D) 0.5 m/s E) 0.4 m/s</p> <p>Answer: B Discussion: (Explanation: SA node horseshoe shaped, called pacemaker of the heart) Reference: [Ref: Ganong/25th/P-519]</p>	<p>28. During cardiac cycle</p> <p>A) Systole begins in the left artium. B) First heart sound is heard in ptotodiastole. C) Atrial and ventricular systole occur simultaneously. D) The contracting ventricles shorten from apex to base. E) The atrioventricular (A-V) valves oper at the beginning of systole.</p> <p>Answer: D Discussion: [Explanation: beginning of one beat to beginning of another is called cardiac cycle, normal time is 0.8 sec.] Reference: [Ref: Ganong/25th/P-698]</p>
<p>29. If the end-diastolic ventricular volumes are increased (within physiological limits):</p> <p>A) Cardiac output would be decreased B) The force of cardiac contraction would be decreased C) The output of the right ventricle would exceed the output of the left ventricle D) The stroke volume would be increased E) Venous pressure would be decreased</p> <p>Answer: D Discussion: Reference: (Ref: Pastest/Q2.48)</p>	<p>30. The electrocardiogram (ECG) of a patient on surgical ward shows flattened (notched) T-waves. The patient is most likely to have:</p> <p>A) Hypokalaemia B) Hyperkalaemia C) Hypocalcaemia D) Myocardial infarction E) Thyrotoxicosis</p> <p>Answer: A Discussion: Reference: (Ref: Pastest/Q-2.11)</p>

<p>31. The second heart sound is caused by A) Closure of the aortic and pulmonary valves B) Vibrations in the ventricular wall during systole C) Blood flow rapidly RA to RV D) Closure of the mitral and tricuspid valves E) Retrograde flow in the vena cava Answer: A Discussion: Reference: [Ref: Macleod's/14th /P-57]</p>	<p>32. Under resting conditions a marathon runner compared to untrained people will have a higher: A) Cardiac output B) Cardiac stroke volume C) Heart rate D) Oxygen consumption E) Respiratory rate Answer: B Discussion: Cardiac stroke volume Trained athletes have a larger heart volume (muscular hypertrophy) compared to untrained people. This results in a significantly higher stroke volume at rest and an increased cardiac reserve (maximal cardiac output during exercise). Under resting conditions, however, the cardiac output of trained and untrained people is nearly the same and this is due to a correspondingly lower resting heart rate. It is not uncommon to find resting heart frequencies of 40-50 beats/min in trained athletes. Oxygen consumption and respiratory rate at rest are little affected by athletic training. Reference:</p>
<p>33. When the radius of the resistance vessels is increased, which of the following is increased? A) Systolic blood pressure B) Diastolic blood pressure C) Viscosity of the blood D) Hematocrit E) Capillary blood flow Answer: E Discussion: (Explanation: capillary blood flow is increased but rest are decreased) Reference: [Ref: Ganong/25th/P-539]</p>	<p>34. Which not occurs in isotonic exercise : A) Heart rate increases B) Systolic pressure increases C) Diastolic pressure increases D) Pulse pressure increases E) Mean pressure not changes Answer: C Discussion: Reference: [Ref: Ganong 25th /p-549]</p>
<p>35. Which of the following compensatory factors is responsible for increasing the blood pressure in a 35-year-old patient who is in shock with blood pressure of 50 mmHg? A) Atrial stretch receptors B) Baroreceptor reflex C) Bainbridge reflex reflex D) Carotid b'ody chemoreceptors E) Ischaemic brain response Answer: B Discussion: In cardiovascular physiology, the baroreflex or baroreceptor reflex is one of the body's homeostatic mechanisms for maintaining blood pressure. It provides a negative feedback loop in which an elevated blood pressure reflexively causes blood pressure to decrease; Reference: [Ref: BRS Physiology]</p>	<p>36. Which of the following contribute to the plateau phase of the action potential of ventricular muscle fibers? A) Na⁺ influx B) K⁺ influx C) Ca²⁺ influx D) K⁺ efflux E) Na⁺ efflux Answer: C Discussion: Reference: [Ref: BRS 6th/p-72]</p>

<p>37. Which of the following does not dilate arterioles in the skin</p> <p>A) Increase body temperature B) Epinephrine C) Bradykinin D) Substance P E) Vasopressin</p> <p>Answer: E Discussion: (Explanation: vasopressin contract the arteriole) Reference: [Ref: Ganong 25th /p-486]</p>	<p>38. Which of the following has the highest total cross-sectional area in the body?</p> <p>A) Arteries B) Arterioles C) Capillaries D) Venules E) Veins</p> <p>Answer: C Discussion: Reference: (Ref: Gangon 25th/Page-583)</p>
<p>39. Which of the following normally has a slowly depolarizing “ prepotential”?</p> <p>A) Sinoatrial node B) Atrial muscle C) Bundle of His D) Purkinje fibers E) Ventricular muscle cells</p> <p>Answer: A Discussion: Reference: [Ref: BRS 6th/p-72]</p>	<p>40. Which of the following organ has greatest O₂ consumption per 100g of tissue</p> <p>A) Kidney B) Heart C) Liver D) Brain E) Skin</p> <p>Answer: A Discussion: [Explanation: Highest consumption is liver highest consumption per 100 g is kidney Reference: [Ref: Ganong 25th /p-618]</p>
<p>41. Which of the following peptides can increase blood pressure acutely and cause hypokalaemia chronically?</p> <p>A) Angiotensin II B) Atrial Natriuretic factor C) Desmopressin D) Endorphin E) Oxytocin</p> <p>Answer: A Discussion: Reference: [Abc bio/7th/P-287]</p>	<p>42. Which one is humoral regulation of blood pressure</p> <p>A) Renal body fluid mechanism B) CNS ischemic mechanism C) Epinephrine Norepinephrine mechanism D) Renin angiotensin mechanism E) Capillary fluid shift mechanism</p> <p>Answer: C Discussion: Reference: [Ref: BRS 6th/p-87]</p>
<p>43. An 18-year-old man comes to casualty with a fracture of right femoral shaft. It is estimated that about 500 ml of blood volume has been lost due to acute haemorrhage. It is true to say that in this patient:</p> <p>A) The brain blood flow will be reduced B) The mesenteric blood flow is increased C) The lactic acid production will be reduced D) The skin vessels are constricted E) Veins are dilated</p> <p>Answer: D Discussion: Reference: (Ref: Pastest/Q-2.5)</p>	<p>44. In complete heart block</p> <p>A) Fainting may occur because the atria are unable to pump blood into the ventricles B) Ventricular fibrillation is common. C) The atrial rate is lower than the ventricular rate D) Fainting may occur because of prolonged periods during which the ventricles fail to contract E) Atrial fibrillation is common</p> <p>Answer: D Discussion: Reference: (Ref: Gangon 25th/Page-535)</p>

<p>45. In second-degree heart block A) The ventricular rate is lower than the atrial rate. B) The Ventricular ECG complexes are distorted. C) There is a high incidence of ventricular tachycardia. D) Stroke volume is decreased. E) Cardiac output is increased. Answer: A Discussion: Reference:</p>	<p>46. The atrial muscle of the heart produces a hormone that- A) Decreases blood pressure B) Increases blood pressure C) Causes vasoconstriction D) Facilitates the release of renin E) Facilitates sodium resorption in the kidneys Answer: A Discussion: Reference: [Ref: Guyton 13th/P-222]</p>
<p>47. Ventricular filling occurs due to delay in which part of the cardiac conducting system? A) SA node B) AV node C) Purkinje system D) Bundle branches E) Atrial muscle Answer: B Discussion: Reference: (Ref: Pastest)</p>	<p>48. Which of the following does not form microcirculation? A) Meta-arteriols B) Arterioles C) Veins D) Venules E) Capillaries Answer: C Discussion: Reference: [Ref: BRS 6th/p-91]</p>
<p>49. Which one is the resistance vessels? A) Large veins B) Capillaries C) Venules D) Arch of aorta E) Arterioles Answer: E Discussion: (small arteries & arteriols Reference:) [Ref: BRS 6th/p-68]</p>	<p>50. Which part of ECG corresponds to ventricular repolarization ? A) The P wave B) The QRS complex C) The T wave D) The U wave E) The PR interval Answer: C Discussion: Reference: (a- atrial depolarization , b - ventricular depolarization) Gan/25th / 535</p>