

MBBS Cardiovascular System – Physiology Chapter Wise Previous Exam Questions conducted by KUHS (Kerala University of Health Sciences)

1. Discuss the factors affecting cardiac output and add a note on Bainbridge reflex
2. Explain the ionic basis of pacemaker potential with the aid of a labeled diagram. Mention the changes during sympathetic stimulation
3. Long term regulation of blood pressure
4. Jugular venous pulse
5. Origin and spread of cardiac impulse
6. Special features of coronary circulation/ Describe the peculiarities of the coronary circulation
7. First and second heart sounds
8. Starling's forces in capillary fluid exchange
9. P-R interval
10. Venous return
11. Factors influencing venous return
12. End – diastolic ventricular volume
13. Differences between the actions of adrenaline and nor-adrenaline on cardiovascular system

Explain the Physiological basis

1. Coronary arteries are perfused during diastole
2. Korotkoff's sounds
3. Q wave in an ECG
4. Cardiac muscle cannot be tetanized
5. Change of posture from supine to standing causes tachycardia
6. Raised intracranial pressure causes bradycardia and hypertension
7. Physiological shunt
8. Resting bradycardia in athletes
9. Pacemaker potential
10. Prolonged standing results in fainting attacks
11. Prolonged action potential in cardiac muscle

Draw and Label

1. Normal ECG in Lead II
2. Cardiac cycle
3. Right ventricular pressure curve during a normal cardiac cycle
4. Left ventricular pressure changes recorded during normal cardiac cycle
5. Pacemaker potential
6. Cardiac muscle action potential
7. Conducting system of heart

Cases

1. A 55 year old obese man complained of head ache, giddiness, and irritability for the last two months. On examination by a doctor, his BP was found to be 130/100 mm Hg by auscultatory method. Three days later he visited another doctor. According to him, his BP was found to be 170/100 mm Hg after using both palpatory and auscultatory methods.

- What is the correct BP in this patient and why
- What is the cause for this difference in the recording?
- Define mean arterial pressure and pulse pressure giving their values
- Describe the possible renal mechanism causing hypertension
- Mention physiological basis for management of hypertension (2+2+2+2+2=10)

2. A 60 year old man presented with acute retro sternal chest pain radiating to the inner aspect of left arm. The ECG showed ST segment elevation in some of the leads.

- What is the most probable diagnosis?
- What are the other ECG changes that may occur in this condition?
- Explain the leads used in recording ECG
- With the help of a diagram describe the waves, intervals and segments of normal ECG recording in Lead I (1+1+2+6=10)

3. A 60-year-old man complaints of chest pain on exertion, radiating to his left arm and severe shortness of breath. Answer the following:

- What is the most probable condition he is suffering from
- Mention the most common investigation done in such a patient and describe with the help of a diagram the changes that are expected in this patient
- What are the functional features of coronary circulation (1+5+4=10)

4. A 45 years old man is having high blood pressure. Answer the following

- What are the probable causes of high blood pressure.
- Mention and explain the determinants of blood pressure
- Describe the neural regulation of blood pressure. (2+4+4=10)

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