



EXAMINATION TEXT FOR GREEN GRADE (LEVEL 5) THEORY

HEART & LUNGS MUAY THAI GUIDELINES

I. CARDIOVASCULAR AND RESPIRATORY SYSTEMS

The respiratory system is concerned with breathing, that is the movement of air in and out of the lungs. The lungs are the sites for the exchange of oxygen and carbon dioxide between air and blood. Air is inhaled into the lungs where oxygen is exchanged through tiny gas permeable sacs within the lungs for carbon dioxide from the blood. Air enters and leaves the respiratory system via the nose or mouth and passes through the pharynx or throat. From here it goes to the larynx and on into the trachea (windpipe) then the lungs.

The vascular or circulatory system consists of the arteries and veins through which the heart pumps blood throughout the body. An artery carries blood away from the heart to capillaries. The only exception is the pulmonary Artery, which transports deoxygenated blood to the lungs, but it still carries blood away from the heart, while veins carry blood under low pressure toward the heart.

The heart is a two-sided with four chambers and acts as a pump forcing blood to either the body (which is oxygenated) or to the lung (which is deoxygenated) The heart's alternate contraction and then relaxation is called the heart beat. The contraction phase is called Systole, which causes a volume of blood to be pumped to the arteries. When the heart relaxes, this is called diastole and blood flows into the heart from the veins. This cycle of events helps keep the blood moving from the veins through the heart and to the arteries.

Heart rate - A Healthy adult has a resting heart rate of between 60-80 beats per minute (bpm) whereas a well conditioned individual (someone like yourself) should have a far lower rate 35-50 bpm. The heart is a muscle and the more you train it the stronger it will become.

Pulmonary circulation is the flow of the blood from the right side of the heart to the lungs and then back to the left side of the heart.

Systemic Circulation is the flow of blood from the left side of the heart to all parts of the body and then back to the heart. The oxygen rich blood from the left atrium (in the heart) through the arteries then through tiny vessels called capillaries to the tissues of the body. At the cell level, oxygen is given up for metabolism and the blood picks up the carbon dioxide produced by this action. The oxygen depleted and carbon dioxide rich blood is then pumped back to the heart, through the veins to the right atrium (in the heart) to the lungs where the process is repeated.

The aerobic type activity within Thai-boxing improves the heart muscle. The result is a greater volume of blood per stroke. This is referred to as stroke Volume. Cardiac Output is a measure of the amount blood pumped through each ventricle (a chamber in the heart) in one minute. Vital Capacity is the Volume of air that can be forcibly ejected from the lungs in a single expiration. The aerobic type activity within Thai-boxing will provide a Training Effect (Improvement) on Vital Capacity, Stroke volume and Cardiac Output.

II. MUAY THAI, GUIDE LINES FOR TRAINING, SPARRING, AND RING PREPARATION

1. Exhale as you execute techniques i.e. punch, kick, knee etc
2. Concentrate; do not take your eye off your opponent (or bag / pad)
3. Never drop your guard.
4. Breathe through your nose, keeping your mouth closed.
5. Keep a proper stance, (never bring your feet together!) and keep mobile. Do not present a static target.
6. Relax your muscles until the attack
7. Keep your chin tucked into the lead shoulder
8. Never face your opponent square on.
9. Do not concentrate only on defence. Attack before your opponent.
10. Always take advantage of an opponent's mistakes
11. Never show when you are hurt. If in the ring, get through the round by clinching or holding
12. Never feel superior (under estimate your opponent), but know that you can win, be confident, and believe in yourself and your ability.
13. Always try and train and spar with a partner who is better than your self.
14. Never move back in a straight line. Always do so in a circular fashion.
15. Use continuous attacking as a strategy when your opponent is off balance, dazed or hurt. Never allow them time to recover.
16. If your training partner is more skilful/experienced than you learn from them. If they are less skilful/ experienced help them.

**REMEMBER SPARRING IS LIKE A LABORATORY. IT IS THE TIME TO
EXPERIMENT AND DISCOVER WHAT WORKS FOR YOU!**

Students are required to answer ten multi-choice questions from the above