Physics UAS final exam, prepared by Michael Marchenko

1. Explain the standing wave. Solve the hydraulics problem.

2. Find fluid resistance force. How water level change if all floating icebergs melt?

3. Why do cats often stretch in hot places? Calculate the heat engine efficiency.

4. Calculate the compound capacitance. What is resistance of inductor to direct current?

5. Estimate the distances between the atoms. Find energy and momentum of the photons.

6. Find the wavelengths of the matter. Find energy change of electron for hydrogen.

7. Write ground state configuration for the atom. Find annihilation energy of the matter.

8. Give the structure of neutron and proton. Explain the laws of the physics.