1. For Doppler flowmeter, assuming original frequency to be 1 MHz, speed of sound in tissue to be 1540 m/s, an angle of inclination of 45 degree, what would be the Doppler shift range for the range of blood flow velocities in humans?

2. For a quartz microbalance of surface area of 5 mm^2 and resonance frequency at no load of 5 MHz, determine the frequency shift for a load of 1 ng.

3. Two blood glucose measurement devices gave the following readings taken for the same patients with short interval in between:

   Device #1: 133, 151, 142

   Device #2: 137, 157, 121

   Which of these devices has a better precision?

- *Assigned*: March 8, 2015
- *Deadline*: Sunday March 15, 2015
- *Submission*: Electronic form (PDF) to instructor's email address: ykadah@kau.edu.sa