(2020)

Second term

Damietta University

Faculty of Science

Geology Department

Practical Geophysics exam

(Q1)

The **Cairo Tower** is a free-standing concrete tower in Cairo, Egypt. At 187 m (614 ft), it has been the tallest structure in Egypt and North Africa for about 50 years.

You are asked to: Measure the acceleration of gravity using the ball - drop method from the Cairo Tower in the following units:

a. m/s^2

b. Cm/s^2

c. Gal

d. mgal

Note that:

The Earth mass is about $5.97x10^{24}$ kg,

The universal gravitational constant equals 6.67408×10^{-11} m3 kg^{-1} s^{-2}

The Earth radius is approximately 6371 Km.

(Q2)

Consider two reflectors, or interfaces between two layers. In the first case, the velocity of the upper layer is 2.5 km/s and the velocity of the lower layer is 5.0 km/s. In the second case, the velocity of the upper layer is 3.25 km/s and the velocity of the lower layer is 4.75 km/s if a ray travels downward through the top layer at an angle of incidence of 20◦ in each case, which will result in a larger angle of refraction.