**Q:** The wavelength of a 2 MHz ultrasound beam is \_\_\_\_\_\_\_\_ mm.

A. 0.02

B. 0.55

C. 0.77

D. 2.0

E. 5.0

**Ans: C** Wavelength λ= c / f

The average velocity in tissue is 1540 m/sec*.*Frequency = 2 x 106 /sec

= 1540 m/sec / 2 x 106 /sec = 770 x 10-6 m = 0.77 mm

Q: Calculate the remaining intensity of a 100-mW ultrasound pulse that loses 30 dB while traveling through tissue.



Ans: Relative Intensity (dB)

Q: **.** Approximately what fraction of an ultrasound beam is reflected from an interface between two media with Z values of 1.65 and 1.55?

A. 1/2 ,B. 1/10 ,C. 1/100 , D. 1/500 , E. 1/1000

Ans : E

R = ((Z2 – Z1)/(Z2 + Z1))2

= (1.65-1.55)2 / (1.65 + 1.55)2 = 1/1024