

# ITS323 – Quiz 3

Name: \_\_\_\_\_ ID: \_\_\_\_\_ Marks: \_\_\_\_\_ (10)

## Question 1 [3 marks]

The path between SIIT Bangkadi and SIIT Rangsit is measured to have a power loss of 100dB. Both transmit and receive antenna's are identical, with a gain of 20dBi. Using a transmit power of 10dBW, what is the maximum receive power threshold for successful reception? Show your calculations.

## Question 2 [3 marks]

Amplitude shift keying can be described as: *the amplitude of the analog output signal is dependent on the input digital bit.* Describe frequency modulation.

**Question 3** [4 marks]

You record a 1 hour live musical concert using your laptop, using PCM and saving to an (uncompressed) .wav file.

- (a) If using 12-bit encoding, sampling at 10kHz, how large is the saved .wav file? [3 marks]

- (b) If the music ranged in frequencies from 1kHz to 20kHz what is the ideal sampling rate? [1 mark]