



K L UNIVERSITY

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Model Questions for Entrance Test for PhD Admissions Department of Electronics and communication Engineering

- 1 What is the maximum effective aperture of a microwave antenna with a directivity of 900 ?
a $71.6 \lambda^2$ b 71.6 c λ^2 d None
- 2 Calculate the physical height of a half wave dipole with antenna θ of 30 and band width of 10 MHz
a 0.5 m b 1 m c 0.25 m d None
- 3 The Z - transform of a signal is given by
$$C \quad Z = \frac{2^{-1}(1-z^4)}{4(1-Z^{-1})^2}$$
. Its final value is
a $\frac{1}{4}$ b Zero c 1 d infinity
- 4 The open transfer function of a system is $G \quad s \quad H \quad s = \frac{K}{(1+s)(1+2s+3s)}$
The phase crossover frequency we is
a $\sqrt{2}$ b 1 c zero d $\sqrt{3}$
- 5 A 1 kHz sinusoidal signal is ideally sampled at 1500 samples/sec and the sampled signal is passed through an ideal low-pass filter with cut-off frequency 800 Hz. The output signal has the frequency
a zero Hz b 0.75 kHz c 0.5 kHz d 0.25 kHz
- 6 The advantage of SSB-SC system is that it provides
a Higher frequency of transmission
b Better quality of communication
c Simpler and inexpensive
d Noise free