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CS 550 A
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1) λ of 100 MHz sine wave

$\lambda = \frac{c}{f}$ ~~$\Rightarrow \lambda =$~~ $c = 3 \times 10^8$ m/s f = frequency

$\Rightarrow \lambda = \frac{3 \times 10^8}{100 \times 10^6} = \boxed{3m}$

2) λ of 500 MHz Sine wave

$\lambda = \frac{c}{f} \Rightarrow \lambda = \frac{3 \times 10^8}{500 \times 10^6} = \boxed{0.6m}$

3) Size of Antenna

$f = 60$ Hz $\lambda = \frac{c}{f} \Rightarrow \lambda = \frac{3 \times 10^8}{60} = 5 \times 10^6$ m

Antenna length $= \frac{1}{2}\lambda = 2.5 \times 10^6$ m $= \boxed{2500$ km$}$

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