

SNS COLLEGE OF ENGINEERING Coimbatore - 641 107



TUTORIAL-3

Problems under Convolution theorem

- 1. Find the Fourier transform of $e^{-|x|}$ and deduce that $\int_{0}^{\infty} \frac{\cos xt}{1+t^2} dt = \frac{\pi}{2}e^{-|x|}$
- 2. Using transform methods, evaluate $\int_{0}^{\infty} \frac{dx}{(x^{2} + a^{2})^{2}}$
- 3. Evaluate : $\int_{0}^{\infty} \frac{dx}{(x^{2} + a^{2})(x^{2} + b^{2})}$ using transforms.