

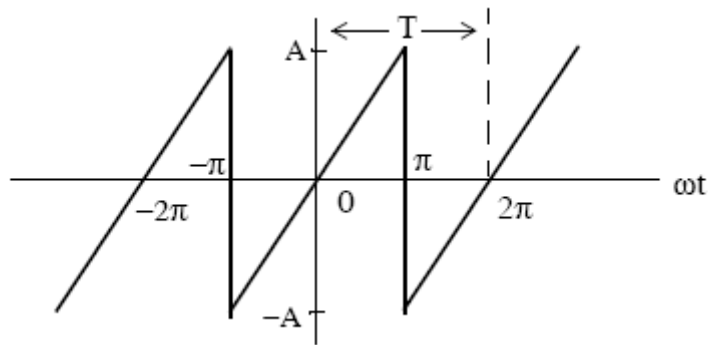
Q1/a	Q1/b	Q2/a	Q2/b	Q3/a	Q3/b	Q4/a	Q4/b	Total

Name/Surname:
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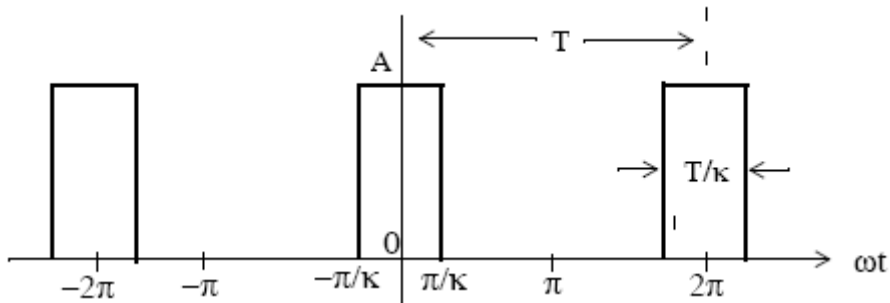
18.04.2008 (13:15 pm)

EE224 MODULE EXAM

Q1-a) Find the trigonometric Fourier series for the sawtooth waveform shown in figure below (Assume that $\omega=1$). Note: $\int x \sin ax dx = \frac{1}{a^2} \sin ax - \frac{x}{a} \cos ax$.



Q1-b) Compute the exponential Fourier series for the below waveform. Assume that $\omega=1$.



Q2-a) Prove that $\int_{-\infty}^{+\infty} u_0(t) \delta(t) dt = \frac{1}{2}$.

Q2-b) Derive the Fourier transform of

$$f(t) = A[u_0(t+3T) - u_0(t+T) + u_0(t-T) - u_0(t-3T)]$$