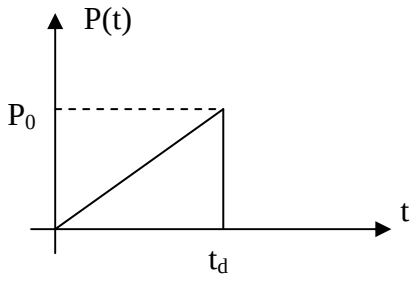
CE 487 **HOMEWORK – 2** **20/10/2006 (Due 2 weeks)**

A force function is given below;



1.) Determine u(t) (both $t < t_d$ and $t \geq t_d$) for an undamped system which is initially at rest, by solving the equation of motion analytically. Use ;
- **a-** Classical solution
- **b-** Duhamel's Integral

2.) Solve the response u(t) numerically by using;
- **a-** Newmark Constant acceleration Method
- **b-** Newmark Linear acceleration Method

Given:	P_0= 50N	m= 17.5 kg	k=70N/cm
	t_d= 0.2 s	Δt= 0.025 s	t_{max}= 2 s

3.) Plot u(t) obtained in 1.a, 1.b, 2.a and 2.b for the data given above, for t = 0 – 2 s