



15	Obtain the half range Fourier Cosine series for $f(x) = x \sin x$ in $(0, 2\pi)$ [10M]	3	L3
OR			
16	Express $f(x) = x^2$ as a Fourier series in $[-1, 1]$ [10M]	3	L3
17	Find Fourier sine and cosine transform of e^{-ax} and hence deduce the inverse formula. [10M]	4	L3
OR			
18	Find the Fourier transform of $f(x)$ defined by , $f(x) = 1 - x^2 : \text{if } x \leq 1$ $= 0 : \text{if } x > 1$ [10M]	4	L3
19	a) Find $z^{-1} \left[\frac{2z^2 + 3z}{(z+2)(z-4)} \right]$ [5M]	5	L3
	b) Find $\log\left(\frac{z}{z+1}\right)$ by power series method [5M]		
OR			
20	Solve $y_{n+2} - 6y_{n+1} + 8y_n = 2^n + 6n$ using z-transforms. [10M]	5	L4