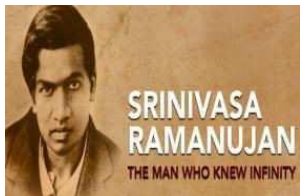
	SRM Institute of Science and Technology Kattankulathur		
	DEPARTMENT OF MEATHEMATICS		
	18MAB102T ADVANCED CALCULUS & COMPLEX ANALYSIS		
	UNIT –IV ANALYTIC FUNCTIONS		
	Tutorial Sheet -2		Answers
Part – A			
1	Find the image of the circle $ z =3$ under the transformation $w=2z$	6	
2	Find a function w such that $w=u+iv$ is analytic, if $u = e^x \sin y$	$f(z) = -ie^z + c$	
3	Determine the analytic function $u+iv$ whose real part $u = x^3 - 3xy^2 + 3x^2 - 3y^2 + 1$	$f(z) = z^3 + 3z^2 + c$	
Part – B			
4	Find the analytic function $f(z) = u + iv$ if $u - v = e^x(\cos y - \sin y)$	$f(z) = e^z + c$	
5	Find the analytic function $f(z) = u + iv$ if $u - v = \frac{\sin 2x}{\cosh 2y - \cos 2x}$	$f(z) = \frac{\cot z}{1 + i} + c$	
6	Determine the region D' of the w -plane into which the <u>triangular</u> region D enclosed by the lines $x=0$, $y=0$, $x+y=1$ is transformed under the transformation $w=2z$		
7	Find an analytic function $f(z) = u + iv$, given that $2u + 3v = \frac{\sin 2x}{\cosh 2y - \cos x}$	$f(z) = \frac{(2 + 3i) \cot z}{13} + c$	

Co-Ordinators : Dr.Sundarammal Kesavan,

Dr.V.Srinivasan,

Dr.N.Parvathi ,

Dr.N.Balaji