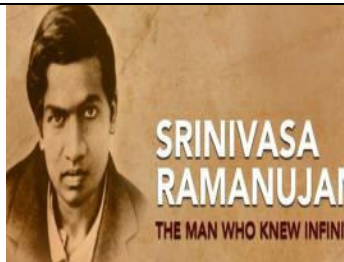
	SRM Institute of Science and Technology Kattankulathur		
	DEPARTMENT OF MEATHEMATICS		
	18MAB201T- TRANSFORMS AND BOUNDARY VALUE PROBLEMS		
	UNIT - I Partial Differential Equations Tutorial Sheet - 1		
Sl. No.	Questions	Answer	
Part - A			
1	Form the PDE by eliminating arbitrary constants 'a' and 'b' from $(x - a)^2 + (x - b)^2 + z^2 = c^2$	$(p^2 + q^2 + 1)z^2 = c^2$	
2	Form the PDE by eliminating arbitrary constants 'a' and 'b' from $\log(az - 1) = x + ay + b$	$p = q(z - p)$	
3	Eliminate the arbitrary function 'f' from $z = f(x^2 + y^2)$	$py = qx$	
4	Solve $\sqrt{p} + \sqrt{q} = 1$	$z = ax + (1 - \sqrt{a})^2 y + c$	
5	Solve the equation $pq + p + q = 0$	$z = ax - \frac{a}{a + 1} y + c$	
Part - B			
6	Form the PDE by eliminating 'f' from $f(x^2 + y^2 + z^2, xyz) = 0$	$x(y^2 - z^2)p + y(z^2 - x^2)q = z(x^2 - y^2)$	
7	Form the PDE by eliminating 'f' from $z = xy + f(x^2 + y^2 + z^2)$	$p(y + xz) - q(x + yz) = y^2 - x^2$	
8	Form the PDE by eliminating 'f' from $xyz = f(x + y + z)$	$x(y - z)p + y(z - x)q = z(x - y)$	
9	Form the PDE by eliminating 'f' and 'g' from $z = f(x + ct) + g(x - ct)$	$q^2 = c^2 p^2$	
10	Obtain the PDE by eliminating 'a', 'b' and 'c' from $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$	$zs + pq = 0$	