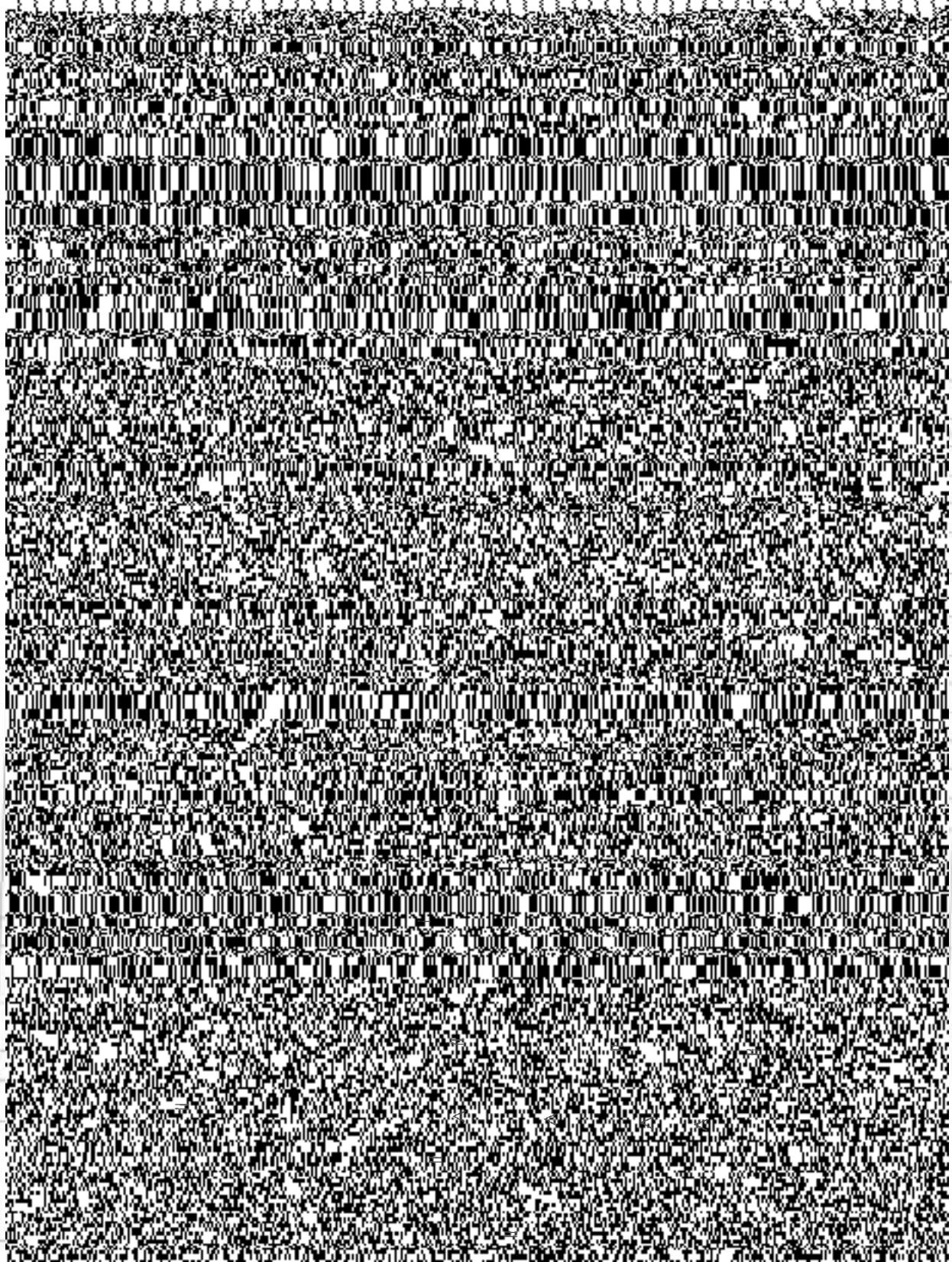




	OR	
16	Find the Residue at each pole of $f(z) = \frac{4z^2 - 4z + 1}{(z-1)^2(z-2)(z^2+4)}$.	(10M)
17	Find the Fourier series of $f(x) = x - x^2$ in the interval $[-\pi, \pi]$.	(10M)
	OR	
18	Obtain the Fourier Sine series of $f(x) = \sin x$ in $(0, \pi)$.	(10M)
19	Find the Fourier sine and cosine transform of e^{-ax} , $a > 0$ and deduce the integral $\int_0^\infty \frac{\cos ax}{x^2 + a^2} dx$.	(10M)
	OR	
20	Using the Fourier sine transform solve the P.D.E $\frac{\partial v}{\partial t} = k \frac{\partial^2 v}{\partial x^2}$ for $x > 0, t > 0$ under the boundary conditions $v = v_0$ when $x = 0, t > 0$ and the initial condition $v = 0$ when $t = 0, x > 0$.	(10M)