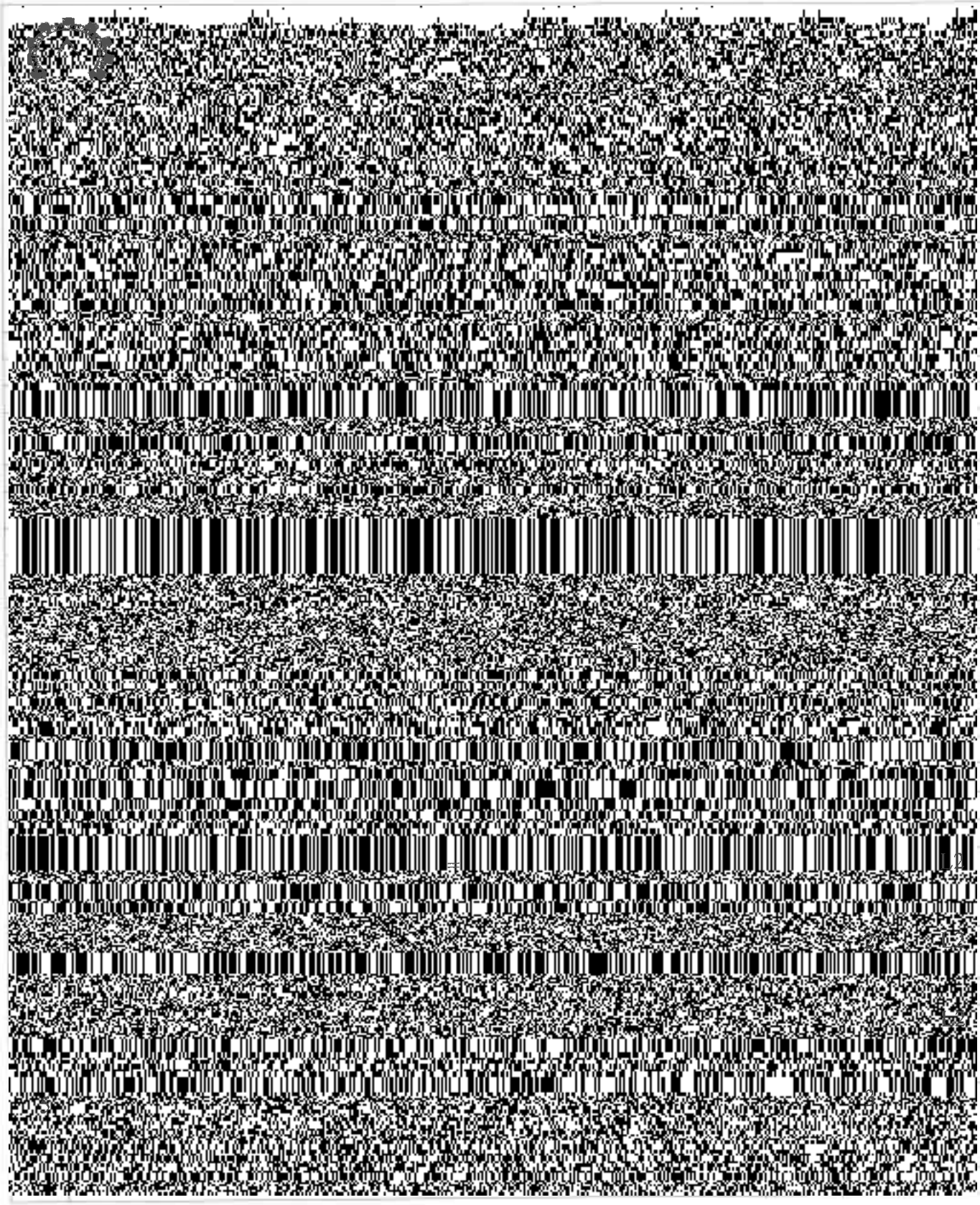

16	Dividing the range into 10 equal parts, find the approximate value of $\int_0^{\pi} sinx\, dx$ by (i) Trapezoidal Rule (ii) Simpson's Rule	10M	3	L2
17	Solve $\frac{dy}{dx} = x^2 + y, y(0) = 1$ by Modified Eulers method and compute y(0.2),y(0.4).	10M	4	L2
	OR			
18	Solve $\frac{dy}{dx} = xy$ usaing R-K method for x=0.2,given y(0)=1,$y'(0) = 0$ taking h=0.2	10M	4	L2
19	Solve the Poisson equation $u_{xx}+u_{yy}$= -81xy , 0<x<1,0<y<1 given that u(0,y)=0,u(x,0)=0, u(1,y)=100, u(x,1)=100 and h=1/3	10M	5	L2
	OR			
20	Solve the equation $\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2}$ in 0<x<5,t≥ 0 given that u(0,t)=0, u(5,t)=100. Compute for the time step with h=1 by Crank-Nicholson Method.	10M	5	L2