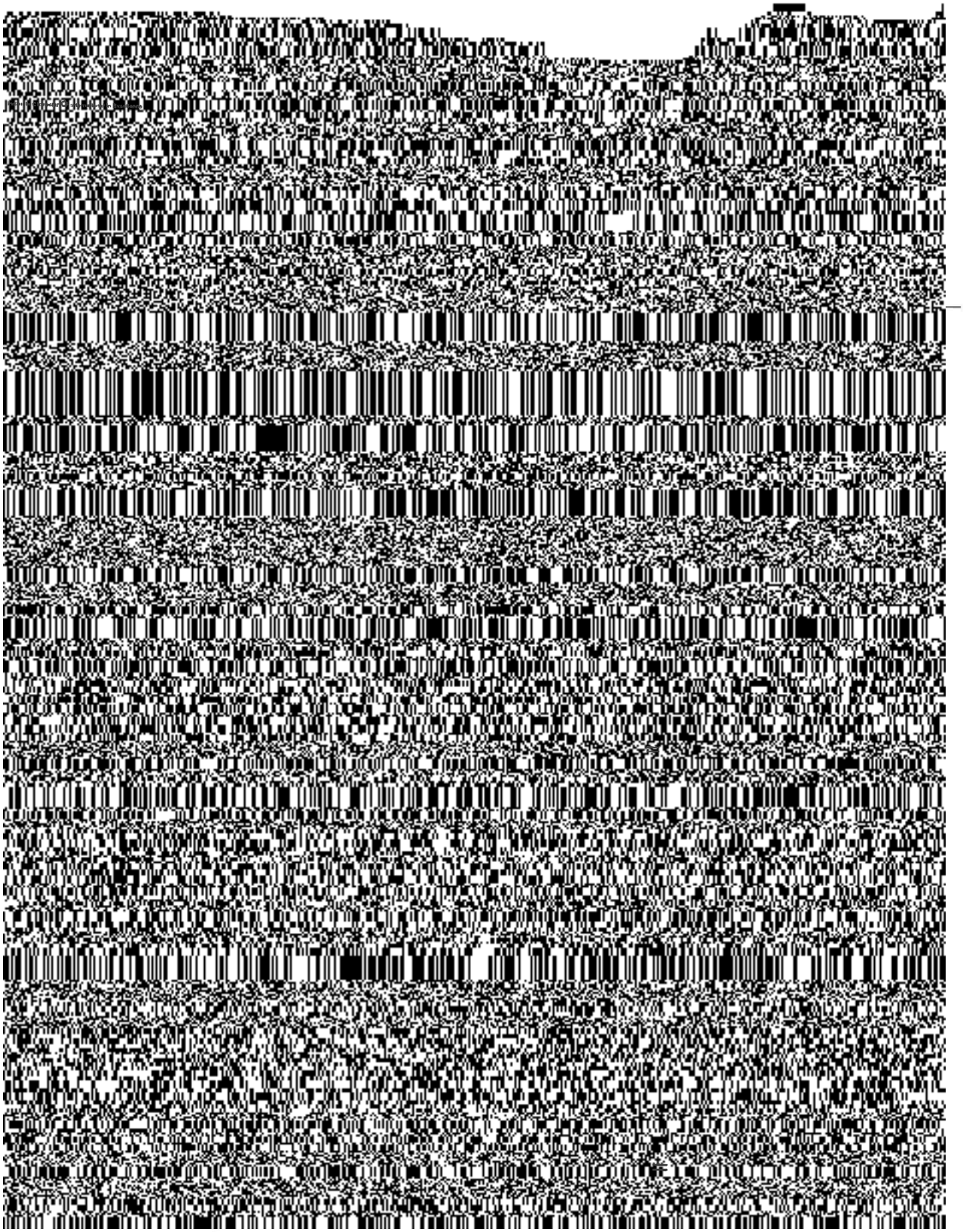

14	Solve$(D^3 + 2D^2 + D)y = e^{2x} + x^2 + x + \sin 2x$ [10]	CO2	L3
15	Form a PDE by eliminating the arbitrary functions $z = f(x) + e^y g(x)$	CO3	L3
	Solve $p \tan x + q \tan y = \tan z$ [10]		
	OR		
16	Solve (i) $p^2 + q^2 = n\,p\,q$ (ii)$p - x^2 = q + y^2$ [5+5]	CO3	L3
17	Prove that the vector $(x^2 - yz)i + (y^2 - zx)j + (z^2 - xy)k$ is irrotational and find its scalar potential. [10]	CO4	L3
	OR		
18	Find the directional derivative of the function $xy^2 + yz^2 + zx^2$ *along the tangent to the curve* $x = t, y = t^2, z = t^3$ at the point (1,1,1). [10]	CO4	L3
19	Use Greens theorem for $\int_c (3x^2 - 8y^2)dx + (4y - 6xy)$ dy where 'c' is the region bounded by x=0, y=0 and x+y=1. [10]	CO5	L3
	OR		
20	Verify stokes theorem for $F = y^2\,i + y\,j - 3\,x\,k$ and S is the upper half of the sphere $x^2 + y^2 + z^2 = a^2$ and $z \geq 0$. [10]	CO5	L4