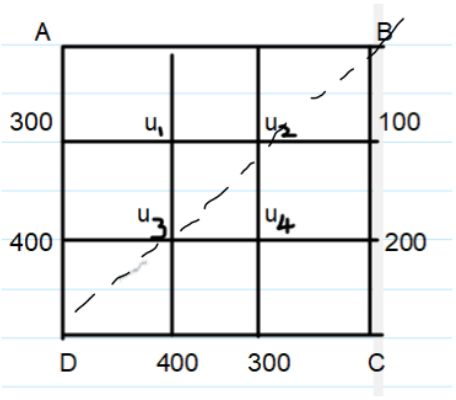
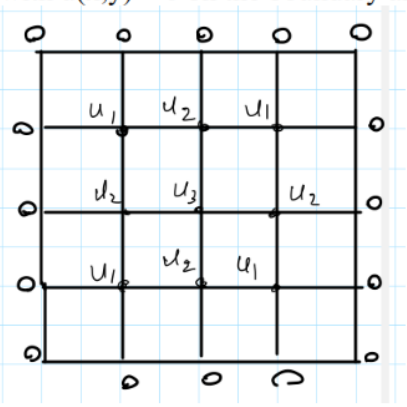
Q. No.	Questions	Marks
1	Solve $u_{xx} = u_{tt}$ given that u(x, 0) = 0; u(0, t) = 0; $u_t(x,0) = 0$ and u(1, t) = 100 $sin\ (\pi\ t)$ in the range $0 \leq t \leq 1$ by taking h = 0.25.	10
2	Solve $u_{xx} = 32u_t$ subject to the conditions u(0, t) = 0 ; u(1, t) = t and u(x, 0) = 0. Find the values of u upto t = 5 by Schmidt's process taking h = 0.25 .[hint: $k = \frac{h^2}{2c^2}$]	08
3	Solve the elliptical equation $u_{xx} + u_{yy} = 0$ at the pivotal points for the square mesh using Leibmann's Method	08



4	Solve the Poisson's equation $\nabla^2 u = 8x^2y^2$ for the square mesh in the figure with u(x,y) = 0 on the boundary and mesh length 1.  	08
5.	Solve the equation $y_i'' = 2x - 2y$ with the boundary conditions $y(0) = y(1) = 0$ with the finite difference method.	8
6	Solve the equation $y_i'' = x + 2y$ with the boundary conditions $y(0) = y(1) = 0$ with the finite difference method.	8