

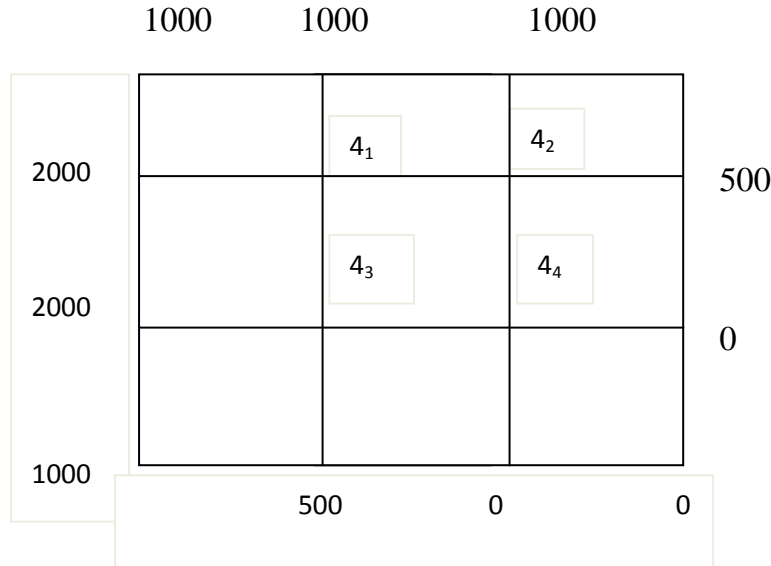
(2)

[Total No. of Questions: 8]

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Enroll No.....

Q.6 Give the value of u (x, y) on the boundary of the Square in the following figure evaluate the function $\phi(x,y)$ satisfying the laplace equation $\nabla^2 \phi = 0$ at the pivotal points of this figure.



- Q.7 (a) Define Queuing system.
 (b) write short note on stochastic.
- Q.8 Write short note on
 (a) Euler Lagranges Equations
 (b) Define Galerkin's method.

MA-104
M.Tech.(Thermal)–I Sem (Reg./Ex.)
Examination, March-2021
Advanced Mathematics
Time: Three Hours

Maximum Marks:70

Note: Attempt any five questions. (Each question carries equal marks.)

- Q.1 Define-
 (a) Hash function (b) Hermite polynomial
- Q.2 Discuss the orthogonality of Hermite polynomial
- Q.3 a) Write the properties of DFT, WFT and Haar transform.
 b) Find the fourie sine transform of $e^{-|x|}$. Hence evaluate $\int_0^\infty \frac{x \sin mx}{1+x^2} dx$.
- Q.4 Define normal distribution and state its properties. Why this distribution is important?
- Q.5 a) What do you mean by significance level. Explain the types of errors in test.
 b) Obtain the steady state difference equation for the queuing model (M/M/S) : (∞ / FCFS).