Final Exam

ICME MS5523 (2022)

Instructions:

1. Copying is strictly not allowed and will lead to negative marks.
2. Late submission will lead to zero marks
3. Prepare answer scripts using "word or latex", handwritten scripts are not allowed
4. The filename should be in the following format "Roll No_Final Exam".
5. The file should be in PDF format.
6. Attach the screenshots of MATLAB program and outputs in the answer script, also upload them separately.

Q1) Solve the given ODE using MATLAB.

$$y' = 2x + y, \qquad y(0) = -1$$

a) By Euler method.

b) By Runge-Kutta 4th Order method.

Q2) Solve the given ODE using MATLAB.

$$y' = x^2 + 4y, \qquad y(0) = 1$$

a) By Trapezoidal method.

b) By Runge-Kutta 4th Order method.

Q3) Solve the given static structural solid for maximal deflection using PDE Toolbox. Refer to the attached geometry.