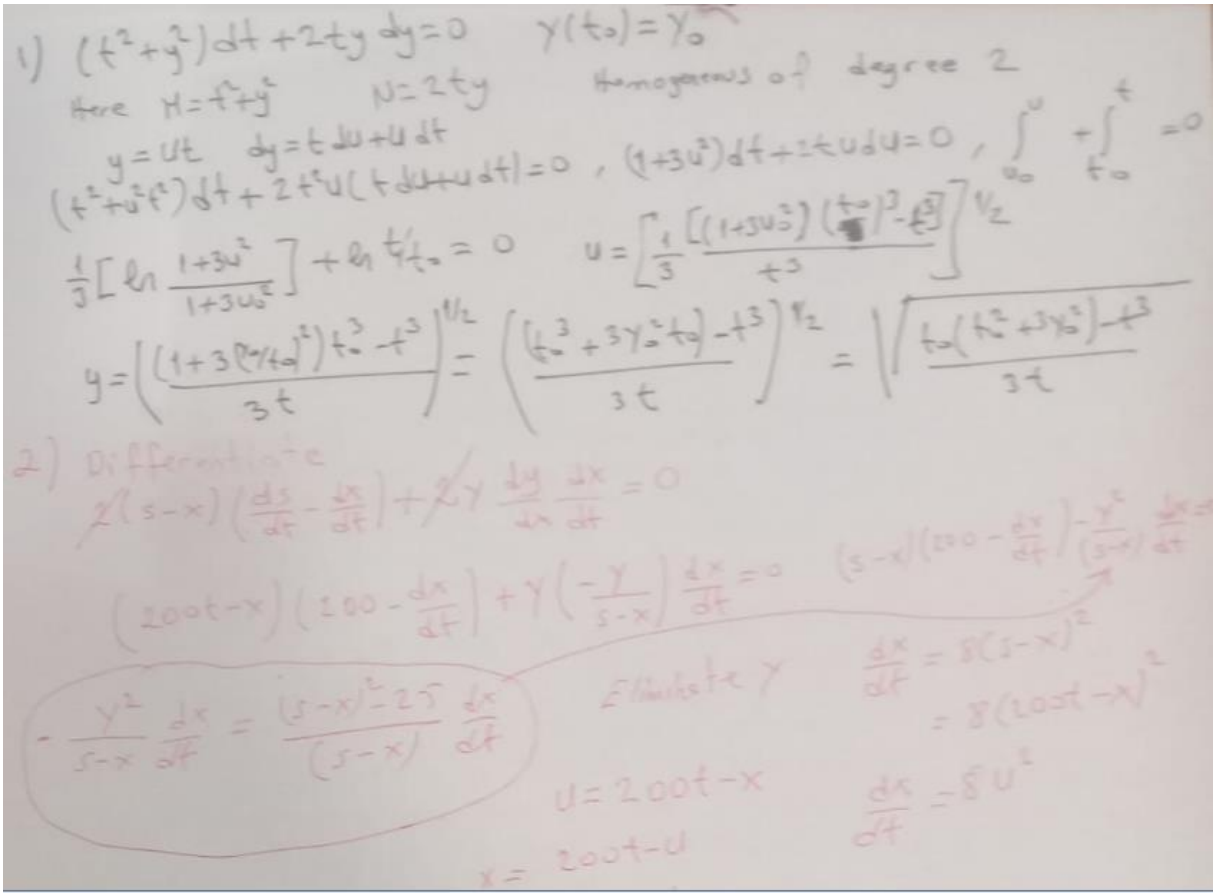
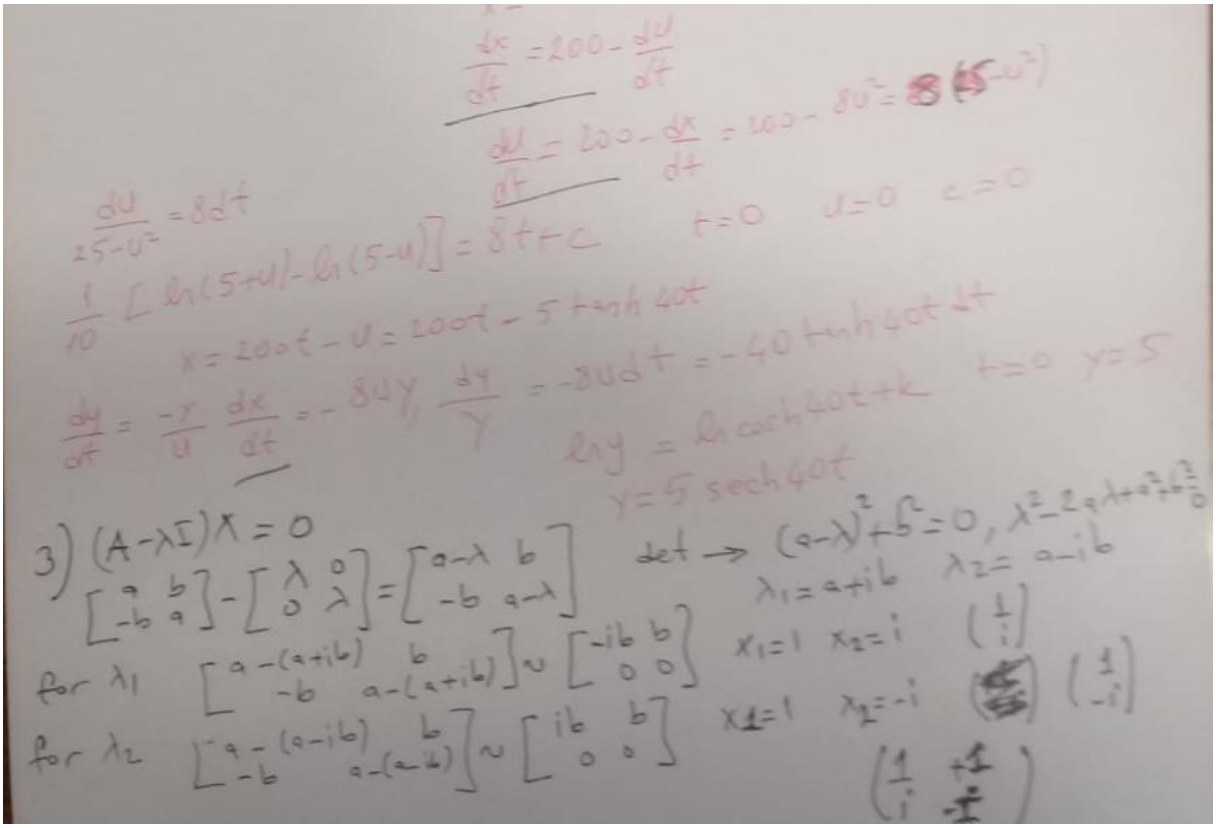
ENGINEERING MATHEMATICS MIDTERM I SOLUTIONS





3)

$$
\begin{array}{c|cccc|c}
m_{i1} & 1 & 2 & 3 & 4 & 6 \\
1 & 1 & 4 & 9 & 16 & 22 \\
1 & 1 & 8 & 27 & 64 & 84 \\
1 & 1 & 16 & 81 & 256 & 322
\end{array}
\rightarrow
\begin{array}{c|cccc|c}
 & 1 & 2 & 3 & 4 & 6 \\
m_{i2} & 0 & 2 & 6 & 12 & 16 \\
3 & 0 & 6 & 24 & 60 & 78 \\
7 & 0 & 14 & 78 & 252 & 316
\end{array}
\rightarrow
$$

$$
\begin{array}{c|cccc|c}
 & 1 & 2 & 3 & 4 & 6 \\
 & 0 & 2 & 6 & 12 & 16 \\
m_{i3} & 0 & 0 & 6 & 24 & 30 \\
6 & 0 & 0 & 36 & 168 & 204
\end{array}
\rightarrow
\begin{array}{cccc|c}
1 & 2 & 3 & 4 & 6 \\
0 & 2 & 6 & 12 & 16 \\
0 & 0 & 6 & 24 & 30 \\
0 & 0 & 0 & 24 & 24
\end{array}
\rightarrow
\begin{array}{c}
x_1 = 1 \\
x_2 = -1 \\
x_3 = 1 \\
x_4 = 1
\end{array}
$$