AMAT 307   L03   ANNOUNCEMENT-Dec. 7

1. QUIZ 10

Here are a few tips on Quiz 10.

Question 6 : Find the eigenvalues and eigenvectors first. The eigenvalues alone should eliminate two choices. Then check the eigenvectors to see which of the remaining answers is the proper choice. For example, if 5 is an eigenvalue and its eigenvector is [1 2 3] (written as a row, it should be a column), then each column of the fundamental matrix Ψ should contain e^{5t} times a column vector proportional to the eigenvector [1 2 3]. This will narrow things down to give the correct answer, which can also be obtained directly but with lots of work.

Questions 7,8 : These can be ignored, the answers are incorrect and in some cases the matrices are also incorrect (do not have a repeated eigenvalue). Credit will be given automatically for these two questions.

Questions 9,10 : These two questions involve the variation of parameters. The answers in W+ are correct but not unique, since it is the general solution that is being asked for. This would not happen if initial conditions were also given. For example, if one were asked to find a particular solution to the DE $y'' + y = 2$, one solution is $y_p = 2$, but the solution $y_p = 2 - \sin t + 31 \cos t$ is also correct. The best way to find which is the correct answer might be to narrow down the choices by first finding the homogeneous solution, then testing the remaining particular solutions to see which one satifies $D\vec{x} = A\vec{x} + \vec{g}(t)$. A second method, which is probably harder, is to find your own $\vec{x}_p$ and see which of the possible solutions differs from yours by something that is part of $\vec{x}_h$.

2. Office Hours

Tuesday Dec 9   11:00 - 16:00
Wednesday Dec 10   11:00 - 16:00
Friday Dec 12   14:00-17:00

3. Review and Final

Review Wednesday, Dec 10, ST 140, 20:00
Final Exam Saturday, Dec 13, ST 148, 12:00 - 15:00.
Don't forget to bring an HB 2 pencil to the final exam.