

Exam IV Study Aid

Exam IV : Sections 10.1-10.3, 11.1, 11.2, 11.4-11.6
Friday, May 1st (In Class)

Our fourth (and last) in-class exam will cover all of the material we have discussed since our third exam. You will have the entire class period (50 minutes) to complete the exam (you may leave once you are finished).

Below is a list of the main concepts or definitions you should definitely know and be comfortable with. (Note: this list is not a comprehensive list of all the topics we have learned, it is simply a list of the most important topics. Hence, as a warning, there may be topics on the exam which are not listed below – i.e., don't simply study this list and nothing else!)

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| 1. Taylor Polynomials/Series | 13. General/Particular Solutions of Differential Equations |
| 2. Taylor Series for $\sin/\cos/e^x/\ln(1+x)$ | 14. Slope Fields |
| 3. Binomial Series (Expansion) | 15. Separation of Variables |
| 4. Taylor Series by Substitution/Differentiation/Integration Composition/Multiplication | 16. Growth/Decay Problems |
| 5. Checking Solutions of Differential Equations | 17. Stable/Unstable Equilibrium |
| | 18. Application/Modeling Problems |

Finally, here is a list of good practice problems that might help you in studying. All of the problems were picked to be odd numbered so that their solutions would be found in the back of the book.

- Section 10.1 – 1, 3, 5, 7, 9, 13, 15, 19, 23
- Section 10.2 – 1, 3, 7, 9, 15, 19, 23, 31, 33, 35, 37, 39
- Section 10.3 – 1, 3, 5, 7, 9, 17, 21, 23
- Section 11.1 – 1, 3, 5, 7, 11, 13, 15, 17, 19, 25, 27
- Section 11.2 – 1, 3, 5, 9, 15, 17, 19, 21
- Section 11.4 – 1, 5, 9, 11, 13, 17, 21, 25, 27, 29, 35, 41, 45, 47
- Section 11.5 – 3, 7, 15, 17, 19, 23
- Section 11.6 – 3, 5, 9, 11, 13, 19, 21, 23

Additionally, I recommend reviewing Written Homework #6.