

Exam III Study Aid

Exam III : Sections 9.4, 9.5, 10.1-10.3, 11.1, 11.2, 11.4-11.6
Thursday, May 1st (In Class)

Our third in-class exam will cover all of the material we have discussed since our second exam. You will have the entire class period (75 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. Comparison Test | 11. Taylor Series by Substitution/Differentiation/Integration Composition/Multiplication |
| 2. Limit Comparison Test | |
| 3. Ratio Test | 12. Checking Solutions of Differential Equations |
| 4. Alternating Series Test | |
| 5. Absolute/Conditional Convergence | 13. General/Particular Solutions of Differential Equations |
| 6. Power Series | 14. Slope Fields |
| 7. Radius/Interval of Convergence | 15. Separation of Variables |
| 8. Taylor Polynomials/Series | 16. Growth/Decay Problems |
| 9. Taylor Series for $\sin/\cos/e^x$ | 17. Stable/Unstable Equilibrium |
| 10. Binomial Series (Expansion) | 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 9.4 – 9, 11, 13, 15, 17, 19, 25, 27, 29, 31, 33, 35, 41, 43, 45
- Section 9.5 – 11, 13, 15, 17, 27, 29, 31, 33
- Section 10.1 – 1, 3, 5, 7, 9, 11, 13, 17
- Section 10.2 – 1, 5, 7, 9, 13, 15, 31
- Section 10.3 – 1, 3, 5, 7, 9, 11, 13, 21, 23, 29
- Section 11.1 – 1, 3, 5, 11, 13, 15, 17, 19
- Section 11.2 – 1, 3, 5, 7, 15, 17, 19, 21
- Section 11.4 – 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 35, 37, 39, 41
- Section 11.5 – 1, 3, 7, 9, 15, 17, 19, 23
- Section 11.6 – 1, 3, 5, 7, 17, 21