MATH 154 – CALCULUS II, MIDTERM, EXAM PREPARATION SHEET

For an efficient preparation for midterm exam:

Make use of available resources. Attend your Professor's office hours. Do not feel as though you are infringing on your Professor's time by attending office hours, it is part of their job description.

Read your Calculus book. Read the sections covered in syllabus. This will reduce your dependence on class notes, which can often get in the way of listening and actively learning.

Rework the homework problems out of sequence. It is helpful to compile index cards with problems and answers on opposite sides. Draw the cards randomly so that you must identify the proper technique or concept. Look in the textbook or ask your Professor for supplemental problems.

Work for a deeper understanding of Calculus. Topics will now be presented from visual, symbolic, numeric and linguistic perspectives. It is important to master these perspectives, and their relationship to one another.
Try to solve the following questions:

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Section 5.6 (***The Method of Substitution***) : **1-44.**

Section 6.1 (***Integration by Parts***) : **1-10, 13-22.**

Section 6.2 (***Integrals of Rational Functions***) : **1-18, 21, 23, 24.**

Section 6.3 (***Inverse Substitutions*)** : **1-26, 29, 30, 33, 34.**

Section 6.5 (***Improper Integrals***) : **1-22, 24.**

Section 7.1 (***Solids of revolution***) : **1-8, 11.**

Section 9.6 (***Taylor and Maclaurin Series)*** : **1-12, 15-20.**

Section 9.7 (***Applications of Taylor and Maclaurin Series***) : **3-12, 14-19, 23-26**
(without error estimation, use 2^{nd}, 3^{rd} or 4^{th} degree polynomials to approximate the given values in Section 9.7 Exercises 3-12, 14.)