Math 106

Text book: Calculus, the Classic edition, Fifth Ed. By Earl W. Swokowski.
All proofs are NOT included.

Chapters: 5, 6, 7, 8, 9, 10, 13.

Chapter 5:

5.1 All except (Examples 6, 7, 8, 9).

5.2 All.

5.3 Summation notation (5.9), Example 1, Theorem (5.10), Example 2, Theorems (5.11) & (5.12), Examples 3 & 4, Restate Example 6: Find the area using limit of Riemann sum and right endpoints (This could be solved after Section 5.4).

5.4 All except (Definition 5.15, Example 3).

5.5 All except (Definition 5.29, Example 6).
For Corollary (5.27): Solve extra examples using algebraic methods.
Without solving the integral prove that:

(a) $\int_1^3 \frac{dx}{x^2+6} \leq \int_1^3 \frac{dx}{x+4}$

(b) $\int_0^1 x\,dx \geq \int_0^1 x^2\,dx$

(c) $\int_2^6 \frac{x}{x+8}dx \leq \int_2^6 \frac{x}{10}dx$

(d) $\int_1^2 x\,dx \leq \int_1^2 x^2\,dx$

5.6 Fundamental theorem of calculus(5.30), Corollary (5.31), Examples 1,2,3 & 4,Theorem (5.33), Examples 5 & 6, Theorem (5,35), Example 8, Exercises (51,52,53,55).

5.7 All except error est. trap. rule(5.37), Ex. 1, error est. Simp.(5.39), no est. of error in Ex. 2.

Chapter 6:

6.1 All.

6.2 All except Example 4.

6.3 All except Example 2.

6.5 All except (Definition 6.16, Theorem (6.17), Example 3, (6.18)).

Chapter 7:

7.2 All except Example 7.

7.3 All except Examples 3&4.

7.4 All except Example 5.

7.5 All except (Example 3, Theorem 7.32).

Chapter 8:

8.2 All except Example 1.

8.3 All except Example 2.

8.4 All.

Chapter 9:

9.1 All.

9.2 All.

9.3 All.

9.4 All.

9.5 All.

9.6 All.

Chapter 10:

10.1 All except Example 7

10.2 All except Example 5

10.3 All except Example 4

10.4 All except Example 5

Chapter 13:

13.1 All except Examples 4,5 & 6.

13.2 Theorem 13.5, Example 4, Theorem 13.7 (Also the case when the curve is revolved about y-axis should be considered), Example 5

13.3 All except ((13.9), Theorem 13.10, Example 3,4,5, 9).

13.4 All

Exercise Sheet

5.1	1,6,7,9,12,14,15,16,17,18,20,23,24,26,27,28,29,30,31,32,33,34,35,38,39,42, 49 43,44,45,46,47,48
5.2	3,8,13,15,20,21,22,23,26,28,30,31,33,34,35,37,38,39,40,41,42,43,44,45, 46,47,48.
5.3	1,5,6,7,9,11,15,17,31,32. Solve 31 & 32 using limit of Riemann sum and right and left endpoints.
5.4	5,7,10,17,18,19,20,21,22,28,30,31,34,35,36
5.5	5,9,10,13,15,17,20,23,27,28,30
5.6	9,12,16,17,18,22,24,26,29,32,33,35,36,37,40,41,42,43,44,54,56
5.7	1,6,8,9,10,11
6.1	6,10,11,12,13,27,29,30,32,35
6.2	6,7,13,15,21,23
6.3	7,9,12,18,28,30
6.5	5, 6,7,9, 11, 12, 13, 30, 32, 35, 36
7.2	4,6,12,16,18,20,35,40,44
7.3	4,8,11,16,18,20,22,24,30,32
7.4	3,6,8,9,13,16,18,19,22,26,30,33,36,37
7.5	4,6,12,14,16,17,28,32,34,36,40,43,44
8.2	1, 4, 10, 13, 15, 24, 29, 31, 34,37, 38, 39, 41, 42, 43
8.3	3, 6, 7, 8, 10, 15, 20, 24, 28, 29, 31, 32, 34, 35, 36, 37, 39, 42, 43, 44.
8.4	4, 6, 8, 10, 11, 13, 15, 18, 19, 20, 21, 22, 23, 24, 25
9.1	4, 6, 7, 11, 13, 14, 16, 17, 19, 22, 24, 39, 42, 43
9.2	1, 2, 3, 6, 9, 10, 11, 12, 13, 16, 17, 21,22,24, 25, 27, 29
9.3	1, 3, 4, 5, 6, 7, 9, 11, 12, 19, 21, 22
9.4	1, 2, 9, 13, 14, 16, 19, 25
9.5	1, 3, 5, 7, 9, 15, 17
9.6	1, 5, 7, 19, 21, 24,27,30,31
10.1	1, 2, 3, 5, 7, 9, 11, 15, 17, 18, 24, 28, 29, 30, 33, 35, 38, 40, 47.
10.2	1, 2, 3, 4, 5, 8, 12, 13, 15, 16, 18, 19, 20, 22, 23, 24, 26, 27, 28,29, 34.
10.3	2,3,6,10,13,14,15,17,19,21,24
10.4	1,4,5,6,8,9,11,14,16,18,21,22,25,27,30
13.1	1,4,6,7,10,17,21,23,25,27

13.2	21,29,31,33,35,37
13.3	1,3,5,6,27,28,30,33,37,41,46
13.4	1,3,4 ,18,19,22,23,27,30,35,37