Standard Theory Questions for CpSc3500

1. Give the proof that a nondeterministic TM has the same power as a standard TM. (Chapter 12)

2. State Church’s thesis and its significance. (Chapter 12)

3. Give the proof that if a language and its complement are r.e. then it is recursive. (Chapter 13)

4. Give the proof that a language is r.e. if and only if it is the language of a Printer-TM. (Chapter 13)

5. Give the proof that $S_{tm}$ is not r.e. (Chapter 14)

6. Give the proof that $A_{tm}$ is not recursive. (If you use the impossibility of another language, need to provide a proof of that too.) (Chapter 14)

7. Write a page on: P, NP, and NP-complete. What are they and why do they matter. (Chapters 17 & 19)