This homework based on this article: http://www.righto.com/2012/05/apple-iphone-charger-teardown-quality.html

1. Turn in a copy of the Charger Schematic (CB1 and CB2) with all of the symbols labeled (9 different symbols top [1], 7 different symbols bottom [2]), and briefly explain the function of each?

2. a) Name three reasons that this circuit is so special compared to other same purpose circuits, and the essential electronics that make it so. b) Why is this system a better "mouse trap" compared to cheaper versions? c) What is a counterfeit, and how do counterfeits help / hurt both the consumer and the supplier (manufacturer)?

3. Give a high level description of the the controller IC (Flextronics) function and purpose?

4. Circuit Board One
   4a. Main purpose of this CB1 in relation to CB2?
   4b. Label/explain the I/O of the L6565, and how it participates in the circuit?
   4c. Describe the purpose of the circuit (big picture) flow of energy, and the specifically these control points (a) C5,6,1,11 (b) C3,13 (c) C18 (d) C4, (e) C12 and (f) C2, 17 and why two?
   4d. Briefly explain the (lower Right Hand side) JB1-JB5 functions?

5. Circuit Board Two
   5a. Main purpose of this CB2 in relation to CB1?
   5b. Explain the purpose of PC1 and PC2?
   5c. Explain the I/O of X1?
   5d. Explain the purpose of the THERMISTOR circuit?

6. Identify the filters and their purpose/workings?

7. Transformer Tear Down
   Give a brief distillation (1 sentence) of all seven pics in order.

8. (a) Why did Apple recall the original system? and (b) how did they redesign the update (added functionality/cost) to improve/prevent the glitch? (c) compare to the Samsung solution?
9. What does "For use with information technology equipment" on the outside packaging mean i.e., why is this present and how does it impact the design?

10. (ECE444 Optional) a) Characterize the resonance circuit (quasi) purpose function and workings? b) Identify and abstract the essential innovative aspects of Patent 7,924,578 in regards to this article?