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EE214000 Electromagnetics, Fall, 2020

Homework #6, due in class at 12 pm, noon, Monday, Dec. 28, 2020

Late submission won't be accepted!

Problem 1 A solenoid is a stack of current loops. (1) Given the expression of the magnetic field at the center of a current loop in EXPAMPLE 6-6, would you be able to derive an expression for the solenoid field in EXAMPLE 6-3? (5 points) (2) Use Eq. (6-65) and correct interpretation to derive the solenoid field Eq. (6-14). (5 points)

Problem 2 P. 6-4 in Cheng's textbook (10 points)

Problem 3 P. 6-10 in Cheng's textbook. (5 points)

Problem 4 P. 6-18 in Cheng's textbook (10 points)

Problem 5 P. 6-22 in Cheng's textbook (10 points)

Problem 6 P. 6-27 in Cheng's textbook. (15 points)

Problem 7 (20 points) Visit a few electronics stores to find out at least 5 kinds of magnetic circuit devices. Use your cell phone camera to take photographs for those components and show them in your homework report. Describe the specifications, purposes, materials, and functioning principles of those components that you find in the stores. DO NOT COPY ANYTHING FORM THE INTERNET. Direct copying is an academic crime!