



COLLEGE OF ENGINEERING & TECHNOLOGY

Department : Electrical & computer Control Engineering

Lecturer : Prof. Dr. Medhat El Singaby

Course : Electric and Magnetic Fields (2)

Course Code : EE 333

Date : 13/1/2015

Marks : 40

Time : 2 hours

Final Exam

Answer the following questions:

Question no.1

A-2

- a) Prove Biot Savart Law in the three dimensional case.
 b) A square loop of side 'a' carries a current I as shown in Fig.1. Find the flux Density at a point P on the axis perpendicular to the plane of the loop and Passing its center. Hence show that the flux density at the center of the loop is

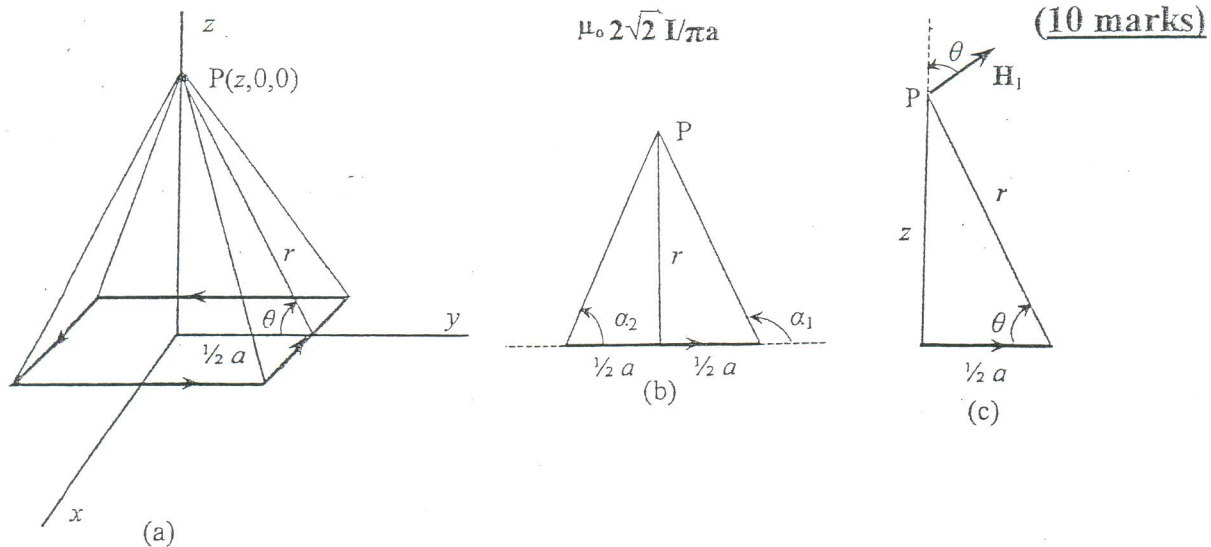


Fig.1

Question no.2

B-2

- a) Define the following items:
 (i) Magnetostatic potential.
 (ii) Magnetic moment.
 (iii) Magnetomotive force.
 (iv) Current moment.
 (v) One Ampere.
- b) for a two wire transmission line, each of radius 1 CM and the spacing between their centers is 10 CM. if one of the wires carries a current 1A and the other carries a return current -1 A. Determine the inductance per unit length in the region between the two wires, also compute the force per unit length acting between the two wires.

(10 marks)

Members of Course Examination Committee:	Signature:	Date:
Lecturer: <i>Medhat El Singaby</i>	<i>Medhat El Singaby</i>	5/1/2015
Course Coordinator: <i>Prof. Samir El Sify</i>	<i>Sify</i>	5/1/2015
Head of Department: <i>Prof. Hamdy Ashour</i>	<i>Hamdy</i>	5/1/2015

6 Magnetic Media

Magnetization curves of some magnetic core materials

