

ĐẠI HỌC QUỐC GIA HÀ NỘI
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN

ĐỀ THI KẾT THÚC HỌC KỲ I
NĂM HỌC 2019-2020

Môn thi: ĐIỆN QUANG

Mã môn học: PHY1103 17QTS

Số tín chỉ: 3

Đề số 1

Dành cho sinh viên khóa: K64

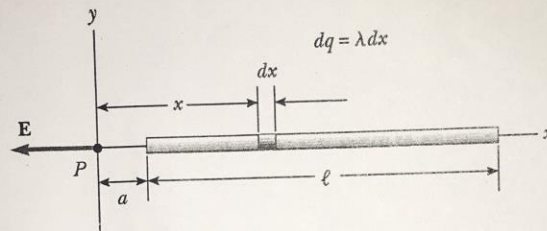
Ngành: QTS

Thời gian làm bài: 90 phút (không kể thời gian phát đề)

GHI CHÚ: sinh viên không được dùng bất cứ tài liệu nào. Giám thị không giải thích gì thêm.

Problem 1 (3 points)

- (a) What is the difference between electric force and electric field?
(b) A rod of length l has a uniform positive charge per unit length and a total charge Q . Calculate E at a point P that is located along the long axis of the rod and a distance a from one end



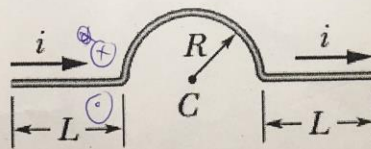
$dq = \lambda dx$
 $Q = \lambda l$

Problem 2 (2 points)

What is Polarization of light waves? Describe the Polarization of light waves by Selective Absorption?

Problem 3 (3 points)

A wire forms a semicircle of radius $R = 9.26$ cm and two (radial) straight segments each of length $L = 13.1$ cm. The wire carries current $i = 34.8$ mA. What are the (a) magnitude and (b) direction (into or out of the page) of the net magnetic field at the semicircle's center of curvature C ?



Problem 4 (2 points)

In a double-split experiment, the wavelength λ of the light source is 550 nm, the slit separation d is 0.150 mm, and the slit width a is 30.0 mm.

- (a) How many bright fringes appear between the first diffraction-envelope minima to either side of the central maximum?
(b) What is the ratio of the intensity of the third bright fringe to the intensity of the central fringe?



(m)

