Answers to 2008 exam.

A1-A3 irrelevant
A4—similar to Fig. 16.23, with twice as many lines leaving the Q=6 charge as enter the Q=-3 charge
A5—1/4
A6—1.57×10^6 m/sec, east
A7—the equation is faraday's law, if the time is small, the voltage is large
A8—8.46 V
A9—128 nm
A10—1.16×10^{32} photons/sec
A11—10.2 eV, 121.5 nm
A12—^{206}Ti, ^{210}Po

B2—(a) E= 5.07×10^7 N/C to right, V = 6.75×10^5 Volts
(b) E_x= 8.47×10^6 N/C, E_y = 5.2×10^6 N/C, V = 3.75×10^5 Volts

B3—(a) .6 C (b) 86 V (c) out (d) left (e) up

B4—(a) 6.37×10^8 W/m^2, 4.89×10^5 N/C

B5—(a) .61 cm (b) 200 nm.

B6—(a) 6.93×10^{15} Bq, (b) 6.2 kW (c) 5.3 kW