Refraction of electrostatic field lines. Fig. Q2.4 shows lines of an electrostatic field near a dielectric-dielectric boundary that is free of charge ($\rho_x = 0$). Which of the following is a possible combination of the two media?

(A) Medium 1 is PVC ($\varepsilon_{r1} = 2.7$) and medium 2 is mica ($\varepsilon_{r2} = 5.4$).
(B) Medium 1 is mica ($\varepsilon_{r2} = 5.4$) and medium 2 is PVC ($\varepsilon_{r1} = 2.7$).
(C) Medium 1 is water ($\varepsilon_{r1} = 81$) and medium 2 is air ($\varepsilon_{r2} = 1$).
(D) Medium 1 is air ($\varepsilon_{r1} = 1$) and medium 2 is water ($\varepsilon_{r2} = 81$).
(E) Both combinations (A) and (B) above.
(F) Both combinations (C) and (D) above.

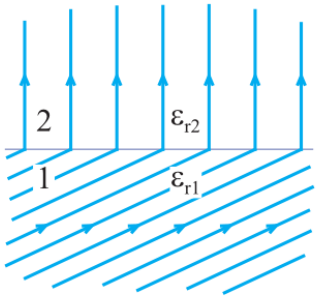

Figure Q2.4 Refraction of electric field lines at an interface between two dielectric media; for Question 2.8.

Solution: (C)
Answer: (C)