

26. 有關熵(entropy)的敘述下列何者正確? (A)熱力學第一定律中的熵，是由能量守恆的觀念得來 (B)在不可逆的過程中熵的變化量 $\Delta S \leq 0$ (C)在可逆的過程中熵的變化量 $\Delta S = 0$ (D)熵是有關一個系統中無次序(disorder)程度的物理量 (E)在不可逆的過程中熵的變化量 $\Delta S \geq 0$ 。
27. 一薄膜折射率為 1.4，可強化波長為 685nm 與 411nm 的反射。下列何者正確?
(A) 薄膜厚度為 367nm (B) 薄膜厚度為 342.5nm (C) 在波長為 535nm 區域無反射 (D) 在波長為 514nm 區域無反射 (E) 在日光燈下，反射光看起來是紫紅色。
28. Two conductors are joined by a long copper wire. Thus
(A) each conductor must be at the same potential. (B) the electric field at the surface of each conductor is the same.
(C) free charge can be present on either conductor. (D) the potential on the wire is equal to that on each conductor.
(E) each carries the same free charge.
29. An air-filled parallel-plate capacitor is connected to a battery and allowed to charge up. Now a slab of dielectric material is placed between the plates while the capacitor is still connected to the battery. After that, one would find
(A) the charge on the capacitor had not changed. (B) the energy stored in the capacitor had increased.
(C) the voltage across the capacitor had not changed. (D) the charge on the capacitor had increased. (E) None of these is true.
30. Which of the following are accurate statements?
(A) The magnetic force on a wire carrying current is greatest when the wire is perpendicular to the magnetic field.
(B) A magnetic field line is tangent to the direction of the magnetic force on a moving charge.
(C) When a loop carrying current is put into a magnetic field, the loop plane tends to line up with the field.
(D) Magnetic field lines have north and south poles as their sources.
(E) The magnetic force on a moving charge does not change its energy.