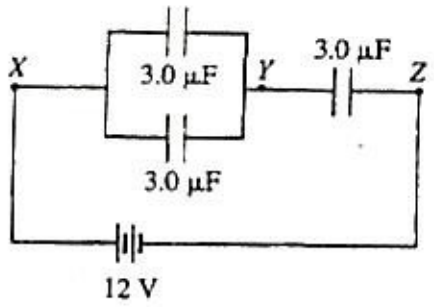
Questions 64-65



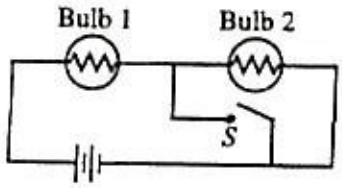

Three identical capacitors, each of capacitance 3.0 μF, are connected in a circuit with a 12 V battery as shown above.

64. The equivalent capacitance between points $X$ and $Z$ is

(A) 1.0 μF
(B) 2.0 μF
(C) 4.5 μF
(D) 6.0 μF
(E) 9.0 μF

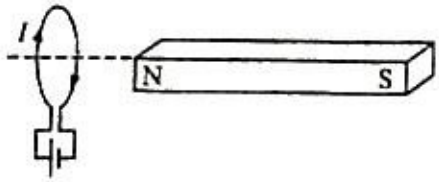
65. The potential difference between points $Y$ and $Z$ is

(A) zero
(B) 3 V
(C) 4 V
(D) 8 V
(E) 9 V




66. The circuit in the figure above contains two identical lightbulbs in series with a battery. At first both bulbs glow with equal brightness. When switch $S$ is closed, which of the following occurs to the bulbs?

| | Bulb 1 | Bulb 2 |
|---|---|---|
| (A) | Goes out | Gets brighter |
| (B) | Gets brighter | Goes out |
| (C) | Gets brighter | Gets slightly dimmer |
| (D) | Gets slightly dimmer | Gets brighter |
| (E) | Nothing | Goes out |




67. A bar magnet and a wire loop carrying current $I$ are arranged as shown above. In which direction, if any, is the force on the current loop due to the magnet?

(A) Toward the magnet
(B) Away from the magnet
(C) Toward the top of the page
(D) Toward the bottom of the page
(E) There is no force on the current loop.