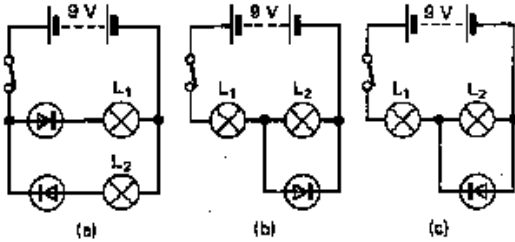


Questions on Diodes

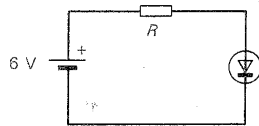
Q1

In the circuits below say which of the 6 V 60 mA lamps are bright, dim or off.



Q2

The voltage drop across a 1N4001 diode is 1 V when the forward current is 1 A. If it is used on a 6V supply as in the figure, calculate (a) the value of the safety resistor R , and (b) the power dissipated in the diode.

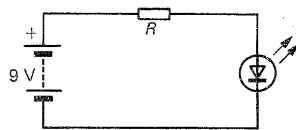


Q3

(a) What is meant by rectification? Name a component which is used to achieve it.
 (b) What is meant by smoothing? Name a component which is used to achieve it.

Q4

In the figure the LED is bright when the current through it is 10 mA and the voltage across it is 2 V. Calculate the value of the current-limiting series resistor R if the supply is 9 V.



Q5

State one use for (a) a Zener diode, (b) an LED, (c) a photodiode and (d) a thyristor.

Q6

A student wants to use a PP3 battery in his circuit to power some LEDs. He is not sure whether he will use (a) one, (b) two, (c) three or (d) four LEDs. In each case calculate the series resistor required if each LED requires 2 volts and 20mA.